Langley Pond Park
Redevelopment Project

PREPARED FOR:

Aiken County Parks, Recreation & Tourism Department

REV. NO.	DATE	DESCRIPTION
1	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

SITE LOCATION MAP

GENERAL NOTES:

1. BOUNDARY & TOPOGRAPHIC INFORMATION TAKEN FROM A SURVEY BY TOOLE SURVEYING COMPANY IN 2020
2. ALL CONSTRUCTION WITHIN AIKEN COUNTY RIGHTS-OF-WAY SHALL CONFORM TO THOSE STANDARDS AND SPECIFICATIONS.
3. NOTIFY COUNTY ENGINEERS OFFICE 48 HOURS BEFORE BEGINNING CONSTRUCTION.
4. CONTRACTOR TO VERIFY I.E. AND LOCATION OF ALL EXISTING PIPE (UTILITY & STORM) BEFORE BEGINNING CONSTRUCTION.
5. CONTRACTOR TO INVESTIGATE AND VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING CONSTRUCTION.
6. NOTIFY AUGUSTA-RICHMOND UTILITIES DEPARTMENT 48 HOURS PRIOR TO ANY DEMOLITION AT (706) 736-8492.
7. THE DEVELOPER AND/OR DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, SIZE AND MATERIAL OF ANY EXISTING WATER OR SEWER FACILITY PROPOSED FOR CONNECTION OR USE BY THIS PROJECT.
8. A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH THE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE DEPARTMENT OF PUBLIC WORKS AT THE TIME THE NOTIFICATION OF WORK COMMENCEMENT IS GIVEN.
9. DISTURBANCE OF ANY SURVEY MARKERS OR MONUMENTS REQUIRES RE-ESTABLISHMENT BY A LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR TO CLEAN DOWNSTREAM STORM SYSTEM OF SEDIMENT AT THE END OF PROJECT.

DEMOLITION SCOPE:

ALL IMPROVEMENTS ON THIS PROPERTY AND WITHIN THE LIMITS SHOWN TO BE REMOVED IN THEIR ENTIRETY UNLESS SPECIFICALLY NOTED OTHERWISE. LACK OF NOTE DIRECTING REMOVAL OF SPECIFIC ITEMS DOES NOT RELIEVE THE CONTRACTOR OF REMOVING IT. ANY ITEMS NOT REPRESENTED ON THIS PLAN OR ITEMS IN QUESTION SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IMMEDIATELY.

DEMOLITION NOTES:

1. ALL EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO ANY DEMOLITION ACTIVITY.

2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING A PRIVATE UTILITY LOCATE OF THE PROJECT AREA PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER IF THERE IS ANY DEVIATION FROM BASE MAP PROVIDED.

3. ALL KNOWN UTILITY FACILITIES ARE SHOWN SCHEMATICALLY ON THE PLANS AND ARE NOT NECESSARILY ACCURATE IN LOCATION AS TO PLAN OR ELEVATION. UNKNOWN FACILITIES NOT SHOWN ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF THE RELOCATION, PROTECTION OR REPAIR RESPONSIBILITY. EXISTING UTILITY FACILITIES MEANS ANY UTILITY FACILITY IN THE PROJECT AREA IN ITS ORIGINAL, RELOCATED OR NEWLY INSTALLED LOCATION.

4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROBABILITY OF ENCOUNTERING UTILITY INSTALLATIONS CONSISTING OF WATER SYSTEMS, SPRINKLER SYSTEMS, GAS, FIBER OPTICS, UNDERGROUND TELEPHONE AND POWER SYSTEMS THAT ARE EITHER OBSTRUCTIONS TO THE PROGRESSION OF THE WORK AND NEED TO BE RELOCATED OR, IF NOT, MUST BE PROPERLY PROTECTED DURING CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE FOR UTILITY RELOCATION, PROTECTION OR REPAIR, UNLESS OTHERWISE NOTED IN THE PLANS OR TECHNICAL SPECIFICATIONS.

5. CONTRACTOR SHALL CONTACT GEORGIA POWER COMPANY PRIOR TO PERFORMING ANY CONSTRUCTION ACTIVITIES.

6. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A RED-LINED AS-BUILT DRAWING ILLUSTRATING THE LOCATION OF ALL PROPOSED AND EXISTING UTILITIES, HORIZONTAL AND VERTICAL LOCATION, ENCOUNTERED DURING CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE FOR THE DETAILED AS-BUILT.

7. ALL TREES, UNLESS OTHERWISE NOTED, SHALL BE PROTECTED DURING CONSTRUCTION.

8. ALL UTILITY SERVICES SHALL BE CAPPED OFF/TERMINATED PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL UTILITY DISCONNECTIONS. TERMINATE ALL UTILITY SERVICES AT RIGHT OF WAY UNLESS OTHERWISE NOTED.

9. CONTRACTOR SHALL REMOVE ALL BACKFILL, PIPE, BEDDING, AND ANY DELETERIOUS MATERIAL FROM EXCAVATION. EXPOSED SUBGRADE SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO BACKFILL OPERATIONS. CLEAN, SELECT BACKFILL SHALL BE USED; SELECT BACKFILL SHALL CONFORM TO GDOT STANDARD SPECIFICATION 810, CLASS I (1A1 OR 1A2) MATERIAL. BACKFILL SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE LIFTS AND MECHANICALLY COMPACTED TO A MINIMUM DENSITY OF 98% MAXIMUM DRY DENSITY AT OR NEAR OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D-698. ALL FILL PLACEMENT SHALL BE MONITORED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER, OR HIS REPRESENTATIVE. TEST REQUIREMENTS: 1 SET OF MOISTURE-DENSITY TESTS EVERY 50 FEET OF TRENCH FOR EVERY 2 FEET OF BACKFILL.

10. CONTRACTOR TO INVESTIGATE AND VERIFY LOCATION AND INVERT ELEVATION OF EXISTING UNDERGROUND UTILITIES INCLUDING STORM SEWER BEFORE COMMENCING CONSTRUCTION.

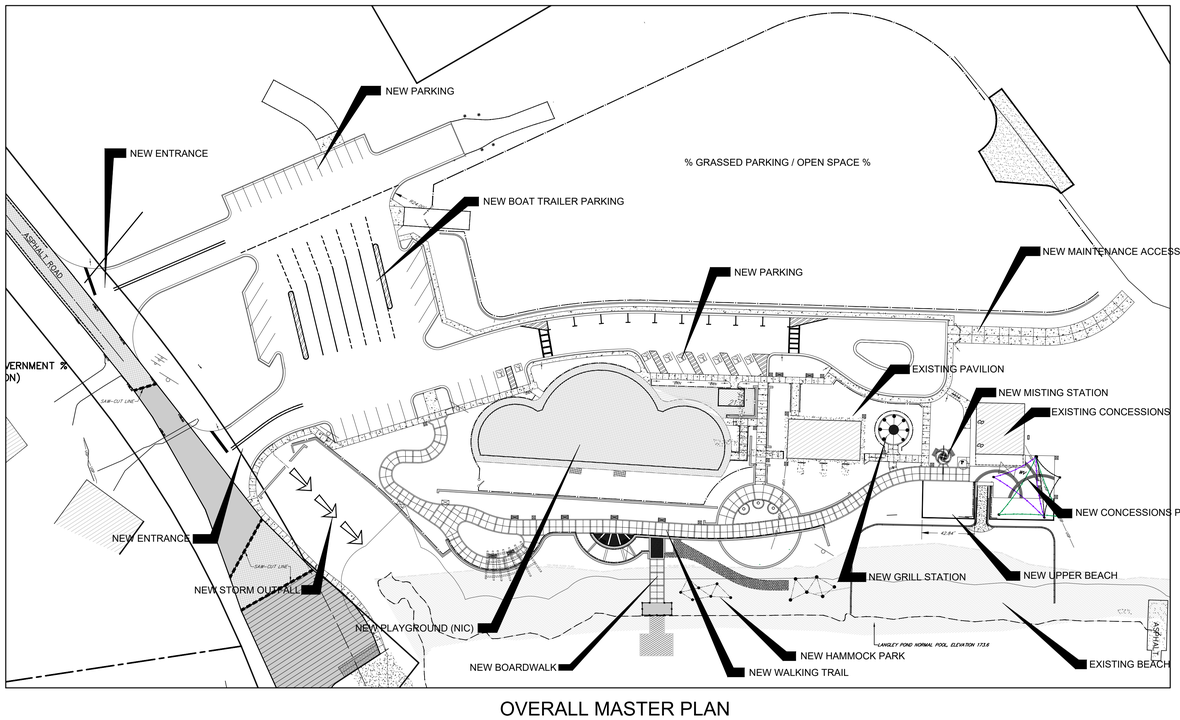
11. ALL MATERIALS THAT ARE TO BE REMOVED FROM PROJECT AREA, INCLUDING EXCESS EXCAVATION, SHALL BE REMOVED TO AN EPD APPROVED LANDFILL OR A SUITABLE LOCATION FOR REMOVED MATERIAL PER LOCAL GOVERNING REGULATIONS.

12. REMOVE ALL STRUCTURES INCLUDING FOUNDATIONS. CONTRACTOR RESPONSIBLE FOR ANY REQUIRED GEOTECHNICAL TESTING AFTER STRUCTURE DEMOLITION.

13. ALL EXISTING UTILITY SERVICES TO BE IDENTIFIED, METERS REMOVED & CAPPED OFF AT PUBLIC ROAD OR AS NOTED ON THIS PLAN. COORDINATE ALL DEMOLITION WORK WITH APPROPRIATE UTILITY OWNER.

14. EXISTING STRUCTURE REMOVAL: FOUNDATIONS, AND ALL APPURTENANCES TO BE REMOVED. ALL ASBESTOS ABATEMENT TO BE PERFORMED UNDER SEPARATE CONTRACT ACCORDING TO STATE & FEDERAL LAWS. ALL DEMOLISHED PRODUCTS TO BE REMOVED FROM PROJECT SITE AND DISPOSED OF PER CURRENT REGULATIONS & LAWS FOR DISPOSAL.

15. ALL TREES WITHIN THE PROJECT LIMITS ARE TO BE REMOVED AND DISPOSED OF ENTIRELY. INCLUDES STUMP AND ROOT STRUCTURE.



OVERALL MASTER PLAN

INDEX TO SHEETS

C1.0–COVER SHEET
C1.1–SITE PLAN
C1.2–SITE GRADING 1 of 2
C1.3–SITE GRADING 2 of 2
C1.4–DRAINAGE PLAN
C1.5–RETAINING WALL PLAN
C1.6–FURNITURE & FENCE PLAN
C1.7–STAKING & SIGNAGE PLAN
C1.8–DEMOLITION PLAN
C2.1–ESCP MASTER PLAN
C2.2–ESCP INITIAL PHASE
C2.3–INTERMEDIATE PHASE
C2.4–FINAL PHASE
C3.1–ESCP DETAILS 1
C3.2–ESCP DETAILS 2
C3.3–ESCP DETAILS
C4.1–C4.15–CIVIL DETAILS 1–15
L1.0–LANDSCAPE PLAN
L2.0–LANDSCAPE DETAILS
E1.0–ELECTRICAL SPECIFICATIONS
E2.1–ELECTRICAL PLAN
E3.1–PANEL SCHEDULE, DETAILS

C–SWPP

PROJECT DATA
ADDRESS: 133 LANGLEY DAM ROAD
TAX PARCEL: 051-09-02-003
ZONING – RUD
SITE AREA – 12.79 ACRES
DISTURBED AREA – 9.0 ACRES
SANITARY SEWER PROVIDER – VALLEY PUBLIC
WATER SERVICE PROVIDER – VALLEY PUBLIC
POWER PROVIDER – DOMINION ENERGY

OWNER & DEVELOPER / 24 HOUR CONTACT
AIKEN COUNTY GOVERNMENT
TERESA CRAIN, PE – COUNTY ENGINEER
1930 UNIVERSITY PARKWAY
SUITE 3300
AIKEN, SOUTH CAROLINA 29801
(803) 642-1535

PREPARED BY:
benesch
Alfred Benesch & Company 1005 Broad Street, Suite 200
Augusta, GA 30901 P 706.722.4114
www.benesch.com

ELECTRICAL DESIGN BY:
ELECTRICAL DESIGN CONSULTANTS, INC
ELECTRICAL ENGINEERS
1201 BROAD ST., SUITE 1-A
AUGUSTA, GA 30901
PH: (706) 724-3551
FAX: (706) 724-8507

PLANNING & CIVIL ENGINEERING BY:
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www.benesch.com

PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

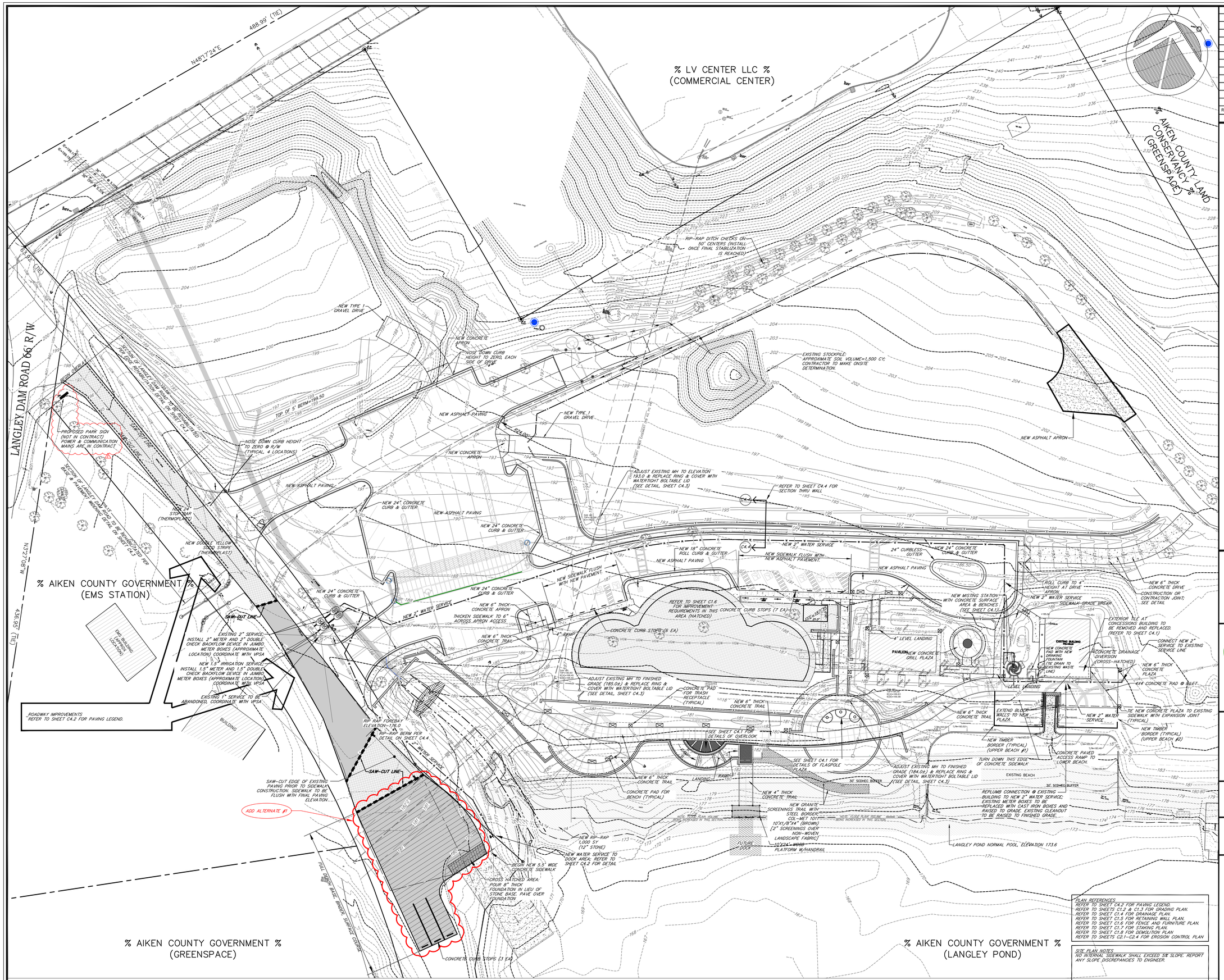
PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
COVER SHEET

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C1.0



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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE DEVELOPMENT PLAN

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
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DRAWING FILE:	19020024PRE1.DWG
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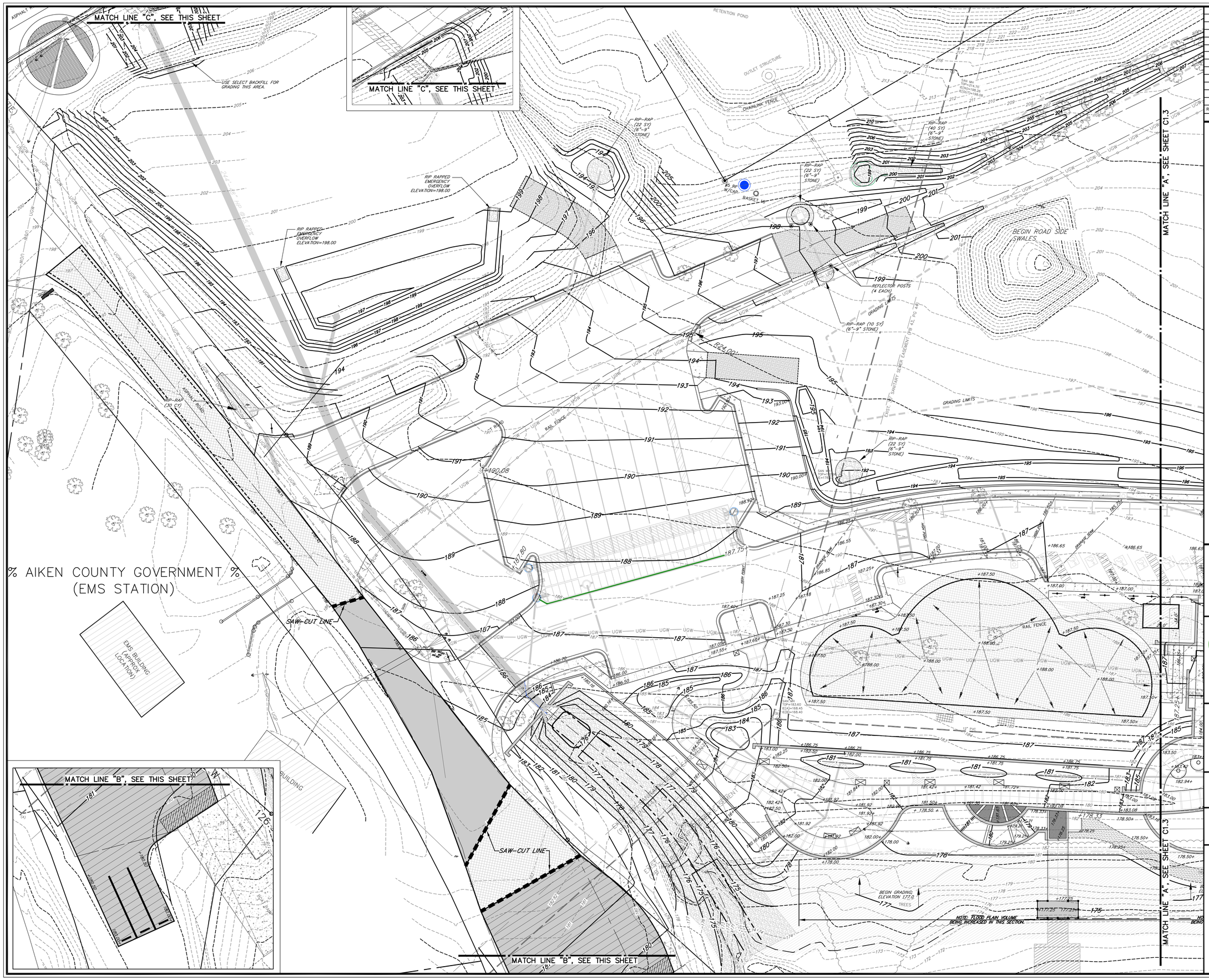
SCALE IN FEET

Sheet: C1.1

PLAN REFERENCES
REFER TO SHEET C4.2 FOR PAVING LEGEND.
REFER TO SHEETS C1.2 & C1.3 FOR GRADING PLAN.
REFER TO SHEET C1.4 FOR DRAINAGE PLAN.
REFER TO SHEET C1.5 FOR RETAINING WALL PLAN.
REFER TO SHEET C1.6 FOR FENCE AND FURNITURE PLAN.
REFER TO SHEET C1.7 FOR STAKING PLAN.
REFER TO SHEET C1.8 FOR DEMOLITION PLAN.
REFER TO SHEETS C2.1–C2.4 FOR EROSION CONTROL PLAN

SITE PLAN NOTES
NO INTERNAL SIDEWALK SHALL EXCEED 5% SLOPE. REPORT ANY SLOPE DISCREPANCIES TO ENGINEER.



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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE GRADING PLAN
1 of 2

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
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DRAWING FILE:	19020024PRE1.DWG
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ORIGINAL RELEASE DATE:	AUGUST 18, 2020

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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE GRADING PLAN 2 of 2

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
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DRAWING FILE:	19020024PRE1.DWG
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ORIGINAL RELEASE DATE:	AUGUST 18, 2020

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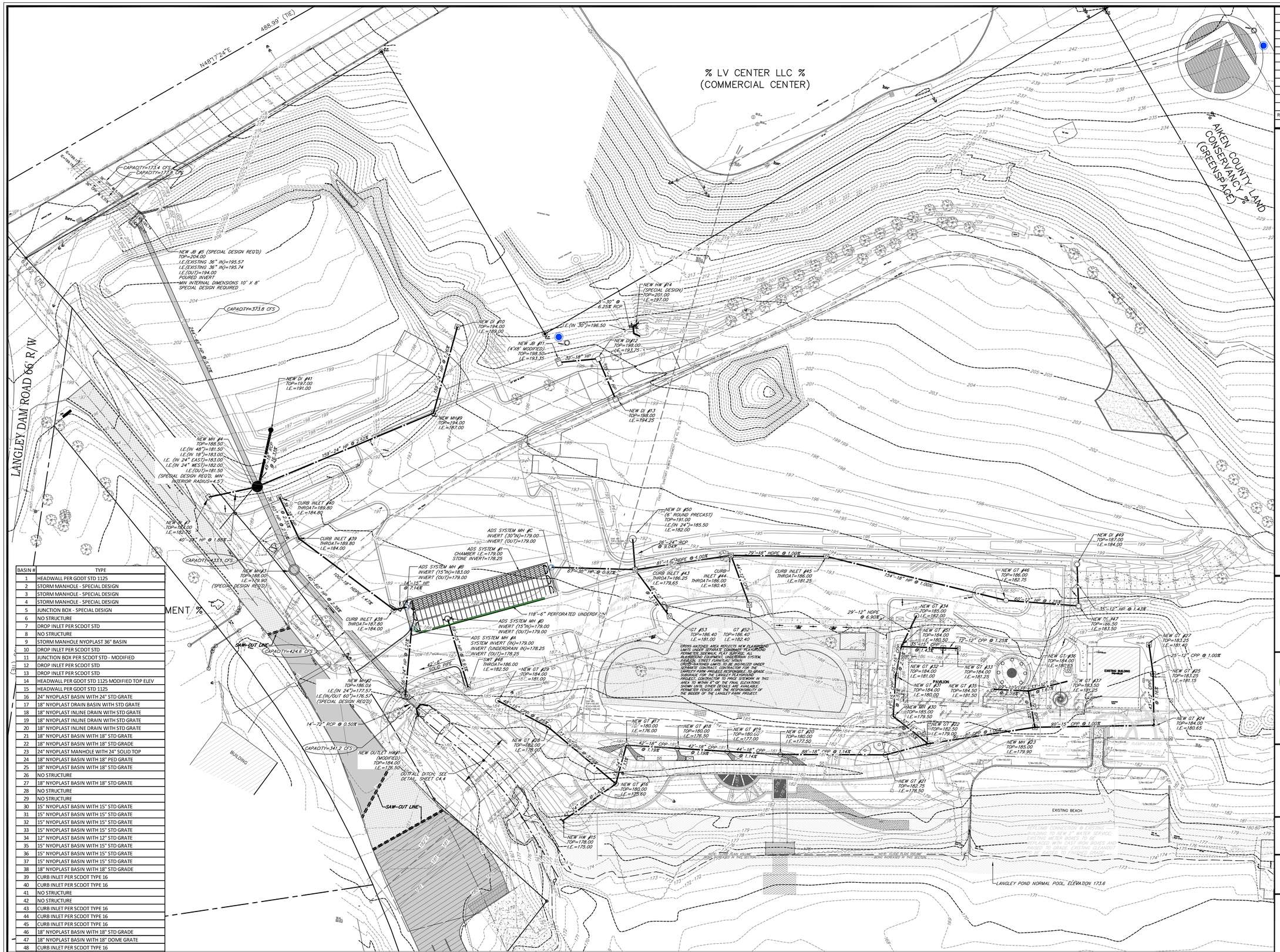

BASIN #	TYPE
1	HEADWALL PER GDOT STD 1125
2	STORM MANHOLE - SPECIAL DESIGN
3	STORM MANHOLE - SPECIAL DESIGN
4	STORM MANHOLE - SPECIAL DESIGN
5	JUNCTION BOX - SPECIAL DESIGN
6	NO STRUCTURE
7	DROP INLET PER SCDOT STD
8	NO STRUCTURE
9	STORM MANHOLE NYOPLAST 36" BASIN
10	DROP INLET PER SCDOT STD
11	JUNCTION BOX PER SCDOT STD - MODIFIED
12	DROP INLET PER SCDOT STD
13	DROP INLET PER SCDOT STD
14	HEADWALL PER GDOT STD 1125 MODIFIED TOP ELEV
15	HEADWALL PER GDOT STD 1125
16	24" NYOPLAST BASIN WITH 24" STD GRATE
17	18" NYOPLAST DRAIN BASIN WITH STD GRATE
18	18" NYOPLAST INLINE DRAIN WITH STD GRATE
19	18" NYOPLAST INLINE DRAIN WITH STD GRATE
20	18" NYOPLAST INLINE DRAIN WITH STD GRATE
21	18" NYOPLAST BASIN WITH 18" STD GRATE
22	18" NYOPLAST BASIN WITH 18" STD GRADE
23	24" NYOPLAST MANHOLE WITH 24" SOLID TOP
24	18" NYOPLAST BASIN WITH 18" PED GRATE
25	18" NYOPLAST BASIN WITH 18" STD GRATE
26	NO STRUCTURE
27	18" NYOPLAST BASIN WITH 18" STD GRATE
28	NO STRUCTURE
29	NO STRUCTURE
30	15" NYOPLAST BASIN WITH 15" STD GRATE
31	15" NYOPLAST BASIN WITH 15" STD GRATE
32	15" NYOPLAST BASIN WITH 15" STD GRATE
33	15" NYOPLAST BASIN WITH 15" STD GRATE
34	12" NYOPLAST BASIN WITH 12" STD GRATE
35	15" NYOPLAST BASIN WITH 15" STD GRATE
36	15" NYOPLAST BASIN WITH 15" STD GRATE
37	15" NYOPLAST BASIN WITH 15" STD GRATE
38	18" NYOPLAST BASIN WITH 18" STD GRADE
39	CURB INLET PER SCDOT TYPE 16
40	CURB INLET PER SCDOT TYPE 16
41	NO STRUCTURE
42	NO STRUCTURE
43	CURB INLET PER SCDOT TYPE 16
44	CURB INLET PER SCDOT TYPE 16
45	CURB INLET PER SCDOT TYPE 16
46	18" NYOPLAST BASIN WITH 18" STD GRADE
47	18" NYOPLAST BASIN WITH 18" DOME GRATE
48	CURB INLET PER SCDOT TYPE 16
49	18" NYOPLAST BASIN WITH 18" DOME GRATE
50	DROP INLET PER SCDOT STD - MODIFIED ROUND
51	15" NYOPLAST BASIN WITH 15" STD GRATE
52	12" NYOPLAST BASIN WITH 12" STD GRATE
53	12" NYOPLAST BASIN WITH 12" STD GRATE
54	
55	
56	
57	

STORM DRAINAGE NOTES:
1 – FOR ALL NYOPLAST BASINS:INSTALL TOP OF STRUCTURE 1.0–FEET ABOVE PLAN ELEVATIONS; FINAL ELEVATION TO BE FIELD SET AT END OF CONSTRUCTION.
2 – KNOCKOUT BOXES NOT PERMITTED.

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PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
SITE DRAINAGE PLAN

SOUTH CAROLINA
ALFRED BENESCH & COMPANY
No. 5072
CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
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ORIGINAL RELEASE DATE:
AUGUST 18, 2020

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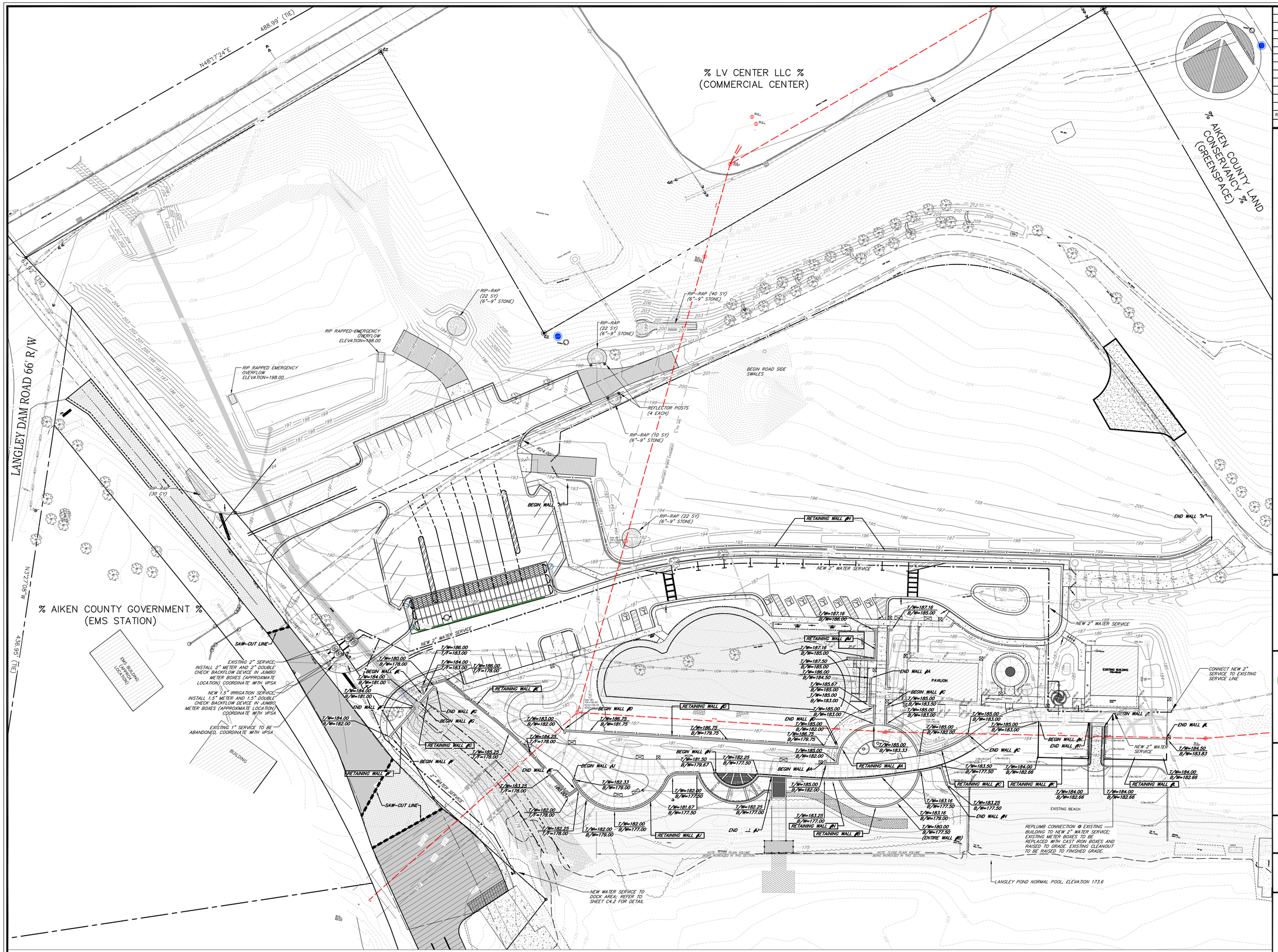
SCALE IN FEET

Sheet: C1.4



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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE RETAINING WALL PLAN

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
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ORIGINAL RELEASE DATE: AUGUST 18, 2020

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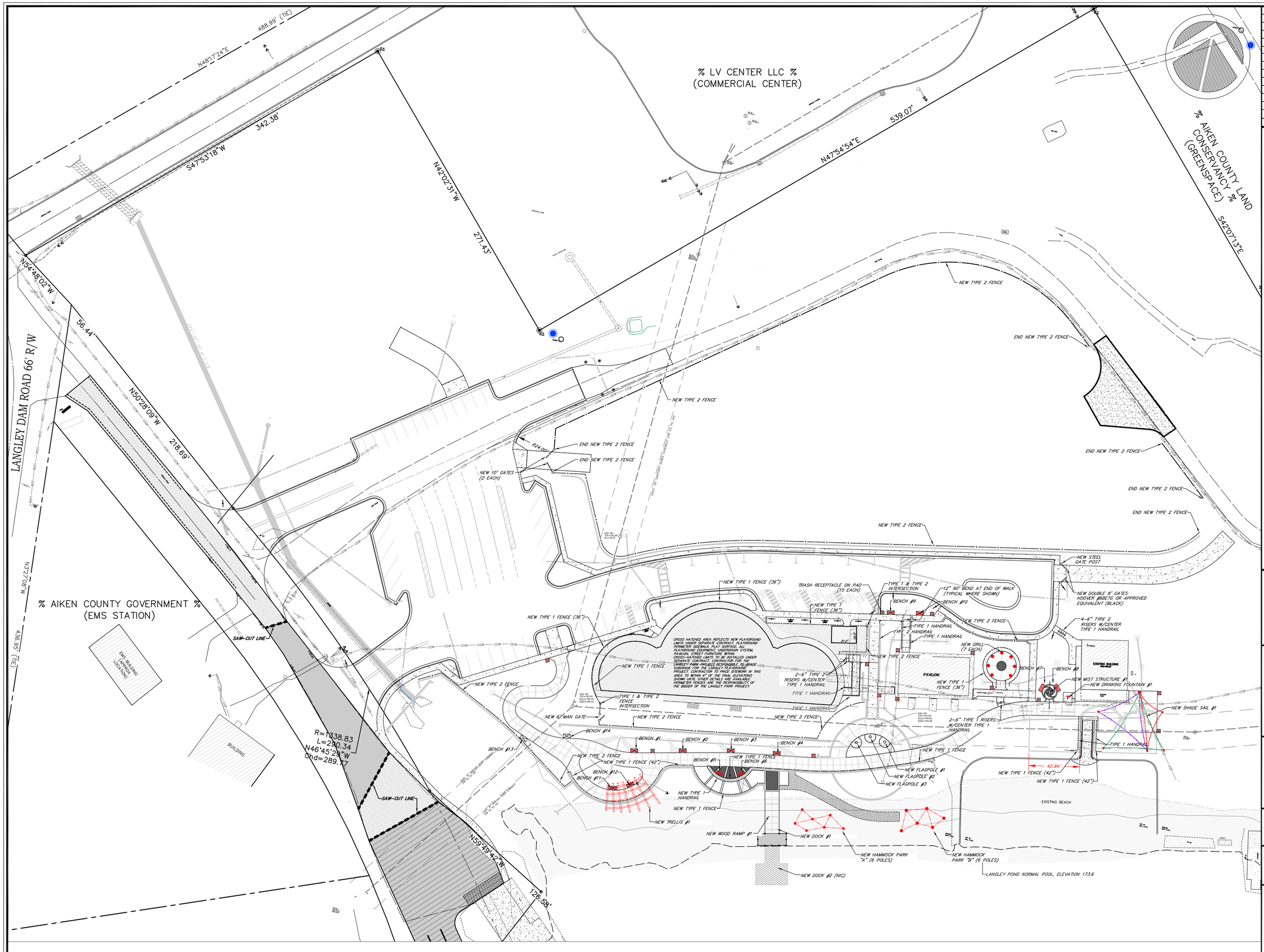

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

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SHEET TITLE:

SITE FENCE & FURNITURE PLAN

SOUTH CAROLINA
ALFRED BENESCH & COMPANY
No. 5072
CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
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DRAWING FILE:19020024PRE1.DWG
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AUGUST 18, 2020

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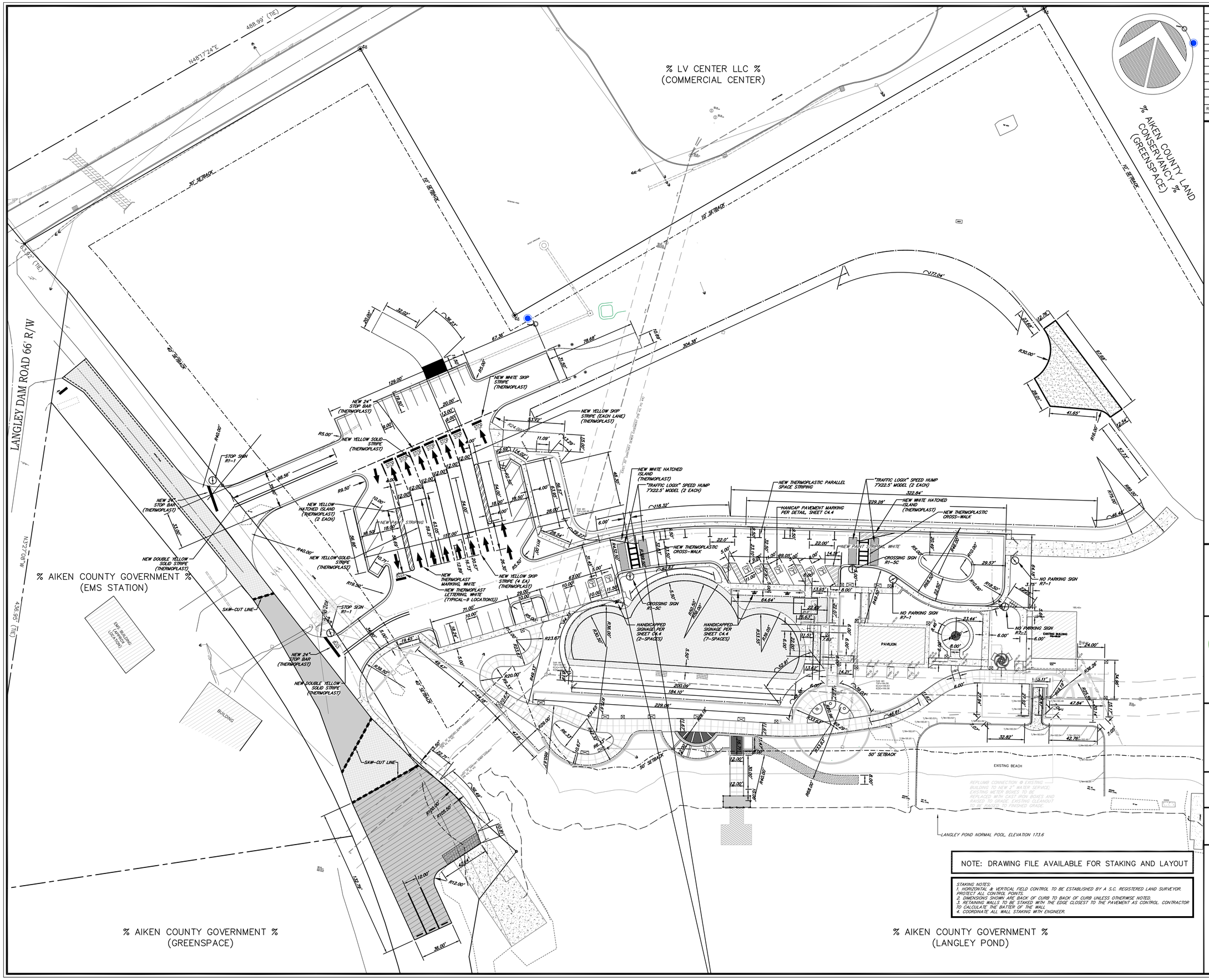
SCALE IN FEET

Sheet: C1.6



NOTE: DRAWING FILE AVAILABLE FOR STAKING AND LAYOUT

STAKING NOTES:
1. HORIZONTAL & VERTICAL FIELD CONTROL TO BE ESTABLISHED BY A S.C. REGISTERED LAND SURVEYOR. PROTECT ALL CONTROL POINTS.
2. DIMENSIONS SHOWN ARE BACK OF CURB TO BACK OF CURB UNLESS OTHERWISE NOTED.
3. RETAINING WALLS TO BE STAKED WITH THE EDGE CLOSEST TO THE PAVEMENT AS CONTROL. CONTRACTOR TO CALCULATE THE BATTER OF THE WALL.
4. COORDINATE ALL WALL STAKING WITH ENGINEER.

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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE STAKING & SIGNAGE PLAN

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
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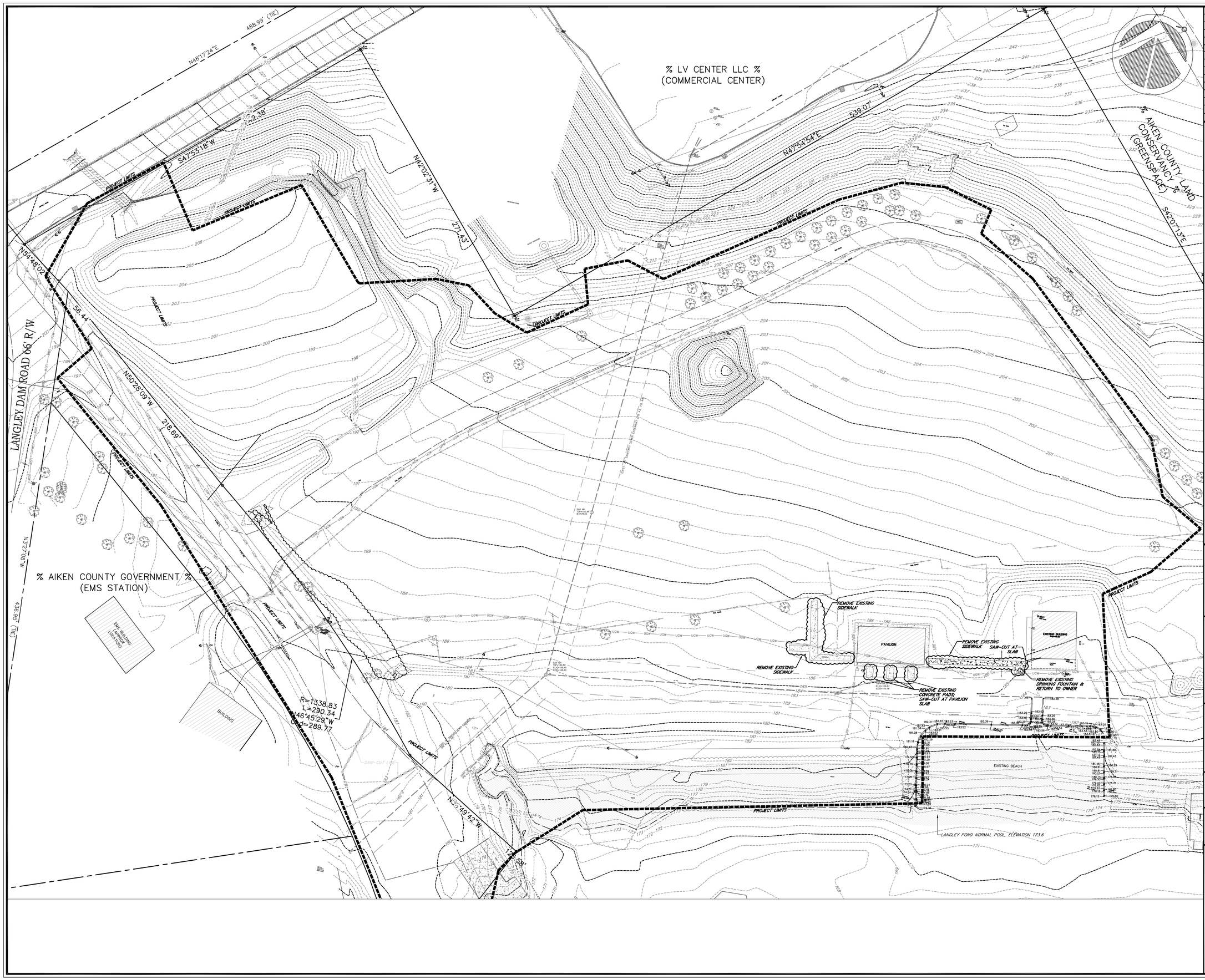

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

SITE DEMOLITION PLAN

SOUTH CAROLINA
ALFRED BENESCH & COMPANY
No. 5072
CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
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AUGUST 18, 2020

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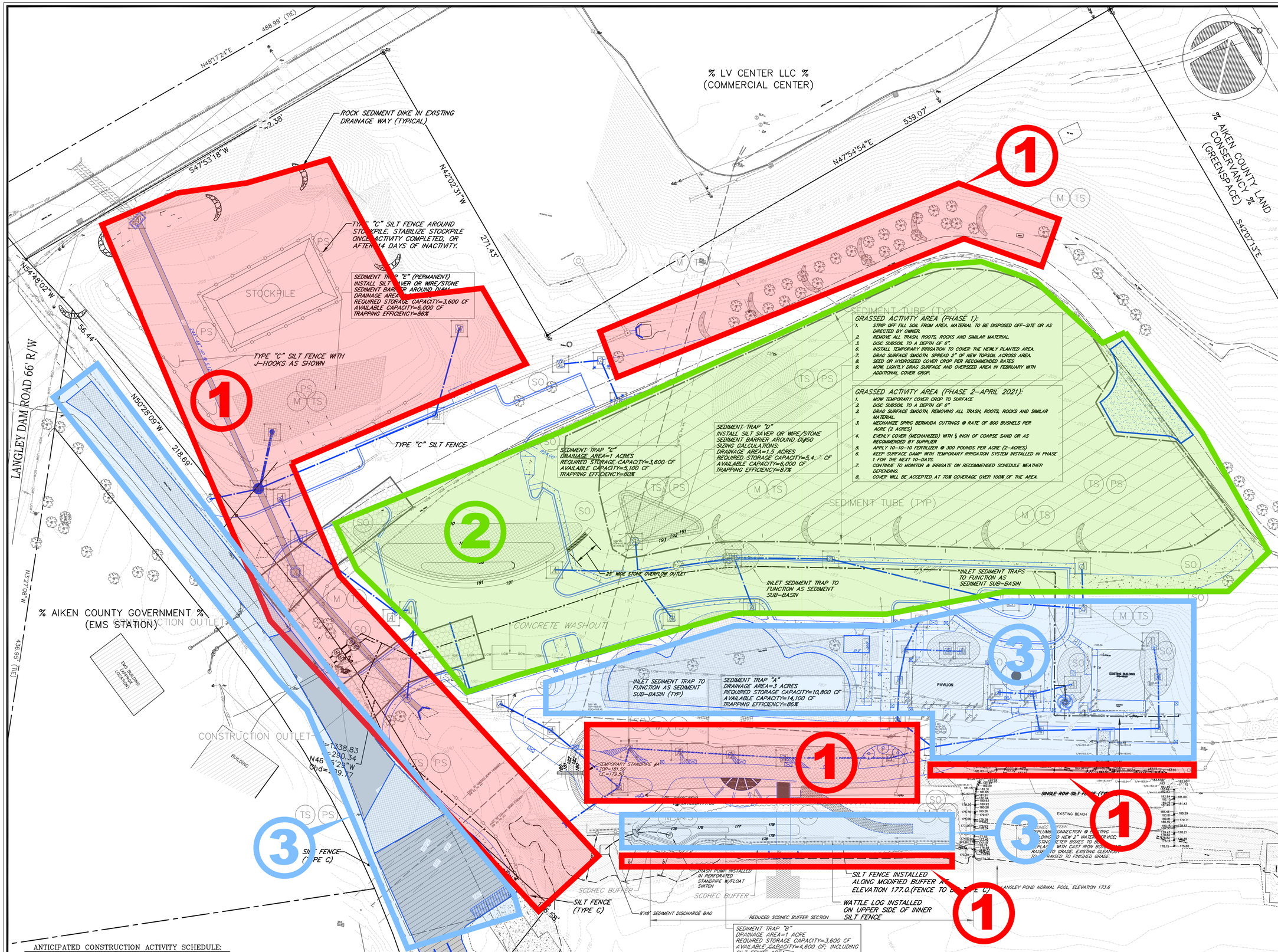
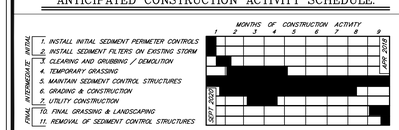
Sheet: C1.8



ANTICIPATED CONSTRUCTION ACTIVITY SCHEDULE:



THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE GENERAL ORDER OF IMPROVEMENTS AS THEY RELATE TO THE OVERALL POLLUTION CONTROL PLAN (C-SWPPP) AND BEST MANAGEMENT PRACTICES. DEVIATION FROM THIS PLAN SEQUENCING MAY REQUIRE ADDITIONAL MEASURES.

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>> PHASE 1:
1. INSTALL CONSTRUCTION OUTLET.
2. INSTALL PERIMETER CONTROLS PER SHEET C2.2.
3. INSTALL SEDIMENT BASIN "A" WITH STANDPIPE. (LIMITED GRADING REQUIRED).
4. INSTALL STORM LINE "B".
5. INSTALL STORM LINE "A" AND OUTFALL ALONG LANGLEY DAM ROAD SEDIMENT BASIN "A". OUTFALL SECTION TO BE COMPLETED AND ARMORED PRIOR TO STORM LINE CONSTRUCTION.
6. INSTALL PERMANENT SEDIMENT BASIN "E".
7. PREPARE STOCKPILE / LAYDOWN AREA

>> PHASE 2:
1. GRADING AND INSTALLATION OF WALL #H
2. INSTALLATION OF TEMP SEDIMENT BASIN "C"
3. INSTALLATION OF TEMP SEDIMENT BASIN "D"
4. STORM DRAIN FROM STRUCTURE #50 TO STRUCTURE #43.
5. INSTALL BYPASS PUMP IN STRUCTURE #43
6. GRASS ESTABLISHMENT EFFORT IN UPPER PARKING FIELD PER SPECIFICATIONS.

>> PHASE 3:
1. REMOVE SEDIMENT BASIN "A".
2. INSTALL TEMP SEDIMENT BASIN "B" WITH STANDPIPE.
3. MASS GRADING OF SITE.
6. CONSTRUCT RETAINING WALLS.
7. INSTALLATION OF ADS SYSTEM.
8. INSTALLATION OF STORM DRAIN NETWORK.
9. LANGLEY DAM ROAD IMPROVEMENTS.

FINAL SITE WIDE IMPROVEMENTS PHASE:
1. INSTALL CURB & GUTTER, SIDEWALKS, HARDSCAPE FEATURES, FENCES, STREET FURNITURE, SIMILAR ITEMS.
2. INSTALL IRRIGATION.
3. INSTALL PAVING.
4. INSTALL LANDSCAPING & SOD, SEED AREAS WHERE SPECIFIED.

PLANNING & CIVIL ENGINEERING BY:
benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
ESCP SEQUENCING PLAN

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	1"=30'
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

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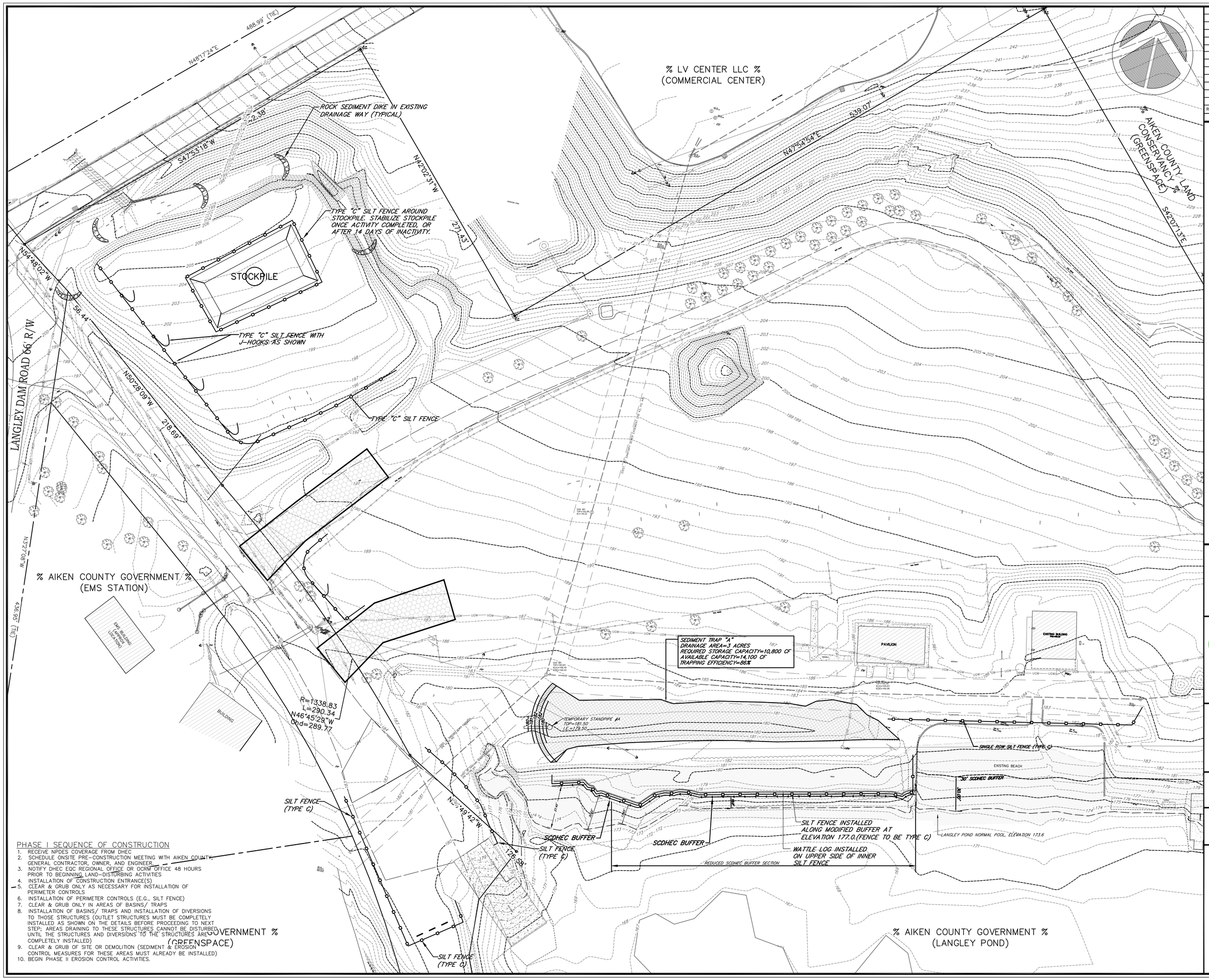
SCALE IN FEET

Sheet: C2.1



PHASE I SEQUENCE OF CONSTRUCTION

1. RECEIVE NPDES COVERAGE FROM DHEC
2. SCHEDULE ONSITE PRE-CONSTRUCTION MEETING WITH AIKEN COUNTY, GENERAL CONTRACTOR, OWNER, AND ENGINEER.
3. NOTIFY DHEC EQC REGIONAL OFFICE OR OCRM OFFICE 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES
4. INSTALLATION OF CONSTRUCTION ENTRANCE(S)
5. CLEAR & GRUB ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS
6. INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE)
7. CLEAR & GRUB ONLY IN AREAS OF BASINS/ TRAPS
8. INSTALLATION OF BASINS/ TRAPS AND INSTALLATION OF DIVERSIONS TO THOSE STRUCTURES (OUTLET STRUCTURES MUST BE COMPLETELY INSTALLED AS SHOWN ON THE DETAILS BEFORE PROCEEDING TO NEXT STEP; AREAS DRAINING TO THESE STRUCTURES CANNOT BE DISTURBED UNTIL THE STRUCTURES AND DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED)
9. CLEAR & GRUB OF SITE OR DEMOLITION (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED)
10. BEGIN PHASE II EROSION CONTROL ACTIVITIES.

REV. NO.	DATE	DESCRIPTION
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AIKEN COUNTY PARKS, RECREATION & TOURISM

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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

ESCP PLAN INITIAL PHASE

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

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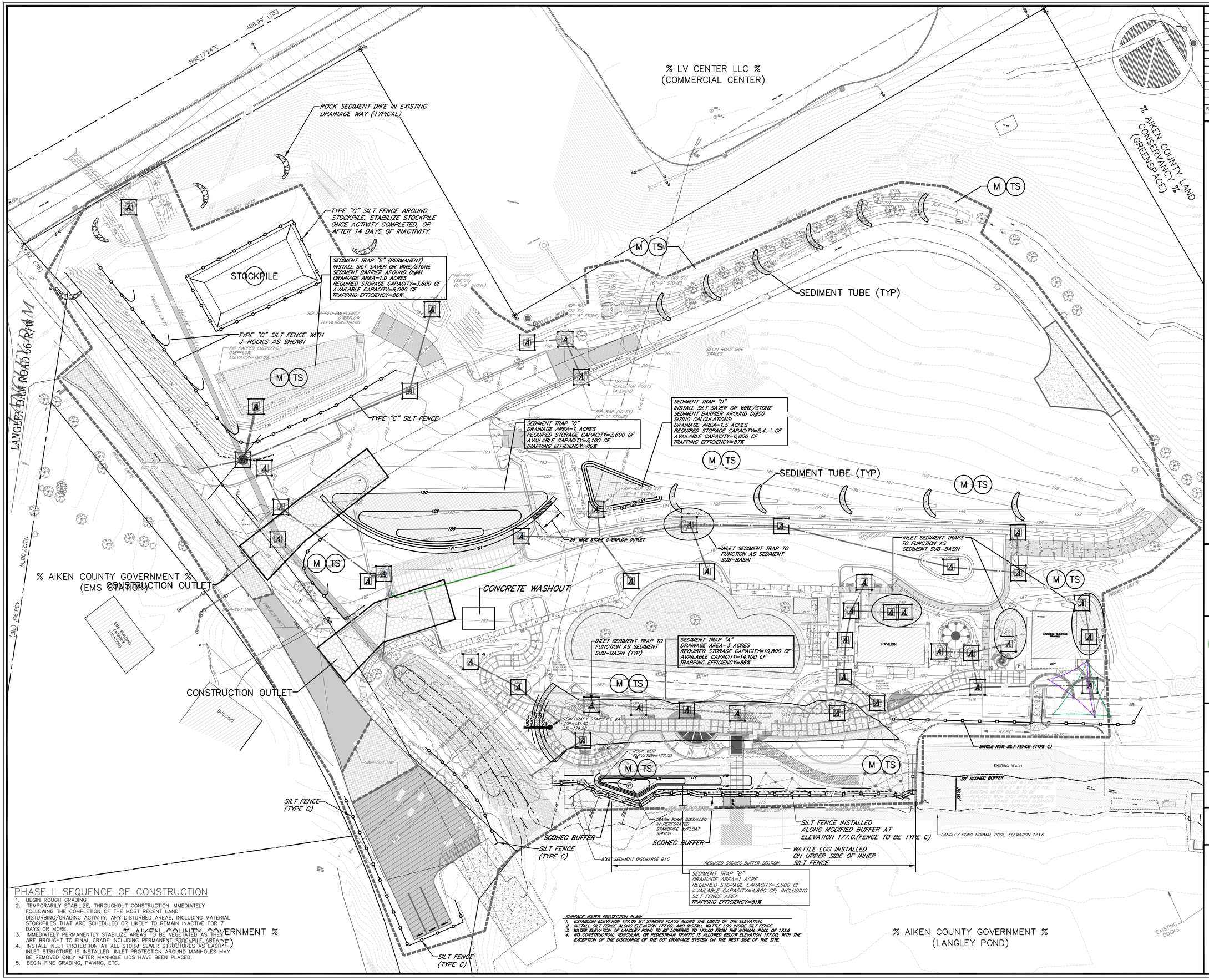
SCALE IN FEET

Sheet: C2.2



PHASE II SEQUENCE OF CONSTRUCTION

1. BEGIN ROUGH GRADING
2. TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 7 DAYS OR MORE.
3. IMMEDIATELY PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE INCLUDING PERMANENT STOCKPILE AREAS.
4. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED. INLET PROTECTION AROUND MANHOLES MAY BE REMOVED ONLY AFTER MANHOLE LIDS HAVE BEEN PLACED.
5. BEGIN FINE GRADING, PAVING, ETC.

SURFACE WATER PROTECTION PLAN:

1. ESTABLISH ELEVATION 177.00 BY STAKING FLAGS ALONG THE LIMITS OF THE ELEVATION.
2. INSTALL SILT FENCE ALONG ELEVATION 177.00, AND INSTALL WATTLE LOG INSIDE SILT FENCE
3. WATER ELEVATION OF LANGLEY POND TO BE LOWERED TO 172.00 FROM THE NORMAL POOL OF 173.6
4. NO CONSTRUCTION, VEHICULAR, OR PEDESTRIAN TRAFFIC IS ALLOWED BELOW ELEVATION 177.00, WITH THE EXCEPTION OF THE DISCHARGE OF THE 60" DRAINAGE SYSTEM ON THE WEST SIDE OF THE SITE.

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

ESCP PLAN
INTERMEDIATE PHASE

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

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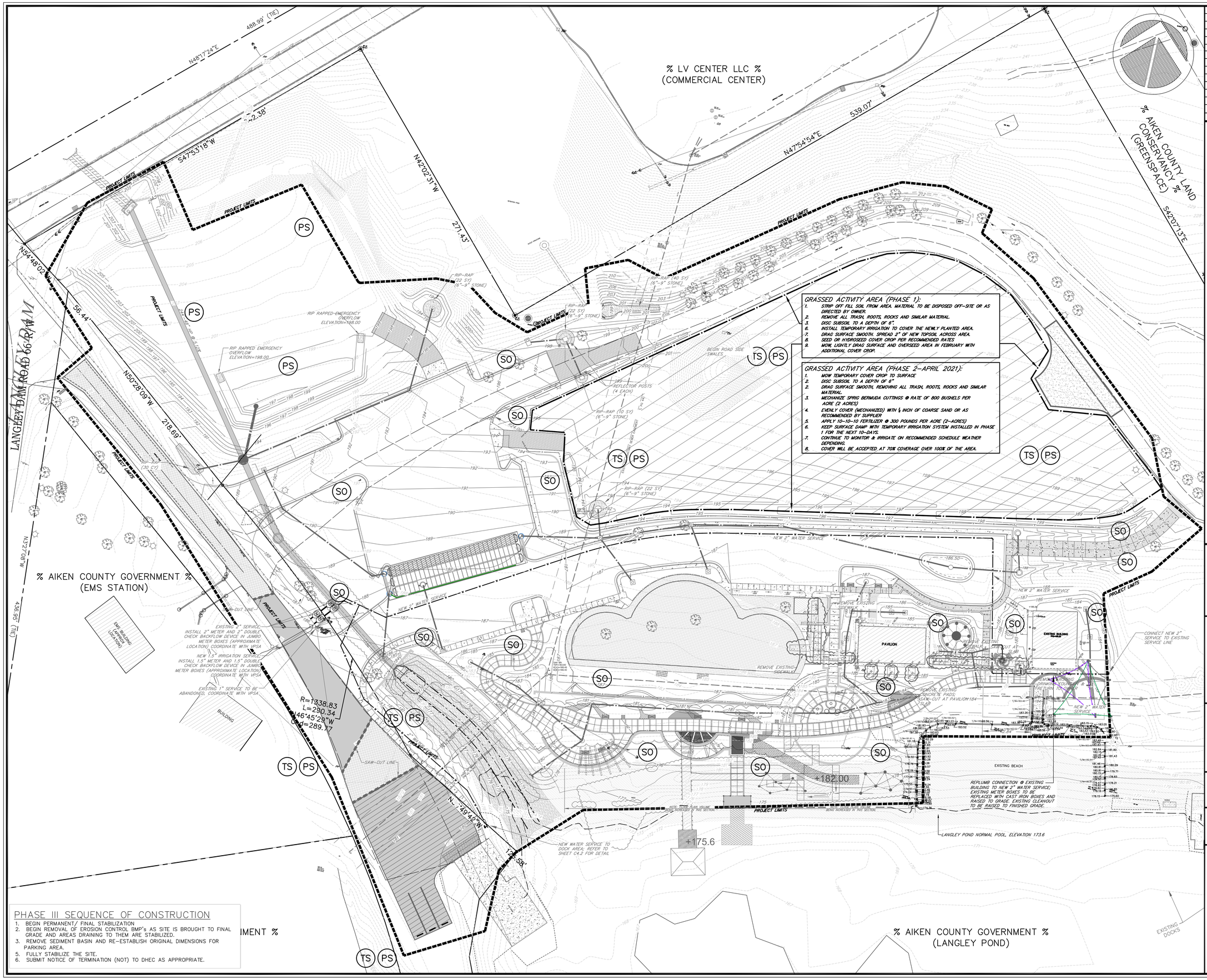
SCALE IN FEET

Sheet: C2.3



PHASE III SEQUENCE OF CONSTRUCTION

1. BEGIN PERMANENT/ FINAL STABILIZATION
2. BEGIN REMOVAL OF EROSION CONTROL BMP's AS SITE IS BROUGHT TO FINAL GRADE AND AREAS DRAINING TO THEM ARE STABILIZED.
3. REMOVE SEDIMENT BASIN AND RE-ESTABLISH ORIGINAL DIMENSIONS FOR PARKING AREA.
5. FULLY STABILIZE THE SITE.
6. SUBMIT NOTICE OF TERMINATION (NOT) TO DHEC AS APPROPRIATE.

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AIKEN COUNTY PARKS, RECREATION & TOURISM

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PROJECT TITLE:
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Langley Pond Park
Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
ESCP PLAN
FINAL PHASE

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

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AUGUST 18, 2020

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Sheet: C2.4

South Carolina Department of Health and Environmental Control	MAPPING SYMBOLS FOR EROSION AND SEDIMENT CONTROL PLANS EFFECTIVE DATE: AUGUST, 2005

DESCRIPTION	SYMBOL
EROSION PREVENTION	
LAND GRADING:	LC OR
SURFACE ROUGHENING:	
TOPSOILING:	
TEMPORARY SEEDING:	TS
MULCHING:	M
ECB OR TRM	

South Carolina Department of Health and Environmental Control	MAPPING SYMBOLS FOR EROSION AND SEDIMENT CONTROL PLANS EFFECTIVE DATE: AUGUST, 2005

DESCRIPTION	SYMBOL
EROSION PREVENTION	
FGM	FGM
BFM	BFM
PERMANENT SEEDING:	PS
SODDING:	SO
RIPRAP:	
OUTLET PROTECTION	RipRap; ECB or TRM
DUST CONTROL:	DC
POLYACRYLAMIDE (PAM)	PAM

South Carolina Department of Health and Environmental Control	MAPPING SYMBOLS FOR EROSION AND SEDIMENT CONTROL PLANS EFFECTIVE DATE: AUGUST, 2005

DESCRIPTION	SYMBOL
SEDIMENT CONTROL	
SEDIMENT BASIN:	
TEMPORARY SEDIMENT TRAP:	
ROCK SEDIMENT DIKE:	
ROCK CHECK DAM:	OR
SEDIMENT TUBE:	
SILT FENCE:	
REINFORCED SILT FENCE:	
TYPE A - FABRIC INLET PROTECTION:	A
TYPE A - SEDIMENT TUBE INLET PROTECTION:	A

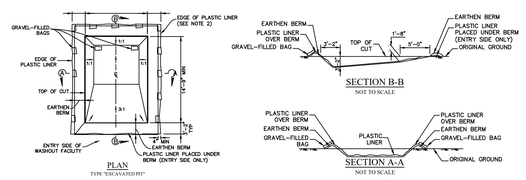
South Carolina Department of Health and Environmental Control	MAPPING SYMBOLS FOR EROSION AND SEDIMENT CONTROL PLANS EFFECTIVE DATE: AUGUST, 2005

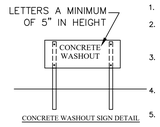
DESCRIPTION	SYMBOL
TYPE B - WIRE MESH AND STONE DROP INLET PROTECTION:	B
TYPE C - BLOCK AND GRAVEL INLET PROTECTION:	C
TYPE D - RIGID INLET FILTERS	D
TYPE E - SURFACE COURSE CURB INLET FILTER	E
TYPE F - INLET TUBE	F
ROCK SEDIMENT DIKE:	
RUNOFF CONVEYANCE MEASURES:	
VEGETATED CHANNELS:	
RIPRAP-LINED CHANNELS:	
ECB OR TRM-LINED CHANNELS:	
PAVED CHANNELS:	PC PC PC
PIPE SLOPE DRAINS:	

South Carolina Department of Health and Environmental Control	MAPPING SYMBOLS FOR EROSION AND SEDIMENT CONTROL PLANS EFFECTIVE DATE: AUGUST, 2005

DESCRIPTION	SYMBOL
RUNOFF CONVEYANCE MEASURES:	
TEMPORARY STREAM CROSSING:	T
TEMPORARY DIVERSION DITCH OR SWALE	TD TD
PERMANENT DIVERSION DITCH:	PD PD
DIVERSION DIKE OR BERM	DD DB
LEVEL SPREADER:	
SUBSURFACE DRAIN:	SSD SSD

EXCAVATED PIT CONCRETE WASHOUT





CONCRETE WASHOUT SIGN DETAIL

NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL.
5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.
7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.

South Carolina Department of Health and Environmental Control

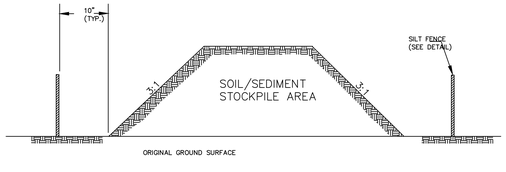
CONCRETE WASHOUT
EXCAVATED PIT

STANDARD DRAWING NO. RC-08 PAGE 1 of 1

NOT TO SCALE

FEBRUARY 2014
DATE

TEMPORARY STOCKPILE AREA



NOTES:

1. SILT FENCE TO EXTEND AROUND ENTIRE PERIMETER OF STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOP THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN-GRADIENT AREA.
2. IF STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
3. SILT FENCE SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

South Carolina Department of Health and Environmental Control

TEMPORARY STOCKPILE

STANDARD DRAWING NO. SC-15 PAGE 1 of 1

NOT TO SCALE

FEBRUARY 2014
DATE

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AIKEN COUNTY PARKS, RECREATION & TOURISM

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

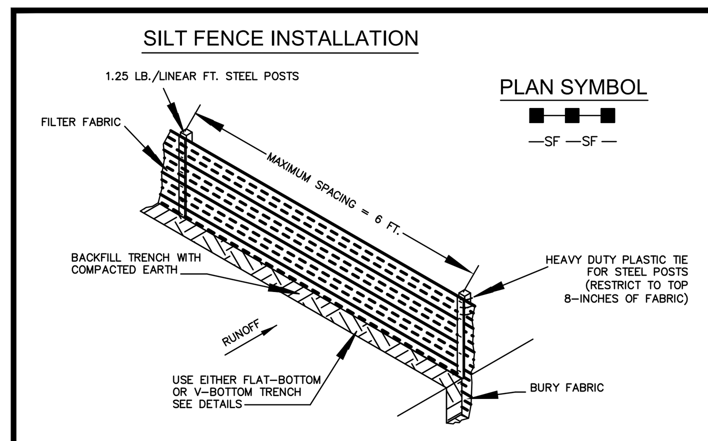
SHEET TITLE:

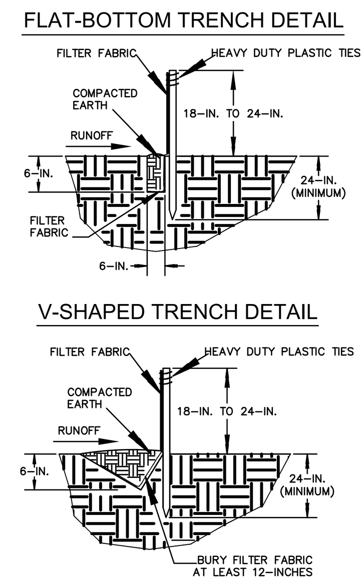
ESCP DETAILS 1

SOUTH CAROLINA — ALFRED BENESCH & COMPANY — No. 5072 — CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE: AUGUST 18, 2020

Sheet: C3.1





SILT FENCE – GENERAL NOTES
1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100–feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
   – Wrap each fabric together at a support post with both ends fastened to the post, with a 1–foot minimum overlap;
   – Overlap silt fence by installing 3–feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy–duty plastic ties; or,
   – Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy–duty plastic ties that are evenly spaced within the top 8–inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie–Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

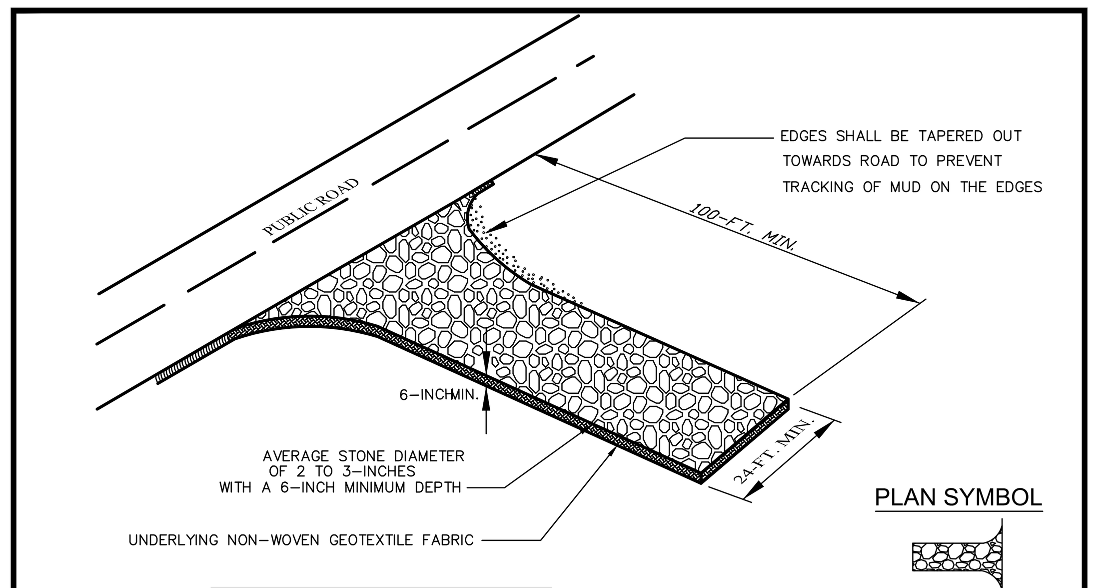
South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 Page 1 of 2
NOT TO SCALE — FEBRUARY 2014 DATE

SILT FENCE – POST REQUIREMENTS
1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
   – Composed of a high strength steel with a minimum yield strength of 50,000 psi.
   – Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
   – Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17–square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24–inches. A minimum height of 1– to 2–inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6–feet on center.

SILT FENCE – FABRIC REQUIREMENTS
1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
   – Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
   – Free of any treatment or coating which might adversely alter its physical properties after installation;
   – Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
   – Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

SILT FENCE – INSPECTION & MAINTENANCE
1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important.
Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie–backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 PAGE 2 of 2
GENERAL NOTES — FEBRUARY 2014 DATE



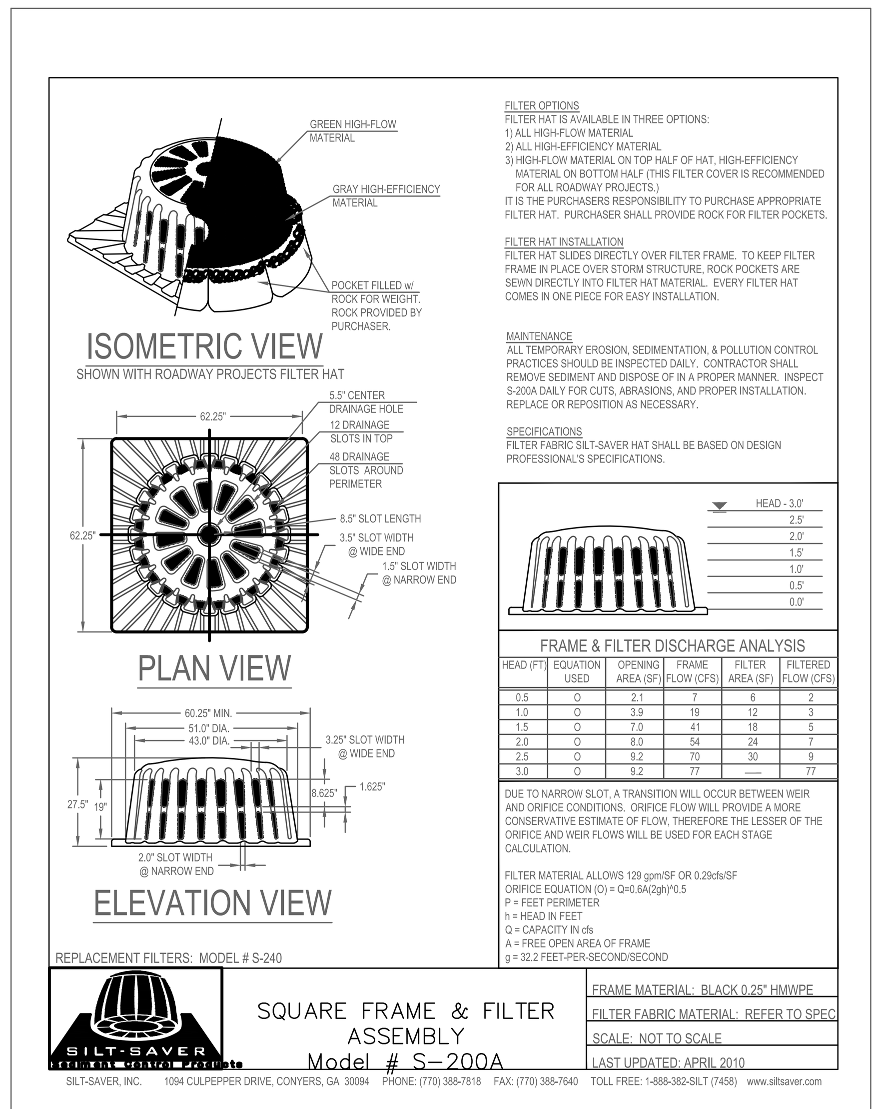
SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	24 FEET
ROCK PAD LENGTH	100 FEET
ROCK PAD STONE SIZE	D = 2–3 INCHES

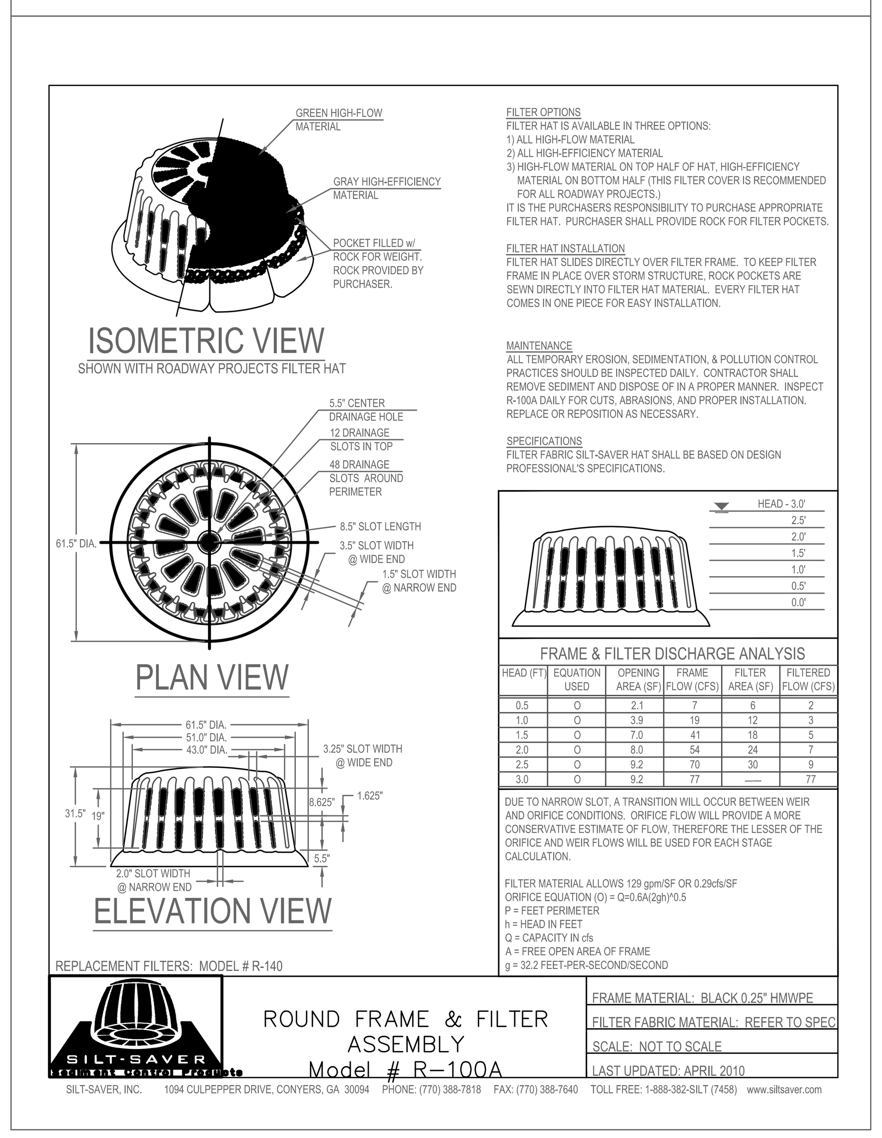
South Carolina Department of Health and Environmental Control
CONSTRUCTION ENTRANCE
STANDARD DRAWING NO. SC–06 PAGE 1 of 2
NOT TO SCALE — FEBRUARY 2014 DATE

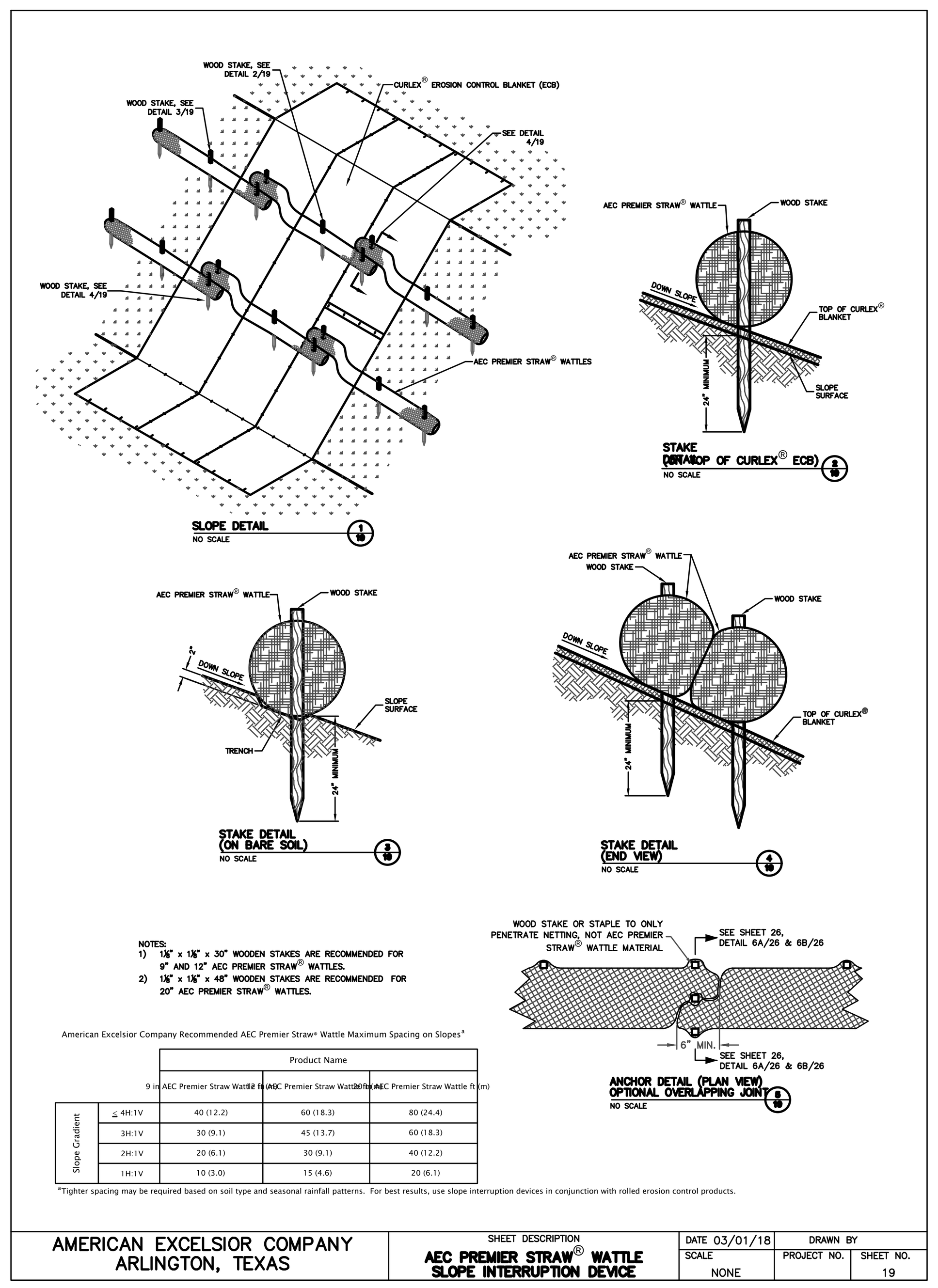
CONSTRUCTION ENTRANCE – GENERAL NOTES
1. Stabilized construction entrances should be used at all points where traffic will egress/ingress a construction site onto a public road or any impervious surfaces, such as parking lots.
2. Install a non–woven geotextile fabric prior to placing any stone.
3. Install a culvert pipe across the entrance when needed to provide positive drainage.
4. The entrance shall consist of 2–inch to 3–inch D50 stone placed at a minimum depth of 6–inches.
5. Minimum dimensions of the entrance shall be 24–feet wide by 100–feet long, and may be modified as necessary to accommodate site constraints.
6. The edges of the entrance shall be tapered out towards the road to prevent tracking at the edge of the entrance.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping structure.
8. Limestone may not be used for the stone pad.

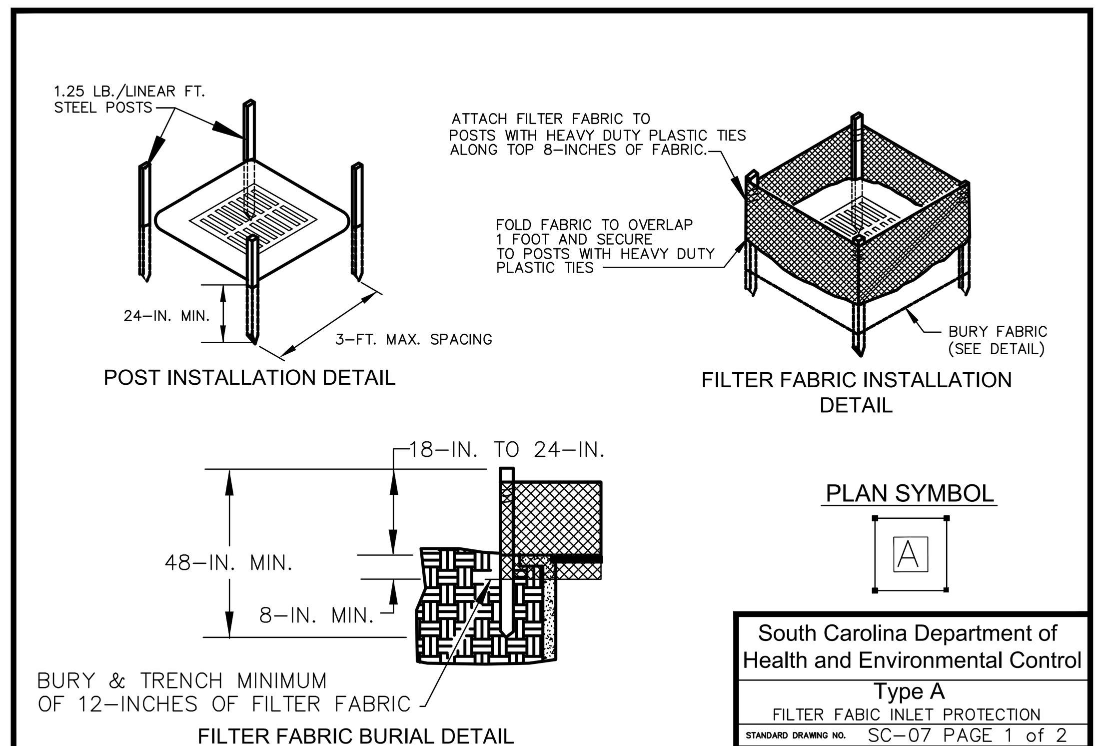
CONSTR. ENTRANCE – INSPECTION & MAINTENANCE
1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of construction entrances shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
4. Reshape the stone pad as necessary for drainage and runoff control.
5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce the amount of mud being carried off–site by vehicles. Frequent washing will extend the useful life of stone pad.
6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
7. During maintenance activities, any broken pavement should be repaired immediately.
8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post–construction.

South Carolina Department of Health and Environmental Control
CONSTRUCTION ENTRANCE
STANDARD DRAWING NO. SC–06 PAGE 2 of 2
GENERAL NOTES — FEBRUARY 2014 DATE

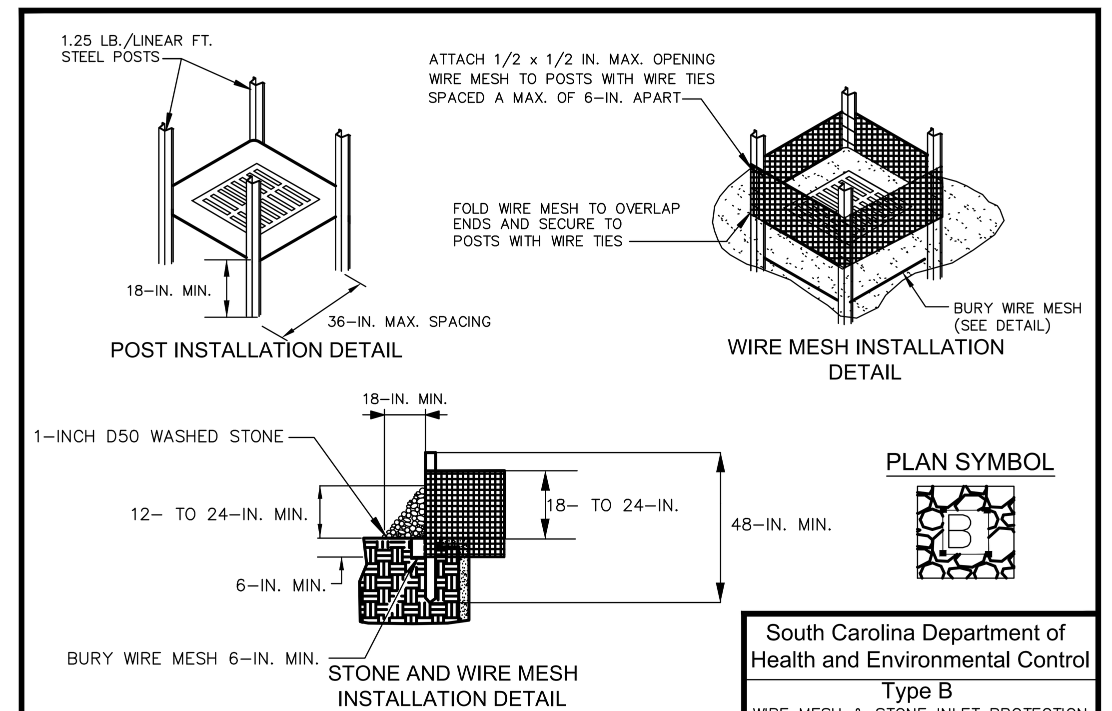








South Carolina Department of Health and Environmental Control
Type A
FILTER FABIC INLET PROTECTION
STANDARD DRAWING NO. SC–07 PAGE 1 of 2
NOT TO SCALE — FEBRUARY 2014 DATE



South Carolina Department of Health and Environmental Control
Type B
WIRE MESH & STONE INLET PROTECTION
STANDARD DRAWING NO. SC–08 PAGE 1 of 2
NOT TO SCALE — FEBRUARY 2014 DATE

TYPE A – FILTER FABRIC REQUIREMENTS
1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
– Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
– Free of any treatment or coating which might adversely alter its physical properties after installation;
– Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
– Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

TYPE A – POST REQUIREMENTS
1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
– Composed of a high strength steel with a minimum yield strength of 50,000 psi.
– Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
– Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Install posts to a minimum of 24–inches. A minimum height of 1– to 2– inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
4. Post spacing shall be at a maximum of 3–feet on center.

TYPE A – INSPECTION & MAINTENANCE
1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the filter fabric is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the filter fabric. When a sump is installed in front of the fabric, sediment should be removed when it fills approximately 1/3 the depth of the sump.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the filter fabric, or where the fabric has sagged or collapsed due to runoff overtopping the inlet protection.
7. Check for tears within the filter fabric, areas where fabric has begun to decompose, and for any other circumstance that may render the inlet protection ineffective. Removed damaged fabric and reinstall new filter fabric immediately.
8. Inlet protection structures should be removed after all the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately.

South Carolina Department of Health and Environmental Control
Type A
FILTER FABIC INLET PROTECTION
STANDARD DRAWING NO. SC–07 PAGE 2 of 2
GENERAL NOTES — FEBRUARY 2014 DATE

WIRE MESH & STONE INLET PROTECTION

GENERAL NOTES
1. Use hardware fabric or comparable wire mesh with maximum openings of 0.5–inches x 0.5–inches as the supporting material.
2. Use steel posts that meet the following physical requirements:
– Be composed of high strength steel with a minimum yield of 50,000 psi.
– Have a standard "T" section with a nominal face width of 1.38 inches and a nominal "T" width of 1.48–inches.
– Weigh 1.25 pounds per foot (±8%)
3. Use heavy–duty wire ties to attach the wire mesh material to the steel posts.
4. Space the steel posts a maximum of 3–feet apart around the perimeter of the inlet and drive them into the ground a minimum of 18–inches.
5. Excavate a trench 6–inches deep around the outside perimeter of the inlet to install wire mesh. Backfill the trench with soil or crushed stone and compact over the wire mesh.
6. Place Aggregate No. 5 washed stone (or 1–inch D50 stone) to a minimum height of 12–inches, and a maximum of 24–inches against the wire mesh on all sides.

INSPECTION & MAINTENANCE
1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of wire mesh and stone inlet protection shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations in front of the inlet protection is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when the sediment reaches 1/3 height of the stone fill or when stone becomes clogged. When a sump is installed in front of inlet protection, sediment should be removed when it fills approximately 1/3 the depth of the sump.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of the inlet protection when found.
7. After accumulated sediment is removed, pull stones from around wire mesh to wash or to replace with fresh stones as necessary.
8. Inlet protection structures should be removed after the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet crest. Stabilize all bare areas immediately.

South Carolina Department of Health and Environmental Control
Type B
WIRE MESH & STONE INLET PROTECTION
STANDARD DRAWING NO. SC–08 PAGE 2 of 2
GENERAL NOTES — FEBRUARY 2014 DATE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

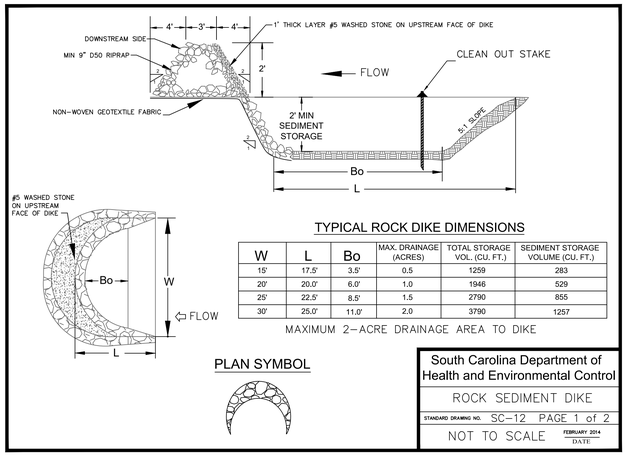
PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
ESCP DETAILS 2

SOUTH CAROLINA — No. 5072 — CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE:
AUGUST 18, 2020

Sheet: C3.2



TYPICAL ROCK DIKE DIMENSIONS

W	L	Bo	MAX. DRAINAGE (ACRES)	TOTAL STORAGE VOL. (CU. FT.)	SEDIMENT STORAGE VOLUME (CU. FT.)
15'	17.5'	3.5'	0.5	1259	283
20'	20.0'	6.0'	1.0	1946	529
25'	22.5'	8.5'	1.5	2790	855
30'	25.0'	11.0'	2.0	3790	1257

MAXIMUM 2-ACRE DRAINAGE AREA TO DIKE

PLAN SYMBOL

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 PAGE 1 of 2

NOT TO SCALE — FEBRUARY 2014 DATE

ROCK SEDIMENT DIKE – GENERAL NOTES

1. Rock sediment dikes should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. A non-woven geotextile fabric shall be installed over the soil surface where the rock sediment dike is to be placed.
3. The body of a rock sediment dike shall be composed of 9-inch D50 riprap at a minimum.
4. The upstream face of the rock sediment dike shall be composed of a 1-foot thick layer of 3/4-inch to 1-inch D50 washed stone placed at a slope of 2H:1V.
5. Rock sediment dikes shall have a minimum top flow length of 3-feet (2-foot flow length through the riprap and 1-foot flow length through the washed stone).
6. The rock must be placed by hand or mechanical placement (no dumping of rock to form the sediment dike) to achieve proper dimensions.
7. A sediment sump shall be located on the upstream side of the structure to provide sediment storage. The upstream side of the sump shall have a slope of 5H:1V to inhibit erosion of the sediment storage area. The minimum depth of the sump shall be 2-feet.
8. Mark the sediment clean-out level of the sediment dike with a stake in the field.
9. Seed and mulch all disturbed areas.

ROCK SEDIMENT DIKE – INSPECTION AND MAINTENANCE

1. The key to a functional rock sediment dike is weekly inspection, routine maintenance and regular sediment removal.
2. Attention to sediment accumulations within the rock sediment dike is extremely important. Accumulated sediment deposition should be continually monitored in the trap and removed when necessary.
3. Remove accumulated sediment when it reaches 50% of the designed sediment storage volume as marked by the clean-out stake.
4. Removed sediment from the rock sediment dike shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
5. Regular inspections of rock sediment dikes should be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces ½-inch or more of precipitation.
6. All rock sediment dikes should be removed within 30 days after final stabilization is achieved. Dispose of all construction materials appropriately. Disturbed area resulting from removal shall be permanently stabilized.

South Carolina Department of Health and Environmental Control

ROCK SEDIMENT DIKE

STANDARD DRAWING NO. SC-12 PAGE 2 of 2

GENERAL NOTES — FEBRUARY 2014 DATE

EROSION CONTROL STANDARD NOTES

1. If necessary, slopes, which exceed eight (8) vertical feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.

2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below.
Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
Where construction activity on a portion of the Site is temporarily ceased, and earth-disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the Site.

3. All sediment and erosion control devices shall be inspected once every calendar week and after each 0.5" rainfall event. If periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.

4. Provide silt fence and/or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized with grassing immediately after the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the State.

5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.
6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.

7. Residential subdivisions require erosion control features for infrastructure as well as for individual lot construction. Individual property owners shall follow these plans during construction or obtain approval of an individual plan in accordance with S.C Reg. 72-300 et seq. and SCR100000.

8. Temporary diversion berms and/or ditches will be provided as needed during construction to protect work areas from upslope runoff and/or to divert sediment-laden water to appropriate traps or stable outlets.

9. All waters of the State (WoS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WoS. A 10-foot buffer should be maintained between the last row of silt fence and all WoS.

10. Silt fence is to be installed 8 feet from the toe of slopes and be spaced 6-8 feet apart when double row silt fence is indicated or required.
11. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.
12. A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.

13. Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume for a period of 7 calendar days.

14. Minimize soil compaction and, unless infeasible, preserve topsoil.

15. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

16. Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMPs (sediment basin, filter bag, etc.).

17. The following discharges from sites are prohibited:
– Wastewater from washout of concrete, unless managed by an appropriate control;
– Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
– Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
– Soaps or Solvents used in vehicle and equipment washing.

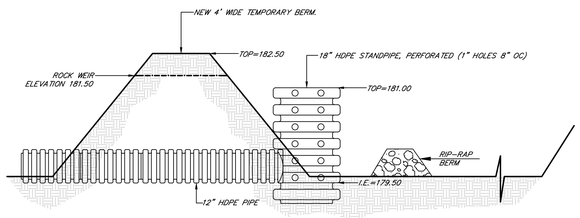
18. If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as reasonably possible.

19. A Pre-Construction Conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more this conference must be held on-site unless the Department has approved otherwise.

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

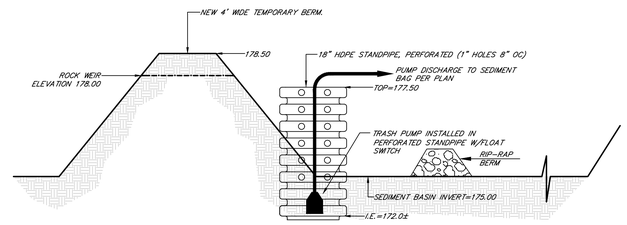
REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM



SEDIMENT TRAP "A" CROSS SECTION

NOT TO SCALE



SEDIMENT TRAP "B" CROSS SECTION

NOT TO SCALE

SEDIMENT TRAP – GENERAL NOTES

1. Sediment traps should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. The rock outlet structure shall consist of 12-inch D50 riprap. The upstream face of this outlet shall consist of a 1-foot thick layer of 1-inch D50 washed stone. The maximum steepness of the rock outlet structure shall be 2:1.
3. Both the rock outlet and the stone apron shall have an underlying layer of non-woven geotextile filter fabric.
4. All internal side slopes of the sediment trap should be 3:1 or flatter.
5. A sediment cleanout stake should be installed and marked to remove sediment at 50% of the sediment storage volume.
6. At least two (2) porous baffles shall be installed within the sediment trap. There should be at least 10 linear feet between each baffle and between any row of baffles and any of the sediment trap's inlets/outlets.
7. After construction of each sediment trap, the area disturbed to construct the trap should be promptly stabilized, including all side slopes.
8. The following sediment trap requirements shall be maintained:
   - Maximum embankment height shall be 5-feet.
   - Maximum riprap outlet height shall be 3.5-feet.
   - Minimum width at bottom of riprap outlet shall be 3-feet.
   - Minimum flow length at top of riprap outlet shall be 2-feet.

SEDIMENT TRAP – INSPECTION AND MAINTENANCE

1. The key to a functional sediment trap is weekly inspections, routine maintenance and regular sediment removal.
2. Attention to sediment accumulations within the trap is extremely important. Accumulated sediment deposition should be continually monitored in the trap and removed when necessary.
3. Remove accumulated sediment when it reaches 50% of the designed sediment storage volume as marked by the cleanout stake.
4. Removed sediment from the trap shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
5. Regular inspections of sediment traps should be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces ½-inch or more of precipitation.
6. Disturbed areas resulting from the removal of the sediment trap should be permanently stabilized and additional BMPs, such as silt fence, should be utilized to handle stormwater runoff from this disturbed area until final stabilization is reached.

South Carolina Department of Health and Environmental Control

SEDIMENT TRAP

STANDARD DRAWING NO. SC-02 Page 2 of 2

GENERAL NOTES — FEBRUARY 2014 DATE

SEED SELECTION

1. MARCH 1–AUGUST 14: HULLED BERMUDA GRASS AT 30 LBS./ACRE. TEMPORARY SEEDING SHALL OCCUR DURING OTHER TIMES OF THE YEAR UNTIL PERMANENT SEEDING CAN BE COMPLETED.
2. AUGUST 15–FEBRUARY 28: UNHULLED BERMUDA GRASS AT 40 LBS./ACRE. PROVIDE WITH TEMPORARY SEEDING.

INSTALLATION NOTES:

1. CONTRACTOR TO VERIFY THAT 4" OF TOPSOIL WILL BE SPREAD OVER THE AREA TO RECEIVE PERMANENT SEEDING. IF TOPSOIL IS NOT AVAILABLE ONSITE, THE CONTRACTOR SHALL IMPORT TOPSOIL.
2. LOOSEN THE SURFACE PRIOR TO SEED APPLICATION TO BREAK ANY CRUST THAT HAS FORMED.
3. SOIL TESTING IS AVAILABLE THROUGH CLEMSON UNIVERSITY COOPERATIVE EXTENSION SERVICE.
4. APPLY LIME AT A RATE OF 70 LBS/1000 SQUARE FEET.
5. 10-10-10 FERTILIZER SHALL BE APPLIED AT A RATE OF 23 LBS/1000 SQUARE FEET.
6. DO NOT MIX LIME AND FERTILIZER PRIOR TO APPLICATION.
7. MULCH SEEDED AREAS PER TECHNICAL SPECIFICATIONS.
8. SEEDED AREAS SHALL BE KEPT MOIST. IF NORMAL RAINFALL IS NOT ADEQUATE FOR GERMINATION AND NEW GROWTH, AS DETERMINED BY THE ENGINEER, PROVIDE SELECTIVE WATER AS NOTED IN SPECIFICATIONS.
9. RESEED OR OVERSEED AREAS WHERE GRASS IS FAILING TO ACHIEVE FINAL STABILIZATION BY PERMANENT SEEDING REQUIRES THAT THE DISTURBED AREAS SHALL HAVE 70% MINIMUM COVERAGE (I.E., 70% OF EACH SQUARE YARD OF SEEDED AREA).

INSPECTION AND MAINTENANCE NOTES:

1. INSPECT SEEDED AREAS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH 1/2 INCH RAINFALL EVENT. INSPECTIONS SHALL CONTINUE UNTIL PERMANENT GRASSING IS ESTABLISHED.
2. COVER SEED WITH MULCH TO PROVIDE PROTECTION. INSPECT FREQUENTLY ARE NECESSARY TO CHECK CONDITIONS FOR GROWTH ARE GOOD.
3. INSPECT SEEDED AREAS FOR ADEQUATE MOISTURE AND SUPPLY WATER IF NEEDED.
4. FINAL STABILIZATION IS DEFINED AS 70% COVERAGE PER SQUARE YARD.

INSTALLATION NOTES:

1. ANCHOR LOOSE HAY OR STRAW BY APPLYING TACKIFIER, STAPLING NETTING OVER THE TOP, OR CRIMPING WITH A MULCH CRIMPING TOOL.
2. NETTING AND MATTING SHALL PROVIDE CONTINUOUS CONTACT WITH THE MULCH AND SOIL.
3. HEAVY MULCHES (SUCH AS BARK AND WOOD CHIPS) ON FLAT SLOPES DO NOT REQUIRE ANCHORING.
4. SEE TEMPORARY AND PERMANENT SEEDING FOR MULCHING APPLICATION RATES.

INSPECTION AND MAINTENANCE NOTES:

1. INSPECT SEEDED AREAS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH 1/2 INCH RAINFALL EVENT.
2. REPAIR OR REPLACE DAMAGED AREAS OF MULCH IMMEDIATELY.

M MULCHING

NO SCALE

PS PERMANENT SEEDING

NO SCALE

SEED SELECTION

1. AUGUST 16–MARCH 31: RYE GRAIN SEED AT 110 LBS/ACRE.

INSTALLATION NOTES:

1. SEED DISTURB AREAS WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IS COMPLETE UNLESS ACTIVITY WILL RESUME WITHIN 21 DAYS.
2. RESEED AREAS THAT DOES NOT GROW QUICKLY OR THICK ENOUGH TO PREVENT EROSION.
3. LOOSEN THE SURFACE PRIOR TO SEED APPLICATION TO BREAK ANY CRUST THAT HAS FORMED.
4. SOIL TESTING IS AVAILABLE THROUGH CLEMSON UNIVERSITY COOPERATIVE EXTENSION SERVICE.
5. APPLY LIME AT SCDOT RECOMMENDED RATES AS APPLICABLE FOR TEMPORARY SEEDING.
6. 10-10-10 FERTILIZER SHALL BE APPLIED AT A RATE OF 11.5 LBS/1000 SQUARE FEET PER TECHNICAL SPECIFICATIONS..
7. SEEDED AREAS SHALL BE KEPT MOIST. IF NORMAL RAINFALL IS NOT ADEQUATE FOR GERMINATION AND NEW GROWTH, AS DETERMINED BY THE ENGINEER, PROVIDE SELECTIVE WATERING AS NOTED IN SPECIFICATIONS.

INSPECTION AND MAINTENANCE NOTES:

1. INSPECT SEEDED AREAS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH 1/2 INCH RAINFALL EVENT. INSPECTIONS SHALL CONTINUE UNTIL PERMANENT GRASSING IS ESTABLISHED.
2. COVER SEED WITH MULCH TO PROVIDE PROTECTION. INSPECT FREQUENTLY ARE NECESSARY TO CHECK CONDITIONS FOR GROWTH ARE GOOD.
3. INSPECT SEEDED AREAS FOR ADEQUATE MOISTURE AND SUPPLY WATER IF NEEDED.

TS TEMPORARY SEEDING

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

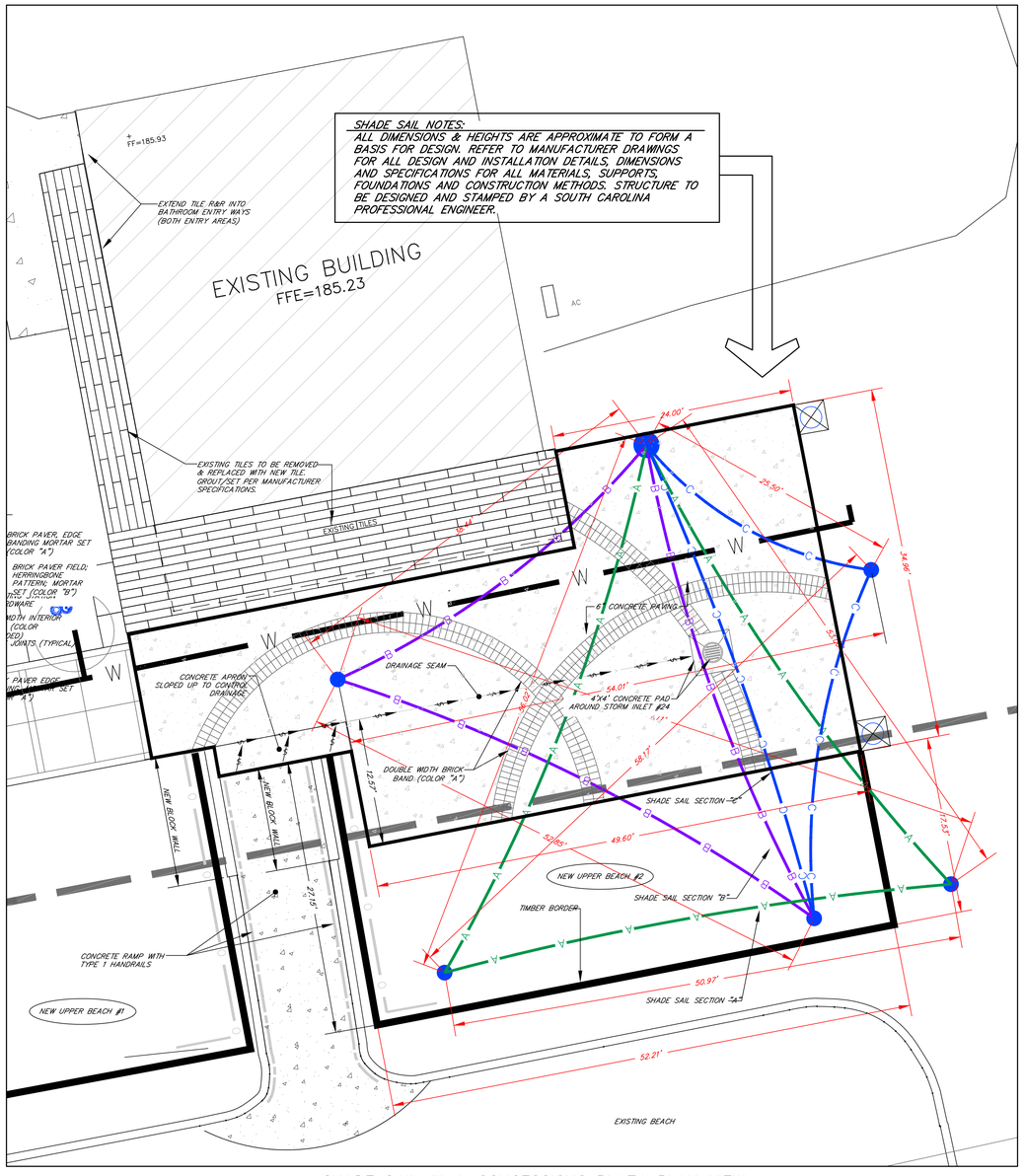
SHEET TITLE:

ESCP DETAILS 3

SOUTH CAROLINA — ALFRED BENESCH & COMPANY — No. 5072 — CERTIFICATE OF AUTHORIZATION

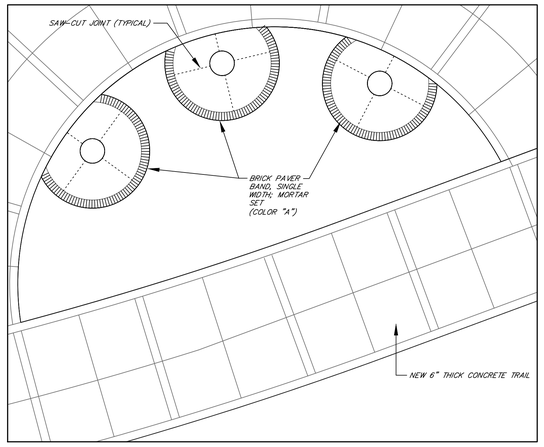
JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C3.4



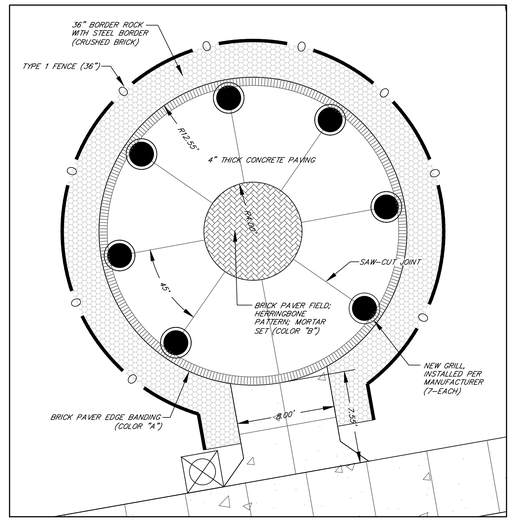
SHADE SAIL #1 & CONCESSIONS PLAZA PLAN VIEW

SCALE: 1"=5'



FLAGPOLE PLAZA HARDSCAPE DETAIL

SCALE: 1"=5'



GRILL STATION PLAZA HARDSCAPE DETAIL

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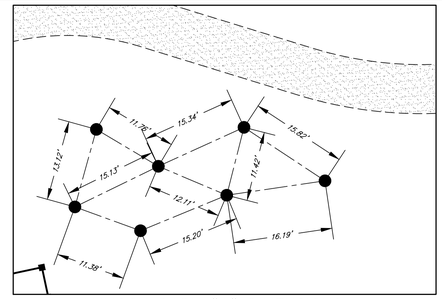
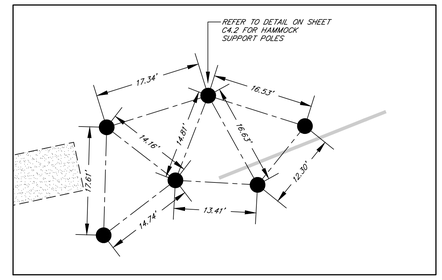


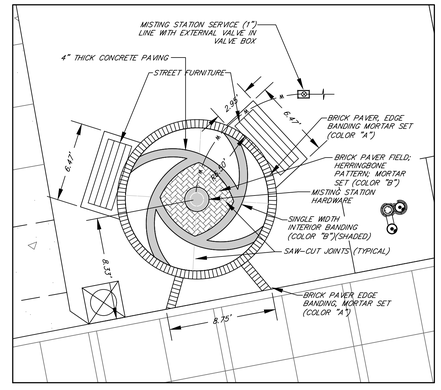
HAMMOCK PARK "A" DIMENSIONS

SCALE: 1"=10'



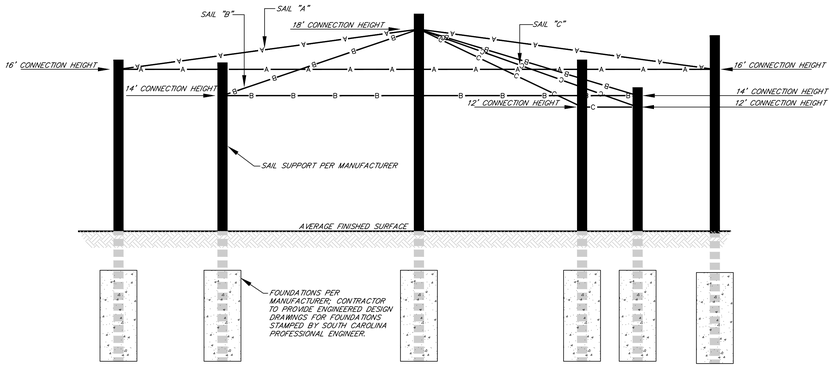
HAMMOCK PARK "B" DIMENSIONS

SCALE: 1"=10'



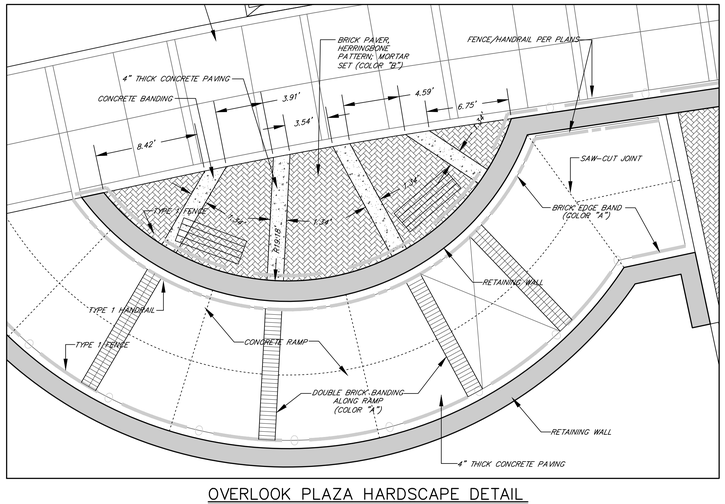
MISTING STATION HARDSCAPE DETAIL

SCALE: 1"=5'



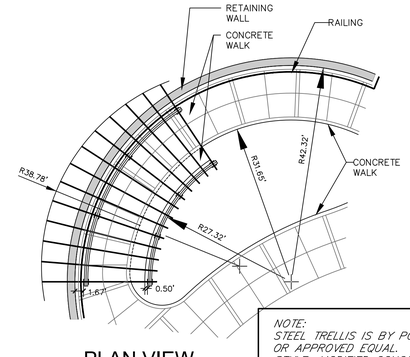
SHADE SAIL #1 SECTION VIEW

NOT TO SCALE



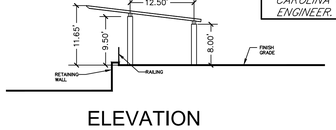
OVERLOOK PLAZA HARDSCAPE DETAIL

SCALE: 1"=5'



PLAN VIEW

NOTE:
STEEL TRELLIS IS BY POLIGON OR APPROVED EQUAL.
STYLE: MODIFIED CONCORD WITH MEDITERRANEAN END BEAM OPTION. TRELLIS SHALL BE POWDER COATED.
STRUCTURE TO BE DESIGNED AND STAMPED BY A SOUTH CAROLINA PROFESSIONAL ENGINEER.



ELEVATION

PRE-MANUFACTURED TRELLIS #1 DETAIL

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

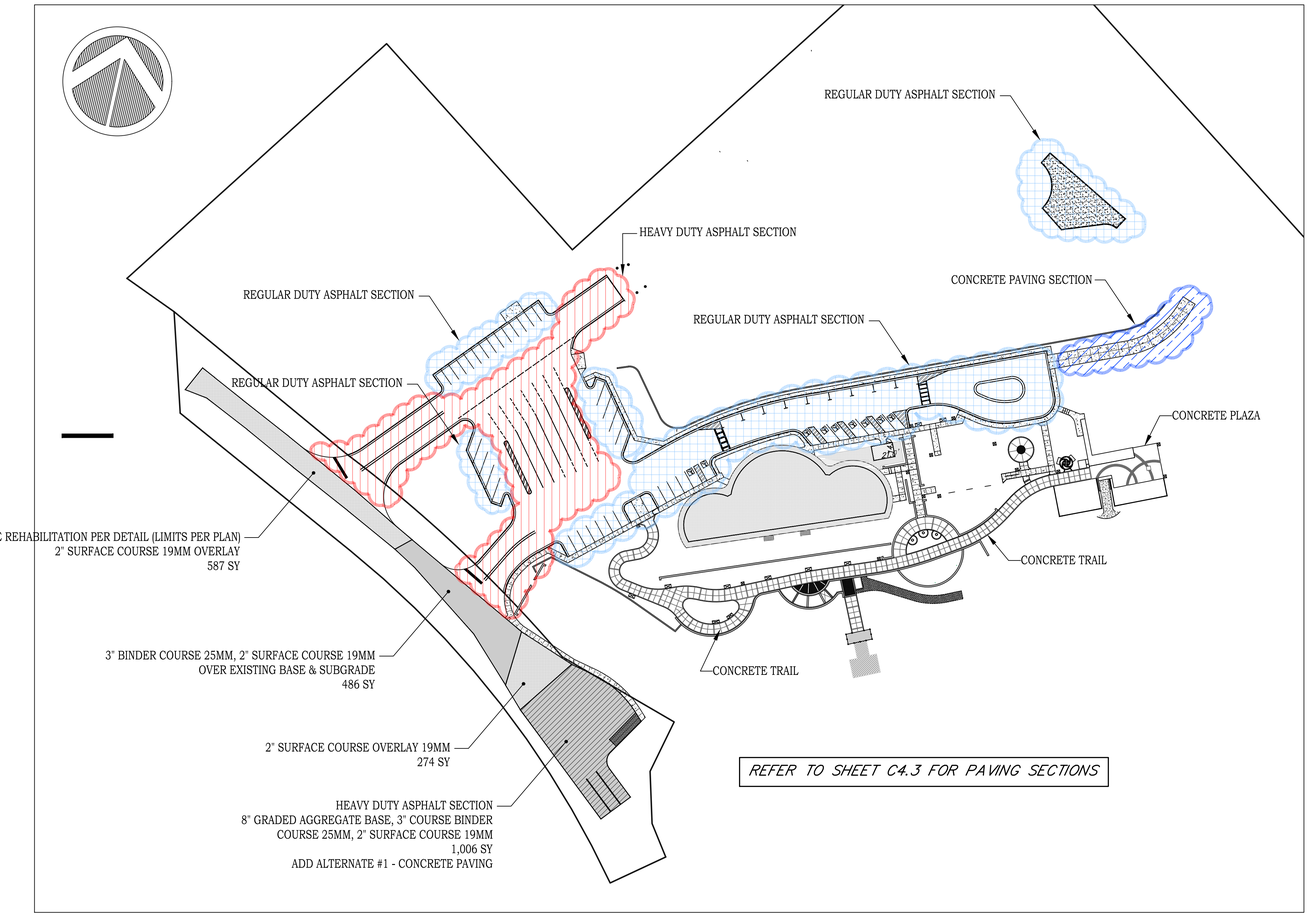
SHEET TITLE:

CIVIL DETAILS 1

SOUTH CAROLINA REGISTERED ARCHITECT No. 5072 CERTIFICATE OF AUTHORITY

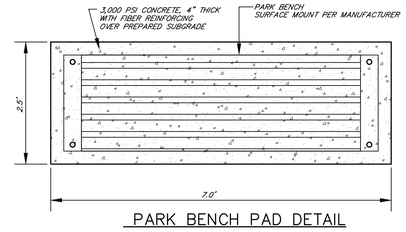
JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C4.1



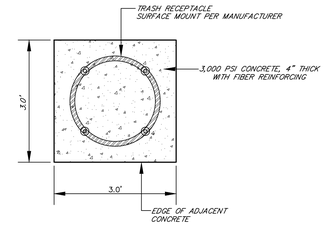
SITE PAVING LEGEND

NOT TO SCALE



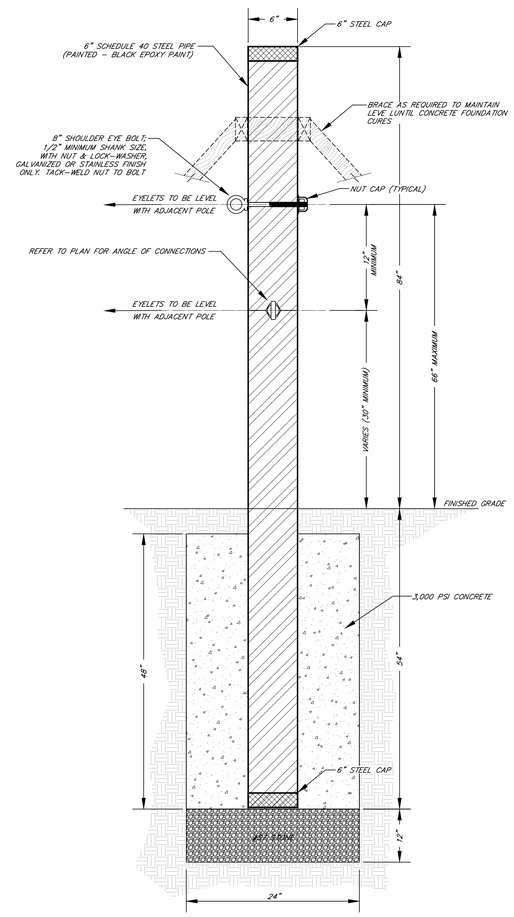
PARK BENCH PAD DETAIL

NOT TO SCALE



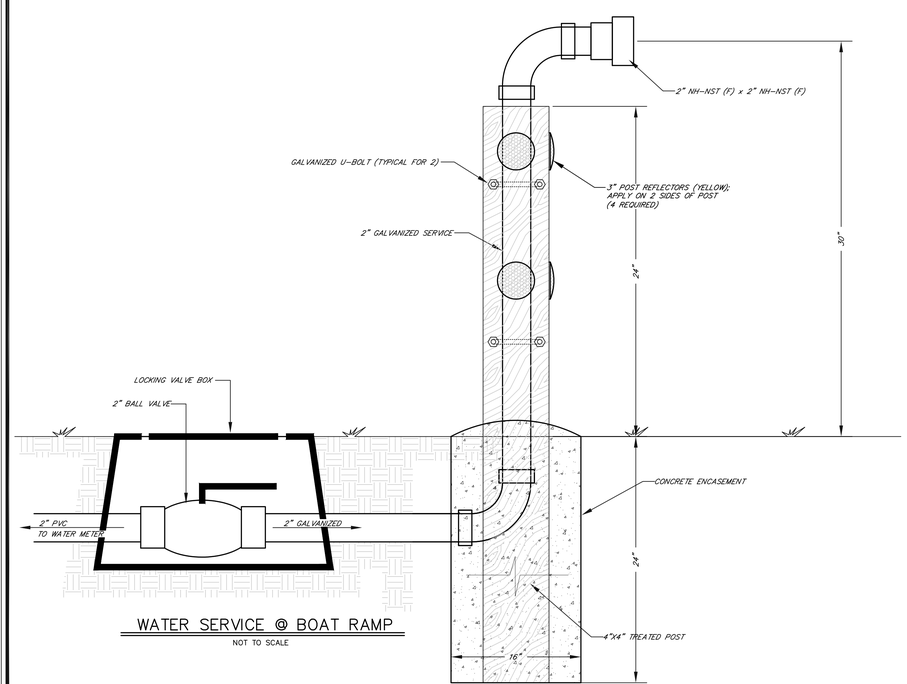
TRASH RECPTACLE PAD DETAIL

NOT TO SCALE



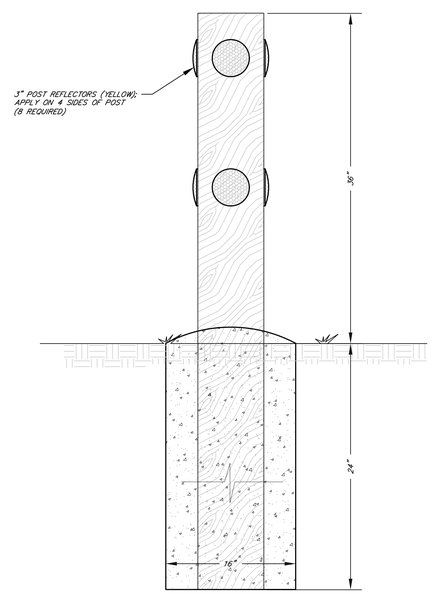
HAMMOCK POLE SUPPORT

NOT TO SCALE



WATER SERVICE @ BOAT RAMP

NOT TO SCALE



REFLECTOR POST DETAIL

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

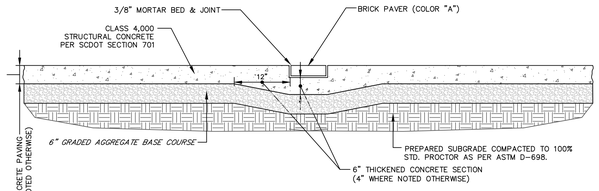
SHEET TITLE:

CIVIL DETAILS 2

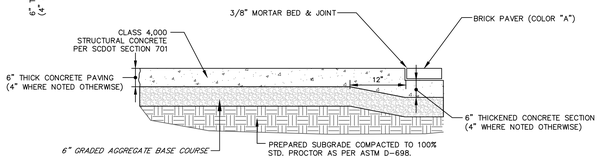
SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE:
AUGUST 18, 2020

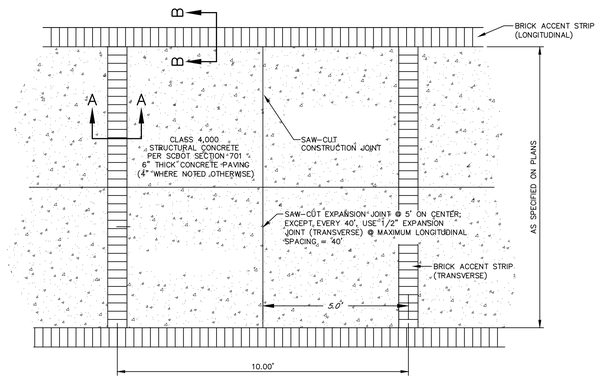
Sheet: C4.2



TRAIL SECTION A–A



TRAIL SECTION B–B

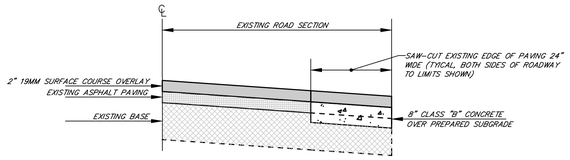


PLAN VIEW

4" OR 6" THICK CONCRETE TRAIL & PLAZA DETAILS

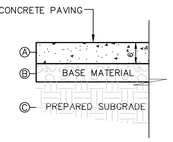
NOT TO SCALE

NOTE:
1. REFER TO SHEET C4.1 FOR DETAILS OF PLAZA ENHANCEMENTS.



EDGE OF ROAD REHABILITATION CROSS–SECTION

NOT TO SCALE

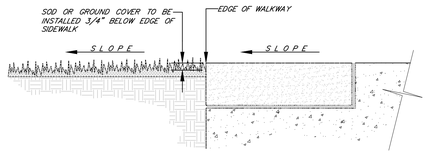


NOTES

A) CONCRETE PAVING:
PAVED AREAS–6" THICK, 4,000 PSI, FIBER REINFORCED
JOINTS – SAWED PER PLAN (1/3d)
– EXPANSION JOINT 40' MAXIMUM SPACING
B) GRADED AGGREGATE BASE:
8" DEPTH – TO BE COMPACTED TO 100% MODIFIED PROCTOR.
C) ORGANIC MATERIAL BE UNDERCUT:
REPLACE UNDERCUT AREAS WITH SELECT BACKFILL TO SUBGRADE LEVEL @ 98%

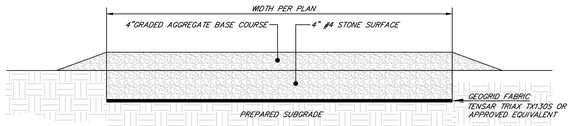
REGULAR DUTY CONCRETE PAVING DETAIL

NOT TO SCALE



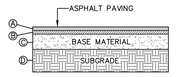
EDGE OF TRAIL TREATMENT FOR DRAINAGE

NOT TO SCALE



TYPE 1 GRAVEL DRIVE

NOT TO SCALE

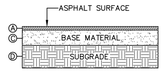


NOTES

A) ASPHALT PAVING: (MINIMUM RECOMMENDATION)
2" SCDOT TYPE "C" SURFACE HMA COURSE
B) BINDER: (MINIMUM RECOMMENDATION)
3" SCDOT TYPE "C" BINDER HMA COURSE
C) GRADED AGGREGATE BASE:
8" DEPTH
GRADED AGGREGATE BASE TO BE COMPACTED TO 100% MODIFIED PROCTOR.
D) ORGANIC MATERIAL BE UNDERCUT:
REPLACE UNDERCUT AREAS TO SUBGRADE LEVEL @ 95% STD. PROCTOR
AS PER ASTM D–698. COMPACT UPPER 12" OF THIS FILL TO 100%
STD. PROCTOR AS PER ASTM D–698.

HD ASPHALT PAVEMENT CROSS–SECTION

NOT TO SCALE

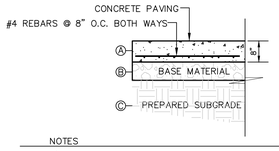


NOTES

A) ASPHALT PAVING: (MINIMUM RECOMMENDATION)
2" SCDOT TYPE "C" SURFACE HMA COURSE
C) GRADED AGGREGATE BASE:
6" DEPTH
GRADED AGGREGATE BASE TO BE COMPACTED TO 100% MODIFIED PROCTOR.
D) ORGANIC MATERIAL BE UNDERCUT:
REPLACE UNDERCUT AREAS TO SUBGRADE LEVEL @ 95% STD. PROCTOR
AS PER ASTM D–698. COMPACT UPPER 12" OF THIS FILL TO 100%
STD. PROCTOR AS PER ASTM D–698.

SD ASPHALT PAVEMENT CROSS–SECTION

NOT TO SCALE

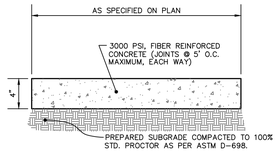


NOTES

A) CONCRETE PAVING:
PAVED AREAS–8" THICK, 4,000 PSI, FIBER REINFORCED
JOINTS – SAWED 10'X10' (1/3d)
– EXPANSION JOINT – 40' MAXIMUM SPACING
– COORDINATE JOINT LAYOUT WITH ENGINEER
B) GRADED AGGREGATE BASE:
8" DEPTH – TO BE COMPACTED TO 100% MODIFIED PROCTOR.
C) ORGANIC MATERIAL BE UNDERCUT:
REPLACE UNDERCUT AREAS WITH SELECT BACKFILL TO SUBGRADE LEVEL @ 98%

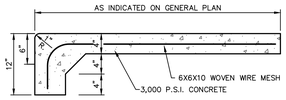
ADD ALTERNATE #1 (BOAT RAMP AREA)
HEAVY DUTY CONCRETE PAVING DETAIL

NOT TO SCALE



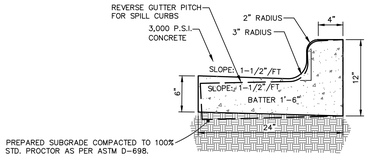
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



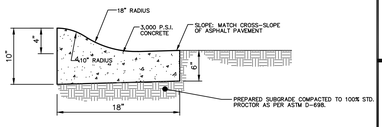
CONCRETE SIDEWALK W/T.D.E. DETAIL

NOT TO SCALE



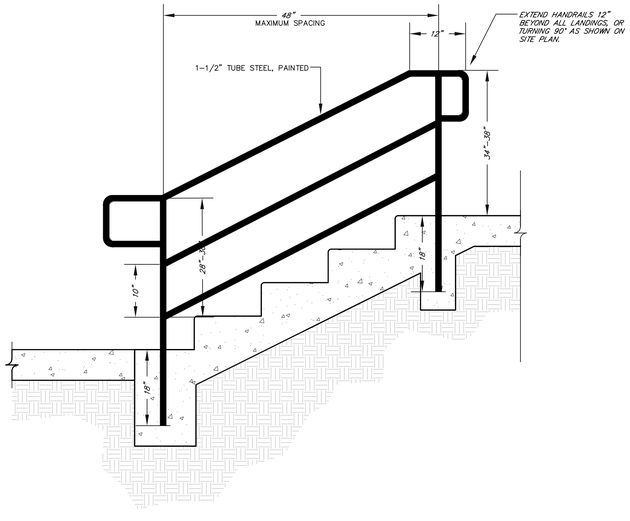
24" CONCRETE CURB & GUTTER DETAIL

NOT TO SCALE



18" CONCRETE ROLL CURB DETAIL

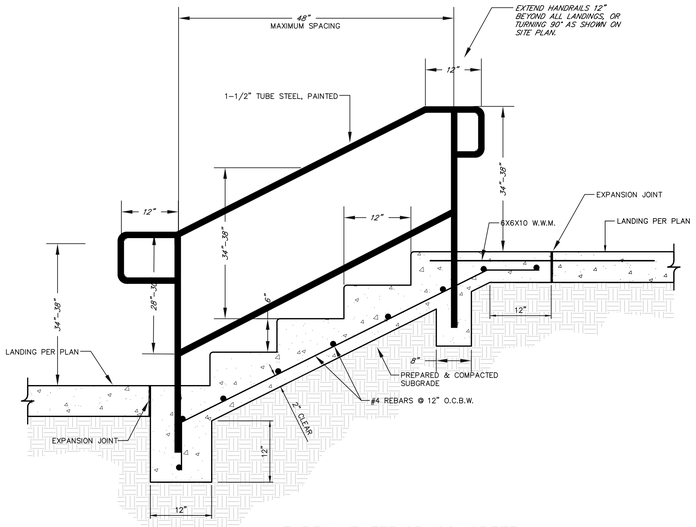
NOT TO SCALE



TYPE 2 HANDRAIL DETAIL

NOT TO SCALE

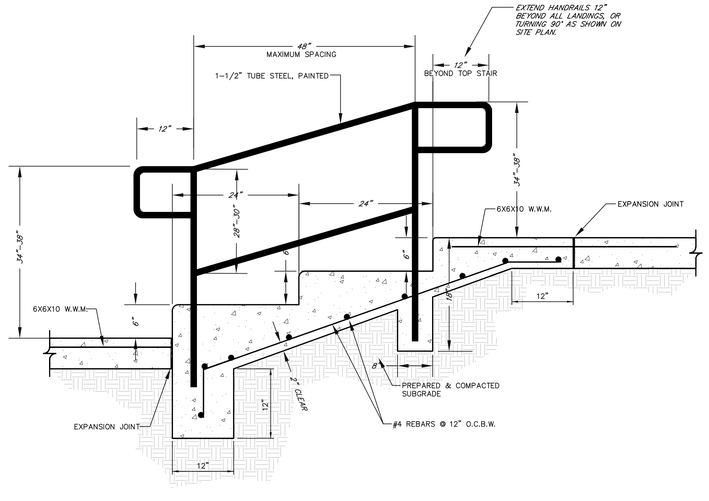
NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL
HANDRAIL SECTIONS PRIOR TO MATERIAL ORDER OR
CONSTRUCTION.



TYPE 1 EXTERIOR CONCRETE STAIRS WITH TYPE 1 HANDRAIL DETAIL

(TYPICAL BOTH SIDES)
NOT TO SCALE

NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL
HANDRAIL SECTIONS PRIOR TO MATERIAL ORDER OR
CONSTRUCTION.



TYPE 2 EXTERIOR CONCRETE STAIRS WITH TYPE 1 HANDRAIL DETAIL

(TYPICAL BOTH SIDES)
NOT TO SCALE

NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL
HANDRAIL SECTIONS PRIOR TO MATERIAL ORDER OR
CONSTRUCTION.

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:
benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

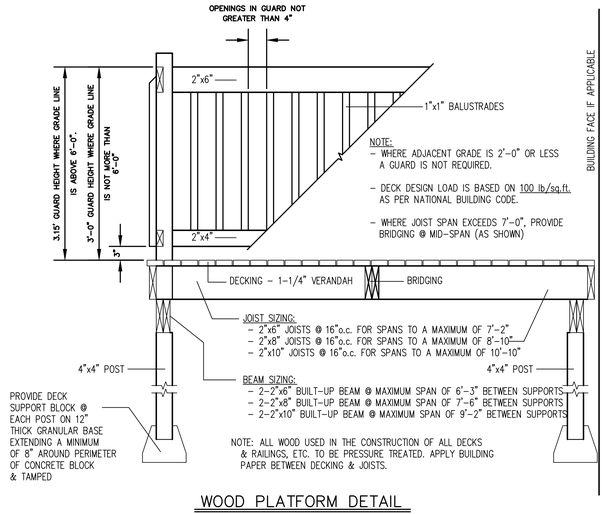
PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 3

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

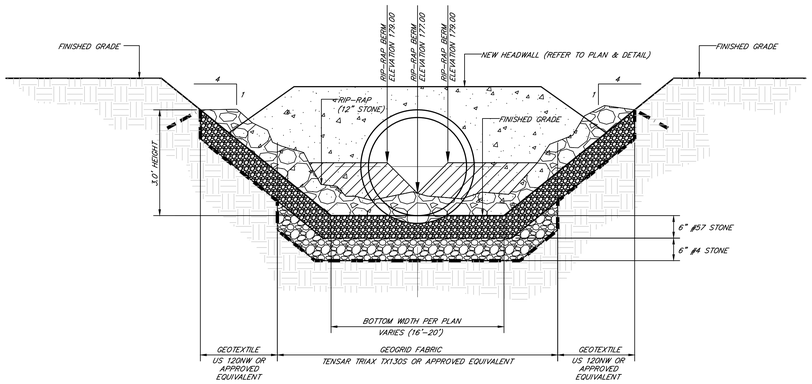
JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE:
AUGUST 18, 2020

Sheet: C4.3



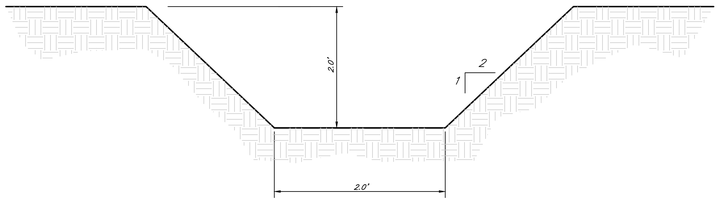
WOOD PLATFORM DETAIL

NOT TO SCALE



OUTFALL DITCH SECTION

NOT TO SCALE



TYPE 1 SWALE SECTION

NOT TO SCALE

ODUCTS RESOURCES COMPANY NEENAH FOUNDRY Since 1872 CAREERS CONTACT US

R-1423-BNB

You may need to scroll horizontally to view all table columns.

A- Lid Diameter	B-Lid Thickness	C-Clear Opening	E-Flange Dimension	F-Frame Height	Shape
26-5/8	1-1/4	23-7/8	35-1/2	7	Round

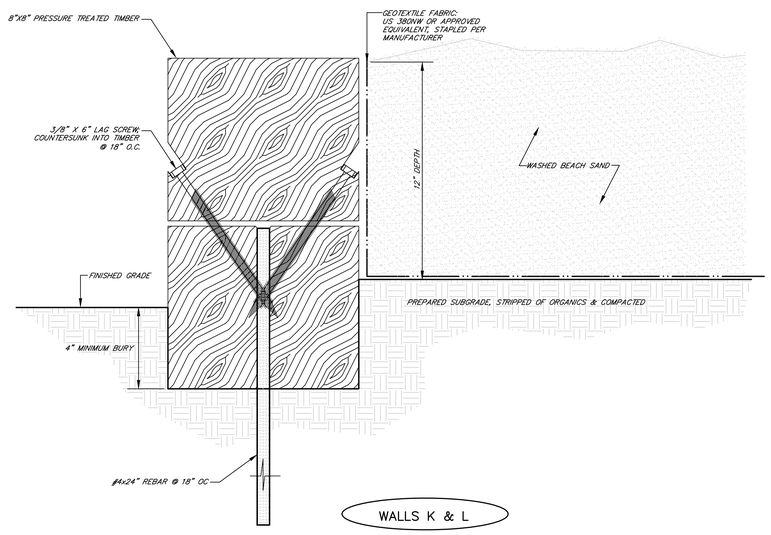
All dimensions are listed in inches unless otherwise noted.

Heavy Duty

NEENAH FOUNDRY R-1423-BNB, GASKETED AND BOLTED RING & COVER OR WRITTEN APPROVED EQUIVALENT FROM ENGINEER

GASKETED & BOLTED SANITARY MANHOLE RING & COVER (3 REQUIRED)

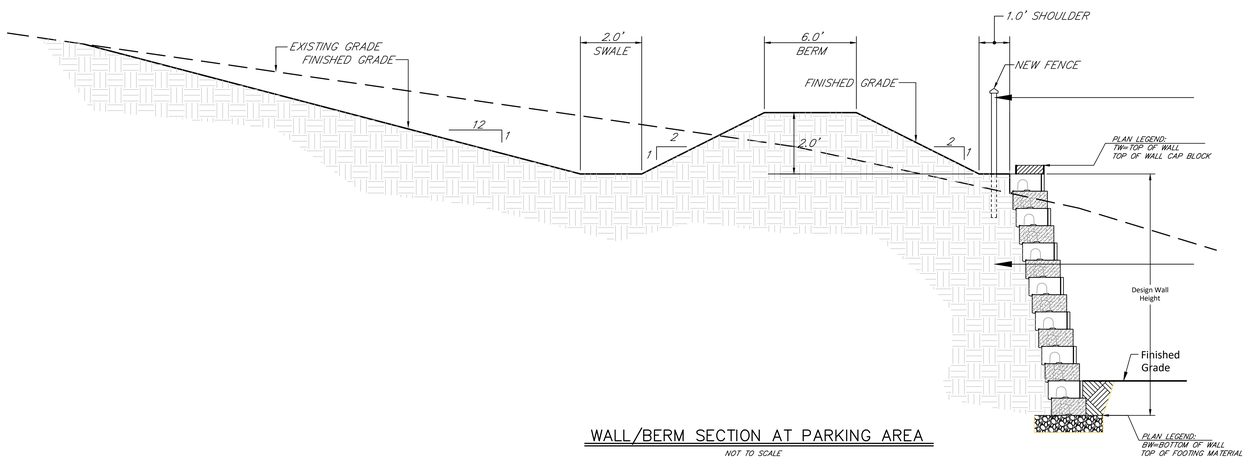
NOT TO SCALE



WALLS K & L

UPPER BEACH CROSS SECTION

NOT TO SCALE



WALL/BERM SECTION AT PARKING AREA

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

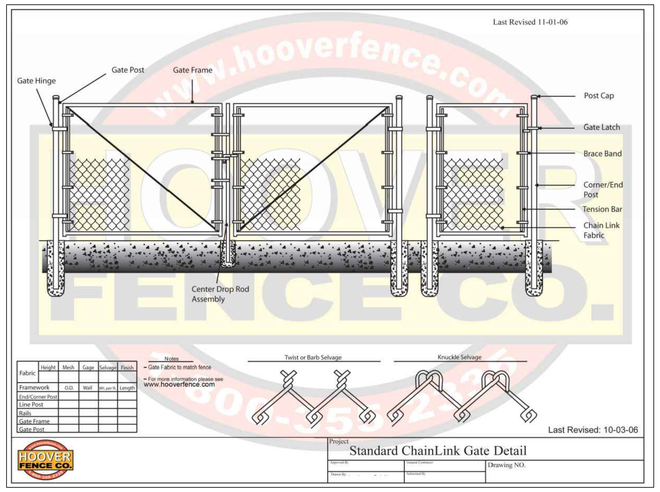
SHEET TITLE:

CIVIL DETAILS 4

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

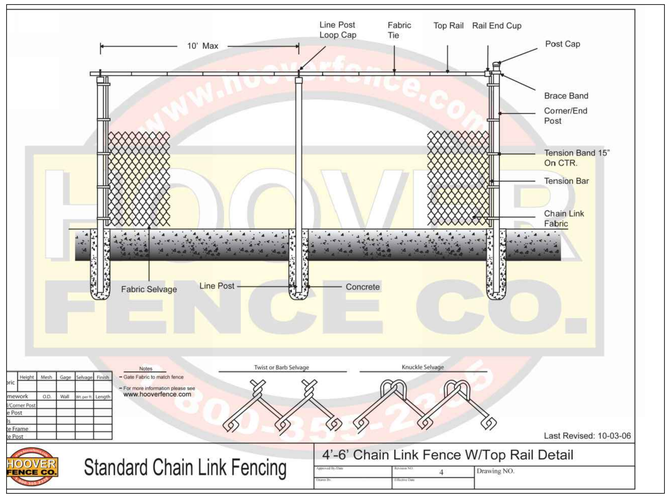
JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE: AUGUST 18, 2020

Sheet: C4.4



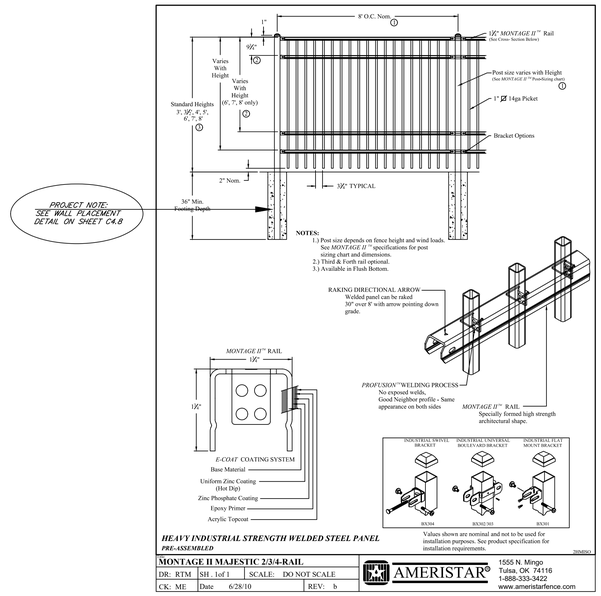
4'x6' WIDE VINYL COATED CHAIN-LINK FENCE GATE (FOR TYPE 2 FENCE)

NOT TO SCALE



4' VINYL COATED CHAIN-LINK FENCE DETAIL (TYPE 2 FENCE)

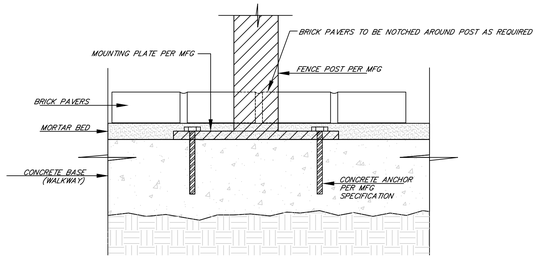
NOT TO SCALE



PROJECT NOTE: FENCE HEIGHT=PER PLAN WITH ALTERNATE THIRD & FOURTH RAILS WHERE REQUIRED, FENCE TO HAVE PLATED POST, MOUNTED TO HARD SURFACE WITH CONCRETE ANCHOR BOLTS.

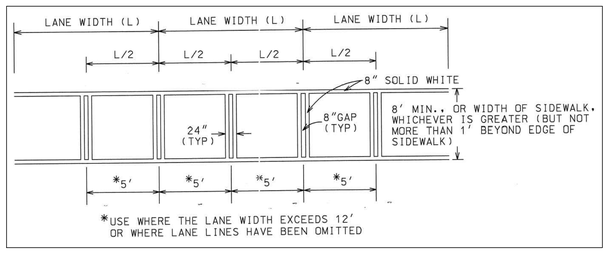
STEEL FENCE DETAIL (TYPE 1 FENCE)

NOT TO SCALE



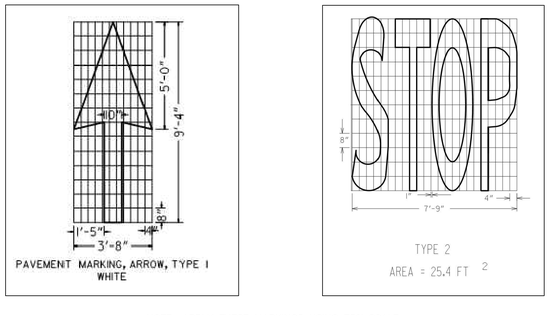
ALTERNATIVE FENCE POST SURFACE MOUNT

NOT TO SCALE



CROSSWALK MARKING DETAILS

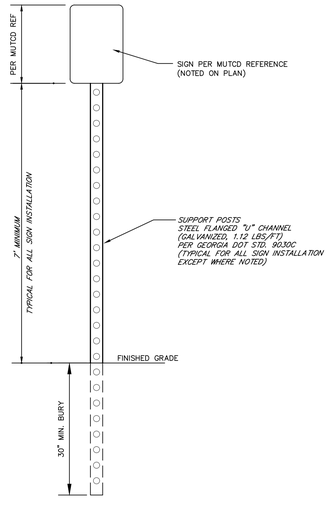
NOT TO SCALE



NOTE: APPLY THESE MARKINGS USING 75% SCALE

PAVEMENT MARKING DETAILS

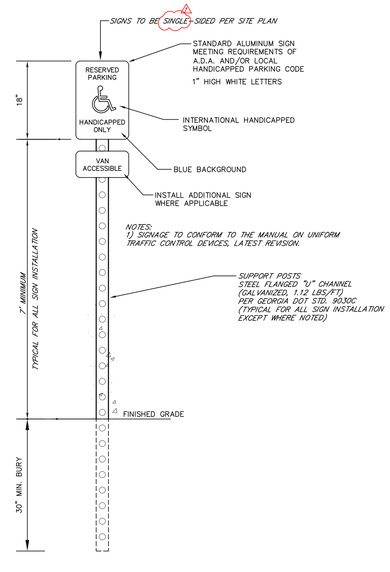
NOT TO SCALE



TYPICAL SIGN INSTALLATION

NOT TO SCALE

NOTES:
1) SIGNAGE TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION.



HANDICAPPED PARKING SIGN DETAIL

NOT TO SCALE

HANDICAP PARKING PAVEMENT MARKING DETAIL

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

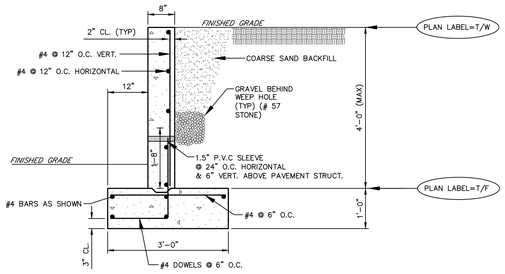
SHEET TITLE:

CIVIL DETAILS 5

SOUTH CAROLINA No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C4.5

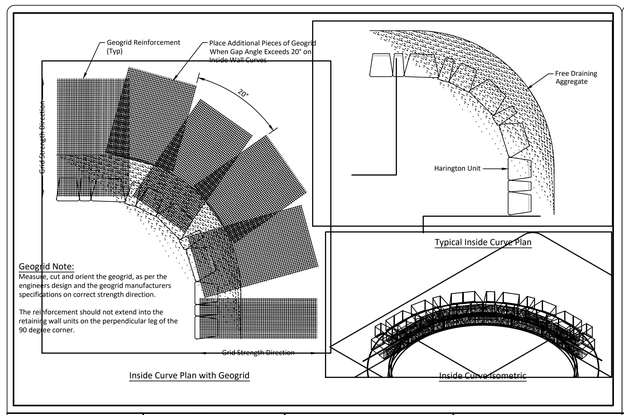


NOTES:
1. 1" VERTICAL EXPANSION WALL JOINT @ 60' O.C. (MAX.).
2. 1/2" EXPANSION JOINT TO BE FILLED WITH ASPHALTIC JOINT FILLER AND SILICONE SEALANT.

RETAINING WALLS F, G

CONCRETE. RETAINING WALL DETAIL

NOT TO SCALE



Geogrid Note:
Measure, cut and orient the geogrid, as per the engineers design and the geogrid manufacturers specifications on correct strength direction.

The reinforcement should not extend into the retaining wall units on the perpendicular leg of the 90 degree corner.

Inside Curve Plan with Geogrid

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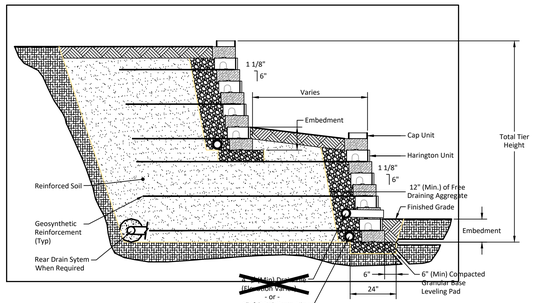
Final project specific designs shall be prepared by a licensed professional engineer.

KEYSTONE RETAINING WALL SYSTEMS
4444 W 78th St, Minneapolis, MN 55435
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Title:	Revision:	Date:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale	Inside Curve Details		11/2018	9 of 12



Typical Tiered Section

Note:
Drain should be at bottom of wall when possible.
Utilize raised drain location when bottom of wall drainage is not possible.

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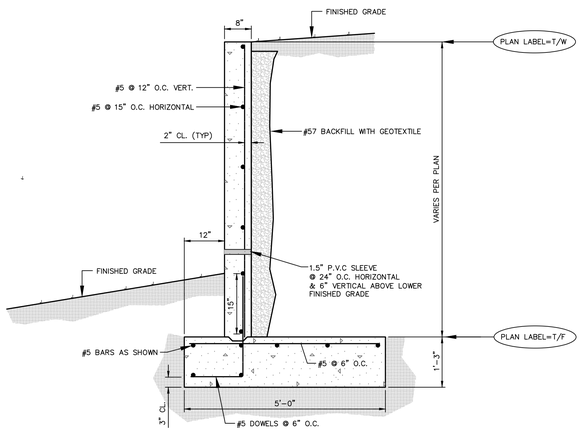
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Title:	Revision:	Date:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale	Tiered Wall Details		11/2018	6 of 12

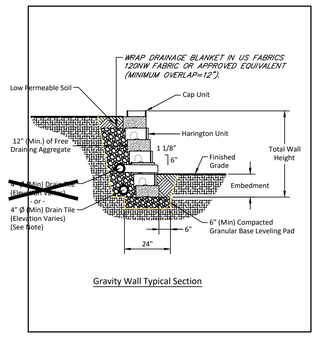


NOTES:
1. 1" VERTICAL EXPANSION WALL JOINT @ 60' O.C. (MAX.).
2. 1/2" EXPANSION JOINT TO BE FILLED WITH ASPHALTIC JOINT FILLER AND SILICONE SEALANT.

RETAINING WALL E

CONCRETE RETAINING WALL DETAIL

NOT TO SCALE



Gravity Wall Typical Section

Note:
Drain should be at bottom of wall when possible.
Utilize raised drain location when bottom of wall drainage is not possible.

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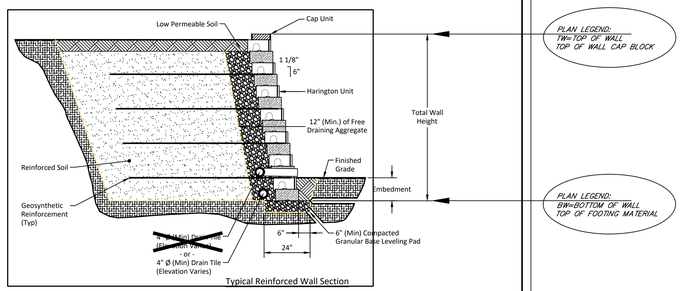
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Title:	Revision:	Date:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale	Gravity Wall Details		11/2018	4 of 12



Typical Reinforced Wall Section

PLAN LEGEND:
TW=TOP OF WALL
TOP OF WALL CAP BLOCK

PLAN LEGEND:
BW=BOTTOM OF WALL
TOP OF FOOTING MATERIAL

Note:
Drain should be at bottom of wall when possible.
Utilize raised drain location when bottom of wall drainage is not possible.

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KEYSTONE RETAINING WALL SYSTEMS
4444 W 78th St, Minneapolis, MN 55435
952-897-1040

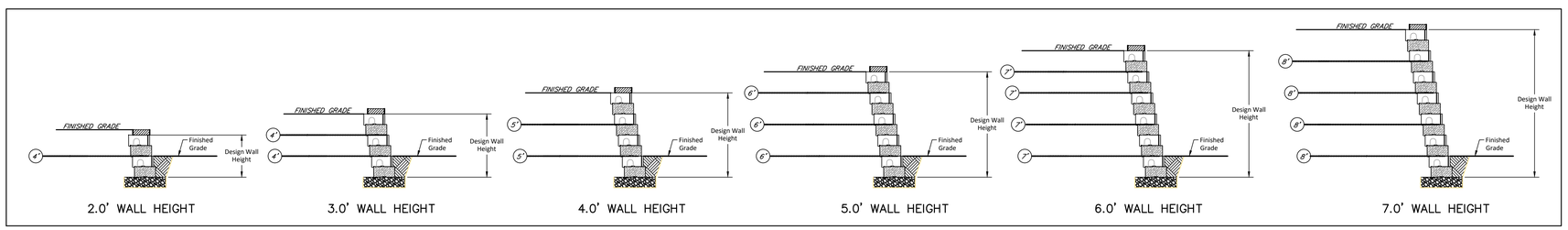
Project:	Designed By:	Checked By:	Scale:	Title:	Revision:	Date:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale	Reinforced Wall Details		11/2018	5 of 12

PROJECT SPECIFIC SEGMENTAL WALL NOTES
1. WALL TYPE SHALL BE KEYSTONE WALLS HARRINGTON 3 PIECE ROCKFACE IN SANDSTONE.
2. CONTRACTOR TO PROVIDE A WALL DESIGN STAMPED BY A SOUTH CAROLINA PROFESSIONAL ENGINEER.
3. ALL FOUNDATION DRAIN SHALL BE 4" ADS SINGLE WALL PIPE (S) PERFORATED, OR APPROVED EQUIVALENT.
4. DRAINAGE BLANKET BEHIND WALLS TO BE WRAPPED IN US FABRICS 120NW FABRIC, OR APPROVED EQUAL
5. FOUNDATION DRAINS TO BE RUN TO DAYLIGHT AND SECURED
6. ALL AGGREGATE SHALL BE #57 STONE
7. ALL BASE MATERIAL TO BE GRADED AGGREGATE BASE COURSE PER SCDOT SECTION 305
8. ALL WALL PIPE PENETRATIONS TO USE SOLID SCH 40 PVC, CUT FLUSH WITH FACE 6" MAX ABOVE FINISHED GRADE (LOW SIDE)

RETAINING WALLS A,B,C,D,E,H,J,M (NOTE: THERE IS NO WALL "I")

GENERAL SEGMENTAL WALL DETAILS 1

NOT TO SCALE



SEGMENTAL WALL GENERAL HEIGHT & REINFORCING SECTIONS A,B,C,D,E,H,J,M (NOTE: THERE IS NO WALL "I")

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:
benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

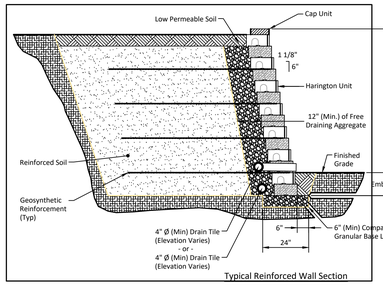
PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 6

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE:19020024PRE1.DWG
DRAWING SCALE:NONE
ORIGINAL RELEASE DATE:
AUGUST 18, 2020

Sheet: C4.6



Typical Reinforced Wall Section

Note:
Drain should be at bottom of wall when possible.
Utilize raised drain location when bottom of wall drainage is not possible.

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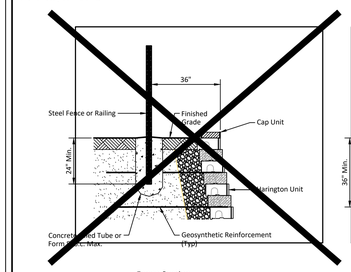
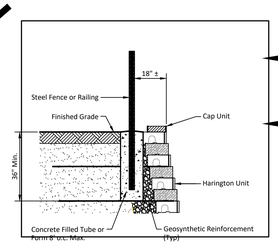
KEYSTONE RETAINING WALL SYSTEMS
4444 W 78th St, Minneapolis, MN 55435
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Reinforced Wall Details	5 of 12

Note:
Concrete filled tube or form to be set during the wall construction, not drilled through geogrid afterwards when directly behind units.



Fence Section



Minimum Offset Fence Section

PROJECT NOTE:
POST SPACING PER MANUFACTURER

PROJECT NOTE:
FENCE EMBEDMENT DETAIL FOR THIS PROJECT

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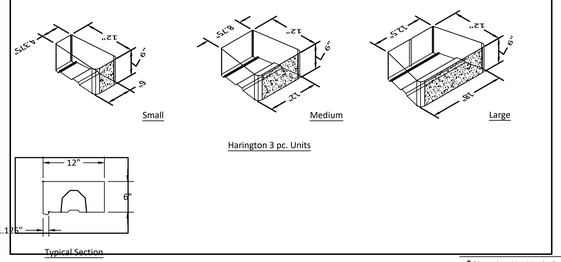
Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Top of Wall Fence Details	11 of 12



* Dimensions May Vary by Region

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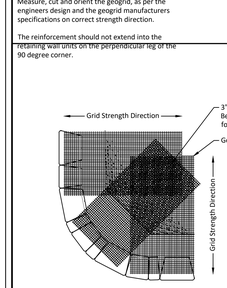
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc. RockFace Units Details	RKM	RKM	No Scale		11/2018	6" 3-pc. Units Details	1 of 12

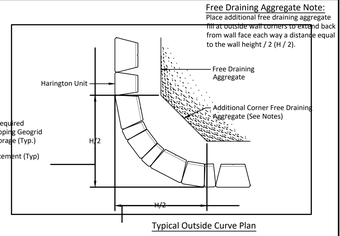
Geogrid Note:
Measure, cut and orient the geogrid, as per the engineers design and the geogrid manufacturers specifications on correct strength direction.

The reinforcement should not extend into the retaining wall units on the perpendicular leg of the 90 degree corner.

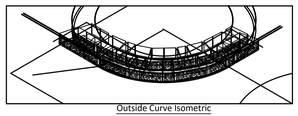
Free Draining Aggregate Note:
Place additional free draining aggregate fill at outside wall corners to extend back from wall face each way a distance equal to the wall height / 2 (H / 2).



Outside Curve Plan with Geogrid



Typical Outside Curve Plan



Outside Curve Isometric

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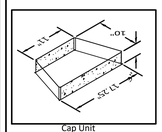
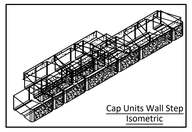
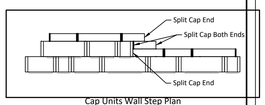
Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Outside Curve Details	10 of 12



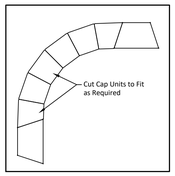
Cap Unit



Cap Units Wall Step Isometric

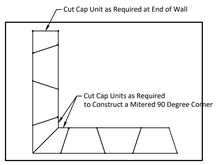


Cap Units Wall Step Plan



Cap Units Inside Curve

Cap Units Outside Curve



Cap Units Corner / Wall

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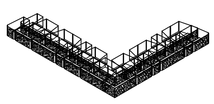
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Trapezoidal Cap Unit Details	2 of 12

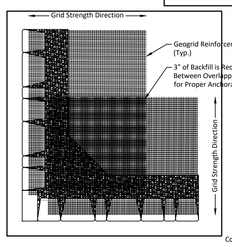
Geogrid Note:
Measure, cut and orient the geogrid, as per the engineers design and the geogrid manufacturers specifications on correct strength direction.

The reinforcement should not extend into the retaining wall units on the perpendicular leg of the 90 degree corner.

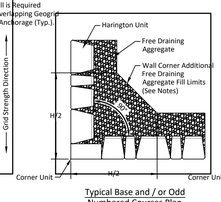
Free Draining Aggregate Note:
Place additional free draining aggregate fill at outside wall corners to extend back from wall face each way a distance equal to the wall height / 2 (H / 2).



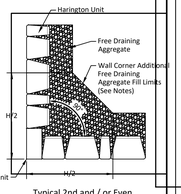
Outside Corner Isometric



Outside Corner Plan with Geogrid



Typical Base and / or Odd Numbered Courses Plan



Typical 2nd and / or Even Numbered Courses Plan

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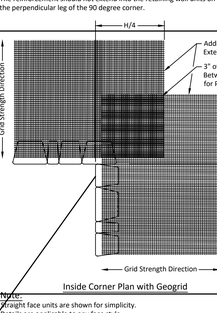
Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Outside Corner Details	8 of 12

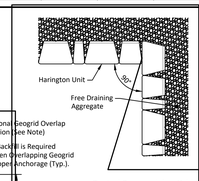
Geogrid Note:
Measure, cut and orient the geogrid, as per the engineers design and the geogrid manufacturers specifications on correct strength direction.

Extend geogrid the wall height / 4 (H / 4) beyond the adjoining wall face at inside wall corners.

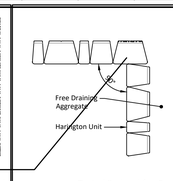
The reinforcement should not extend into the retaining wall units on the perpendicular leg of the 90 degree corner.



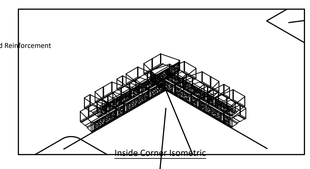
Inside Corner Plan with Geogrid



Typical Base and / or Odd Numbered Courses Plan



Typical 2nd and / or Even Numbered Courses Plan



Inside Corner Isometric

Note:
Straight face units are shown for simplicity.
Details are applicable to any face style.

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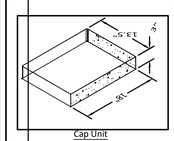
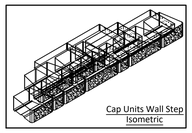
KEYSTONE RETAINING WALL SYSTEMS
4444 W 78th St, Minneapolis, MN 55435
952-897-1040

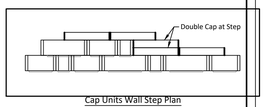
Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Inside Corner Details	7 of 12



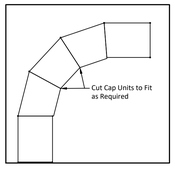
Cap Unit



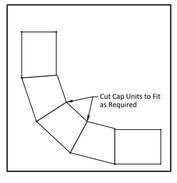
Cap Units Wall Step Isometric



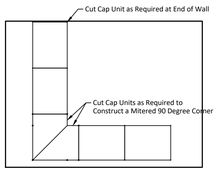
Cap Units Wall Step Plan



Cap Units Inside Curve



Cap Units Outside Curve



Cap Units Corner / Wall

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4444 W 78th St, Minneapolis, MN 55435
952-897-1040

Project:	Designed By:	Checked By:	Scale:	Revision:	Date:	Title:	Drawing No:
Harington 3-pc RockFace Units Details	RKM	RKM	No Scale		11/2018	Rectangular Cap Unit Details	3 of 12

PROJECT SPECIFIC SEGMENTAL WALL NOTES
1. WALL TYPE SHALL BE KEYSTONE WALLS HARRINGTON 3 PIECE ROCKFACE IN SANDSTONE.
2. CONTRACTOR TO PROVIDE A WALL DESIGN STAMPED BY A SOUTH CAROLINA PROFESSIONAL ENGINEER.
3. ALL FOUNDATION DRAIN SHALL BE 4" ADS SINGLE WALL PIPE (S) PERFORATED, OR APPROVED EQUIVALENT.
4. DRAINAGE BLANKET BEHIND WALLS TO BE WRAPPED IN US FABRICS 120NW FABRIC, OR APPROVED EQUAL.
5. FOUNDATION DRAINS TO BE RUN TO DAYLIGHT AND SECURED
6. ALL AGGREGATE SHALL BE #57 STONE
7. ALL BASE MATERIAL TO BE GRADED AGGREGATE BASE COURSE PER SCDOT SECTION 305
8. ALL WALL PIPE PENETRATIONS TO USE SOLID SCH 40 PVC, CUT FLUSH WITH FACE 6" MAX ABOVE FINISHED GRADE (LOW SIDE)

RETAINING WALLS A,B,C,D,E,H,J,M (NOTE: THERE IS NO WALL "I")

SEGMENTAL WALL DETAILS 2

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

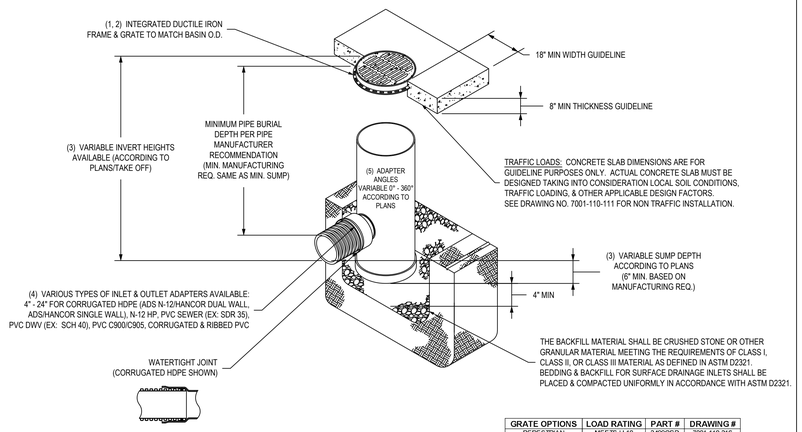
SHEET TITLE:
CIVIL DETAILS 7

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE:19020024PRE1.DWG
DRAWING SCALE:NONE
ORIGINAL RELEASE DATE:
AUGUST 18, 2020

Sheet: C4.7

NYLOPLAST 24" DRAIN BASIN: 2824AG _ _X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	2496CGP	7001-110-216
STANDARD	MEETS H-20	2496CGS	7001-110-217
SOLID COVER	MEETS H-20	2496CGC	7001-110-218
DOME	N/A	2496CGD	7001-110-219
DROP IN GRATE	LIGHT DUTY	2401DI	7001-110-075

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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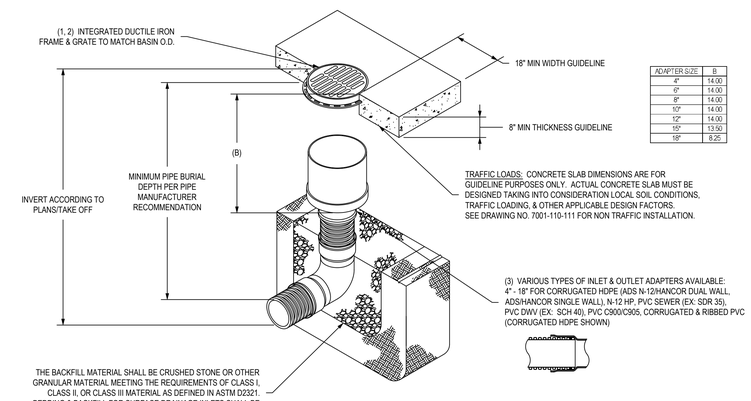
DRAWN BY EBC
DATE 04-03-06
REVISED BY NMH
DATE 03-14-16
DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:40 SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
24 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-192 REV E

NYLOPLAST 18" INLINE DRAIN: 2718AG _ _ X



ADAPTER SIZE	B
4"	14.00
6"	14.00
8"	14.00
10"	14.00
12"	14.00
15"	13.50
18"	8.25

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1896CGP	7001-110-212
STANDARD	MEETS H-20	1896CGS	7001-110-213
SOLID COVER	MEETS H-20	1896CGC	7001-110-214
DOME	N/A	1896CGD	7001-110-215
DROP IN GRATE	LIGHT DUTY	1801DI	7001-110-074

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
4 - DIMENSIONS ARE FOR REFERENCE ONLY. ACTUAL DIMENSIONS MAY VARY.
5 - DIMENSIONS ARE IN INCHES
6 - SEE DRAWING NO. 7001-110-275 FOR ADS N-12 & HANCOR DUAL WALL BELL INFORMATION & DRAWING NO. 7001-110-364 FOR N-12 HP BELL INFORMATION.

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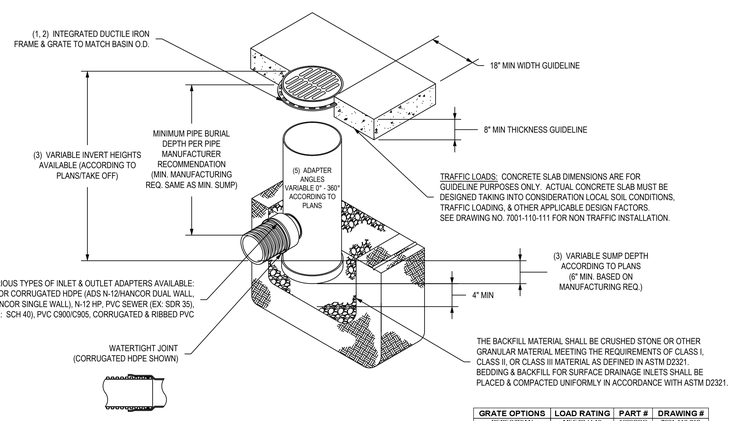
DATE 04-03-06
REVISED BY NMH
DATE 03-15-16
DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:30 SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
18 IN INLINE DRAIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7003-110-027 REV E

NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1896CGP	7001-110-212
STANDARD	MEETS H-20	1896CGS	7001-110-213
SOLID COVER	MEETS H-20	1896CGC	7001-110-214
DOME	N/A	1896CGD	7001-110-215
DROP IN GRATE	LIGHT DUTY	1801DI	7001-110-074

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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DATE 04-03-06
REVISED BY NMH
DATE 03-14-16
DWG SIZE A
MATERIAL
PROJECT NO./NAME
SCALE 1:30 SHEET 1 OF 1

Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-191 REV E

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:
benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 8

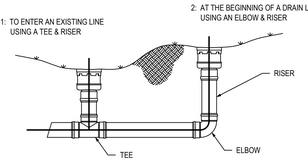
SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE: AUGUST 18, 2020

Sheet: C4.8

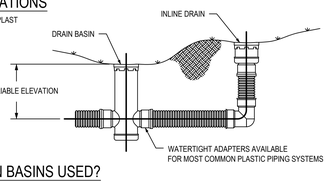
WHEN ARE INLINE DRAINS USED?

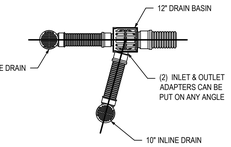
2708AG __ X
2710AG __ X
2712AG __ X
2715AG __ X
2718AG __ X
2724AG __ X
2730AG __ X



TYPICAL INSTALLATIONS

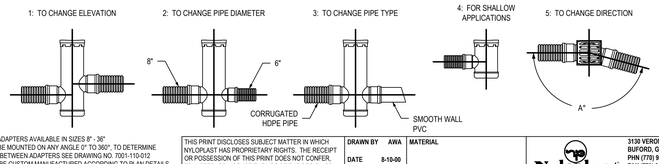
TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN AND INLINE DRAIN





WHEN ARE DRAIN BASINS USED?

2808AG __ X
2810AG __ X
2812AG __ X
2815AG __ X
2818AG __ X
2824AG __ X
2830AG __ X
2836AG __ X



1 - STRUCTURES & ADAPTERS AVAILABLE IN SIZES 8", 36"
2 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS SEE DRAWING NO. 7001-110-065
4 - REDUCING CONES DOWN TO 30" DIAMETER WILL BE REQUIRED FOR 36" DRAIN BASINS.

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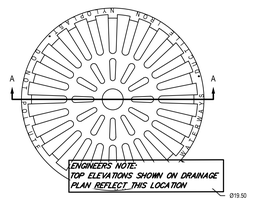
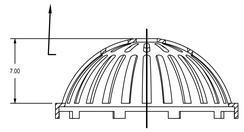
DATE 8-10-00			
REVISED BY NMH	PROJECT NO./NAME	TITLE 8 IN - 36 IN TYPICAL INSTALLATION OPTIONS	
DATE 11-2-18			
DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-042	REV E

1899CGD

APPROX. DRAIN AREA = 175.59 SQ IN
APPROX. WEIGHT = 32.00 LBS





SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

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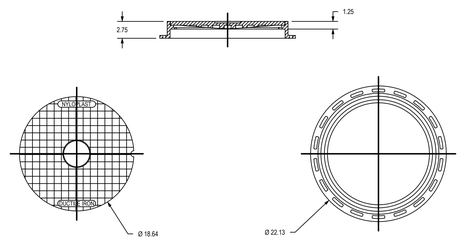
DATE 3-8-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 18 IN DOME GRATE	
DATE 3-24-11			
DWG SIZE A	SCALE 1:6 SHEET 1 OF 1	DWG NO. 7001-110-215	REV D

1899CGC

APPROX. WEIGHT WITH FRAME = 68.50 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-027

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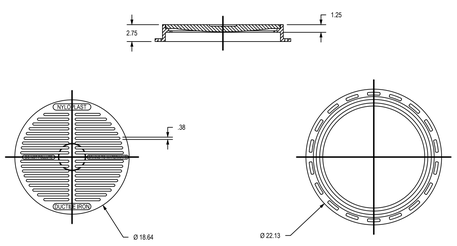
DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 3-8-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 18 IN SOLID COVER ASSEMBLY - TYPE C	
DATE 3-13-10			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-214	REV C

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

1899CGP

APPROX. DRAIN AREA = 87.29 SQ IN
APPROX. WEIGHT WITH FRAME = 60.75 LBS



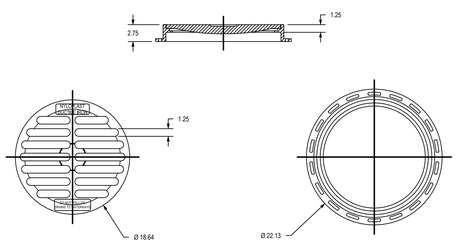
DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-10 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-028

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2010 NYLOPLAST

DRAWN BY EBC	MATERIAL	Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 3-7-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 18 IN PEDESTRIAN GRATE ASSEMBLY - TYPE C	
DATE 3-13-10			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-212	REV C

1899CGS

APPROX. DRAIN AREA = 116.72 SQ IN
APPROX. WEIGHT WITH FRAME = 68.50 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-029

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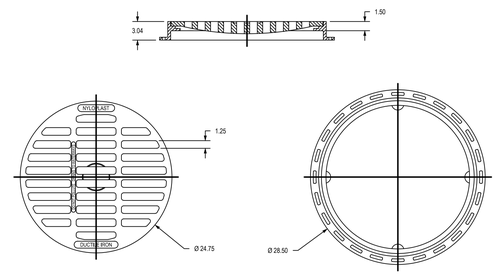
DATE 3-8-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 18 IN STANDARD GRATE ASSEMBLY - TYPE C	
DATE 3-13-10			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-213	REV C

2499CGS

APPROX. DRAIN AREA = 194.60 SQ IN
APPROX. WEIGHT WITH FRAME = 124.00 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-024

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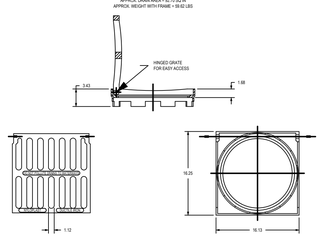
DATE 3-8-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 24 IN STANDARD GRATE ASSEMBLY - TYPE B	
DATE 3-13-10			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-217	REV C

1599CGS

APPROX. DRAIN AREA = 92.70 SQ IN
APPROX. WEIGHT WITH FRAME = 39.62 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-022

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DATE 3-7-06	DUCTILE IRON		
REVISED BY EBC	PROJECT NO./NAME	TITLE 12 IN STANDARD GRATE ASSEMBLY	
DATE 3-7-06			
DWG SIZE A	SCALE 1:6 SHEET 1 OF 1	DWG NO. 7001-110-208	REV C

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

CIVIL DETAILS 9

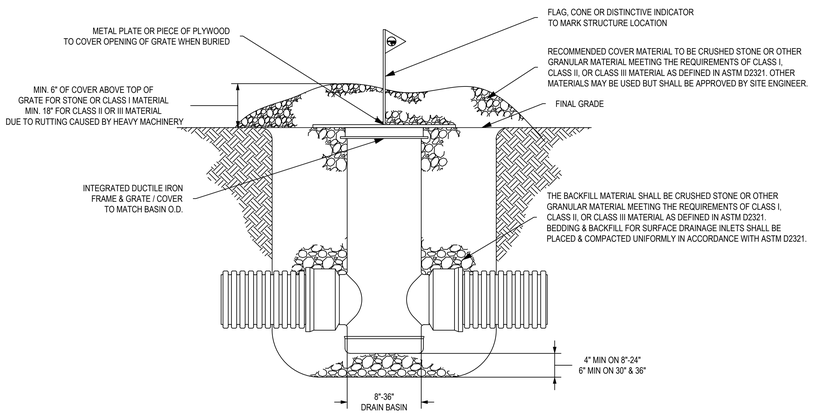
SOUTH CAROLINA PROFESSIONAL ENGINEER No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C4.9

NYLOPLAST DRAIN BASIN CONSTRUCTION PROTECTION DETAIL - OPTION 1

(BURIED STRUCTURE DETAIL)



1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. IN THE EVENT A BASIN IS DAMAGED DURING CONSTRUCTION, RISER SECTIONS CAN BE USED FOR FIELD REPAIRS.
4 - COVER MATERIAL SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION OR APPROVED BY SITE ENGINEER. MATERIAL SHALL BE ABLE TO SUPPORT VEHICLE TRAFFIC AND SHALL COVER THE STRUCTURE A MINIMUM OF 6".

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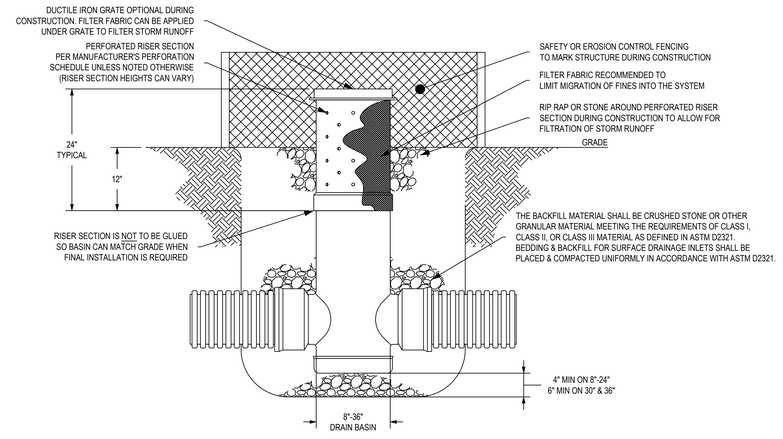
DATE 10-02-18			
APPD BY NMH	PROJECT NO./NAME	TITLE DRAIN BASIN CONSTRUCTION PROTECTION DETAIL	
DATE 10-02-18			
DWG SIZE A	SCALE 1:20 SHEET 1 OF 1	DWG NO. 7001-110-552	REV A

NYLOPLAST DRAIN BASIN CONSTRUCTION PROTECTION DETAIL - OPTION 2

(EROSION CONTROL STRUCTURE DETAIL)



1 - PERFORATED RISER SECTION IS TO BE REMOVED AND REPLACED WITH SOLID RISER FOLLOWING THE FINAL SITE GRADING. IF THE PERFORATED RISER SECTIONS ARE DAMAGED DURING CONSTRUCTION, THEY CAN BE EASILY REPLACED WITH MINIMAL DAMAGE TO MAIN BASIN BODY / BASE SECTION.
2 - FRAMES & GRATES/SOLID COVERS ARE TO BE INSTALLED ONCE EROSION CONTROL STRUCTURE IS NO LONGER NEEDED.
3 - PERFORATION SCHEDULE WILL MEET NYLOPLAST SPECIFICATIONS OUTLINED IN DRAWING 7001-110-008 UNLESS NOTED OTHERWISE.
4 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. IN THE EVENT A BASIN IS DAMAGED DURING CONSTRUCTION, RISER SECTIONS CAN BE USED FOR FIELD REPAIRS.

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DATE 10-02-18			
APPD BY NMH	PROJECT NO./NAME	TITLE CONSTRUCTION EROSION CONTROL DRAIN BASIN DETAIL	
DATE 10-02-18			
DWG SIZE A	SCALE 1:20 SHEET 1 OF 1	DWG NO. 7001-110-553	REV A

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:
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PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 10

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
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DRAWING FILE: 19020024PRE1.DWG
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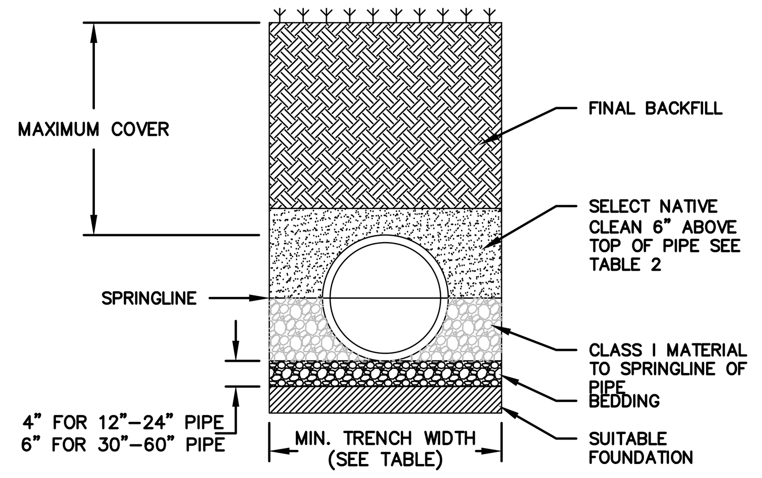
ORIGINAL RELEASE DATE: AUGUST 18, 2020

Sheet: C4.10

HP STORM TRENCH INSTALLATION DETAIL (ALTERNATE)

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)



NOTES:

1. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

2. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).

5. BACKFILL: FOR PIPES OUTSIDE OF PAVEMENT CLASS I MATERIAL TO BE USED FOR BACKFILL UP TO THE SPRINGLINE OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER. CLASS I MATERIAL MUST BE COMPACTED IN 6" (200mm) LIFTS.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION.

7. SELECT NATIVE CLEAN BACKFILL SHALL BE WELL PLACED, MODERATELY COMPACTED (85% SPD) CLASS IV OR BETTER PER ASTM D2321 WITH NO FOREIGN DEBRIS INCLUDING ROCKS, LARGE CLUMPS ORGANIC MATERIAL, OR FROZEN MATERIAL.

8. HP STORM ALTERNATE TRENCH DETAIL ONLY APPLIES TO BACKFILL INSTALLATIONS IN NON-TRAFFIC APPLICATIONS PER TN 2.04A. ALTERNATE TRENCH USE MUST BE APPROVED BY DESIGN ENGINEER. DETAIL DOES NOT SUPERSEDE ADS STANDARD DETAIL STD-108.

TABLE 2, MAXIMUM COVER FOR ADS HP STORM PIPE, ALTERNATE INSTALLATION, ft (γ_s=120)

	SELECT NATIVE CLEAN MATERIAL CLASSIFICATION		
PIPE DIAM.	CLASS II	CLASS III	CLASS IV
12" (300mm)	17 (5.2m)	14 (4.3m)	11 (3.4m)
15" (375mm)	17 (5.2m)	14 (4.3m)	10 (3.0m)
18" (450mm)	16 (4.9m)	13 (4.0m)	10 (3.0m)
24" (600mm)	14 (4.3m)	12 (3.7m)	9 (2.7m)
30" (750mm)	13 (4.0m)	12 (3.7m)	8 (2.4m)
36" (900mm)	11 (3.4m)	11 (3.4m)	7 (2.1m)
42" (1050mm)	11 (3.4m)	11 (3.4m)	7 (2.1m)
48" (1200mm)	11 (3.4m)	10 (3.0m)	6 (1.8m)
60" (1500mm)	11 (3.4m)	10 (3.0m)	6 (1.8m)

FILL HEIGHT TABLE GENERATED ASSUMING DRY CONDITIONS, OUTSIDE OF WATER TABLE. FOR INSTALLATION WITHIN THE WATER TABLE, CONTACT APPLICATIONS ENGINEERING.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
7	REV. DRAWING NAME OR NUMBER	TJR	01/28/16	

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TRENCH INSTALLATION ALTERNATE DETAIL (HP STORM)

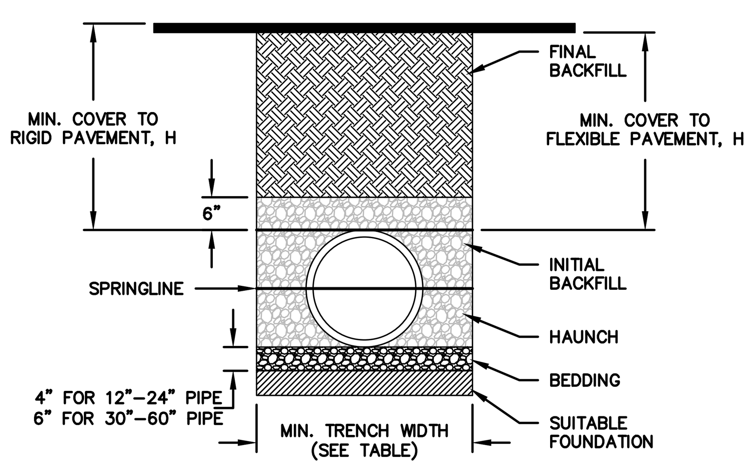
DRAWING NUMBER: STD-101E

ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

DRAWN BY: JAB | DATE: 01/29/09 | CK'D BY: | SCALE: NTS | SHEET 1 OF 1

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4" (100mm)	21" (533mm)
6" (150mm)	23" (584mm)
8" (200mm)	26" (660mm)
10" (250mm)	28" (711mm)
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)



MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS**

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H–25	HEAVY CONSTRUCTION (75T AXLE LAOD) *
12" – 48" (300mm – 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER
**SEE BACKFILL REQUIREMENTS IN NOTE 6.

MAXIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	CLASS I		CLASS II		CLASS III
	COMPACTED	DUMPED	95%	90%	95%
4" (100mm)	34 (10.4m)	16 (4.9m)	23 (7.0m)	16 (4.9m)	17 (5.2m)
6" (150mm)	40 (12.2m)	19 (5.8m)	27 (8.2m)	19 (5.8m)	20 (6.1m)
8" (200mm)	30 (9.1m)	14 (4.3m)	21 (6.4m)	14 (4.3m)	15 (4.6m)
10" (250mm)	34 (10.4m)	16 (4.9m)	23 (7.0m)	16 (4.9m)	17 (5.2m)
12" (300mm)	35 (10.7m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	18 (5.5m)
15" (375mm)	37 (11.3m)	18 (5.5m)	25 (7.6m)	18 (5.5m)	19 (5.8m)
18" (450mm)	32 (9.8m)	15 (4.6m)	22 (6.7m)	15 (4.6m)	16 (4.9m)
24" (600mm)	27 (8.2m)	13 (4.0m)	19 (5.8m)	13 (4.0m)	14 (4.3m)
30" (750mm)	22 (6.7m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)
36" (900mm)	26 (7.9m)	12 (3.7m)	18 (5.5m)	12 (3.7m)	13 (4.0m)
42" (1050mm)	24 (7.3m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)
48" (1200mm)	23 (7.0m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	12 (3.7m)
60" (1500mm)	26 (7.9m)	12 (3.7m)	18 (5.5m)	12 (3.7m)	13 (4.0m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE,
UNIT WEIGHT OF SOIL (Ys) = 120 PCF

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
4	ADDED CLASS 3 MAX COVER COLUMN	RJS	01/27/17	

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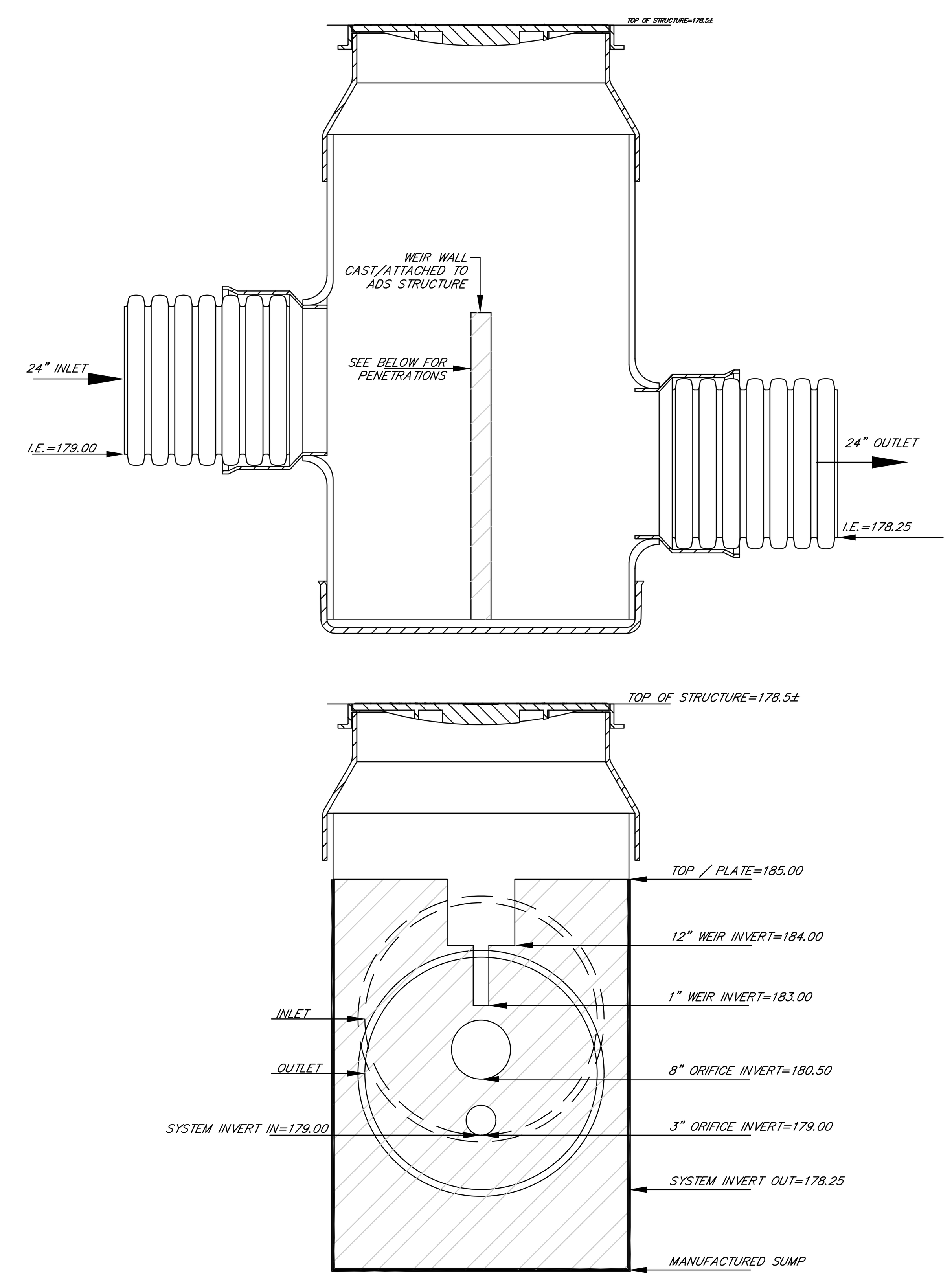
TRENCH INSTALLATION DETAIL (ASTM F2648)

DRAWING NUMBER: STD-101A

ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

DRAWN BY: JJE | DATE: 8/15/13 | SCALE: NTS | SHEET 1 OF 1



OUTLET STRUCTURE IN MANHOLE #A

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REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

CIVIL DETAILS 11

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

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ORIGINAL RELEASE DATE: AUGUST 18, 2020

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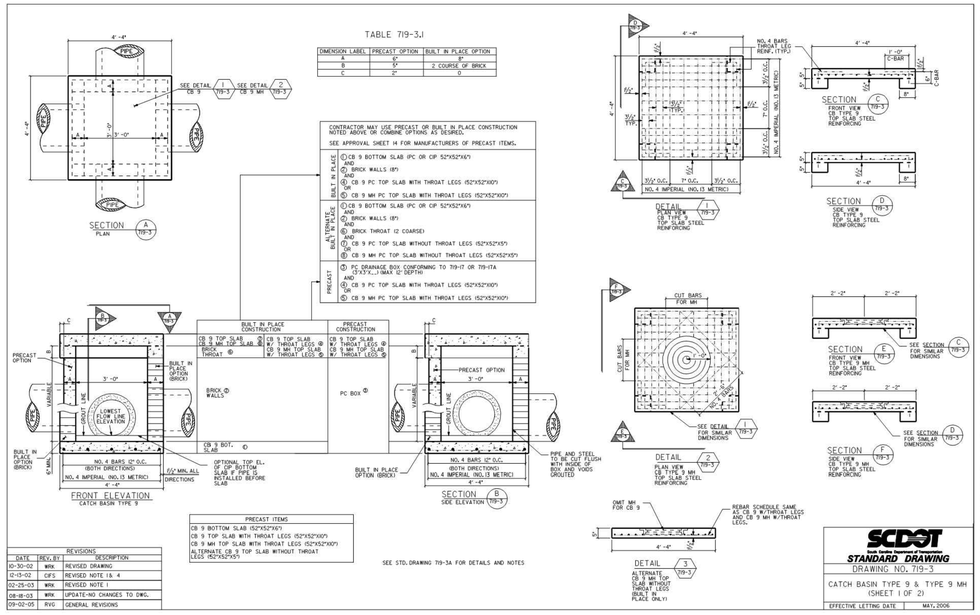
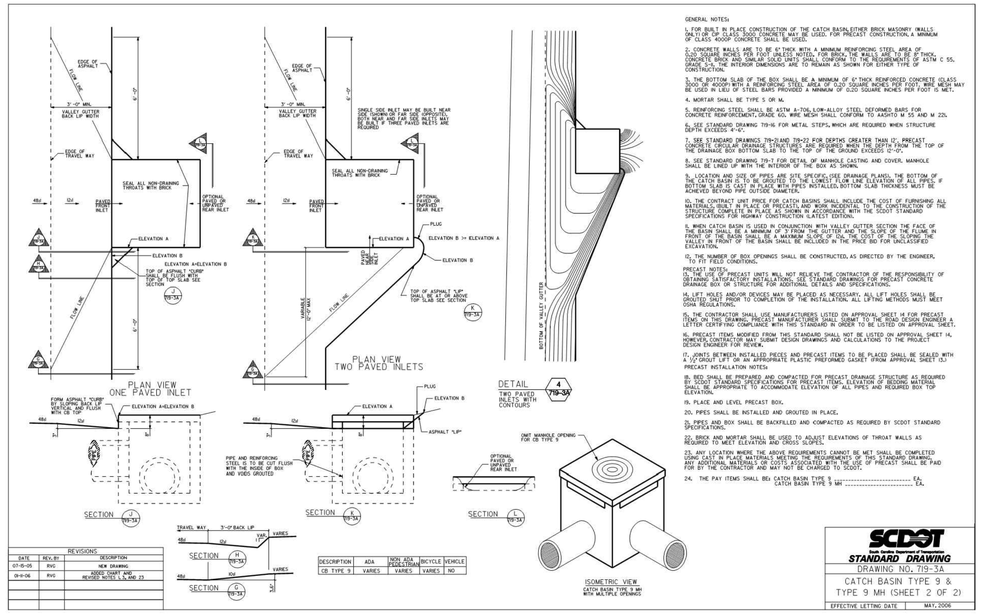
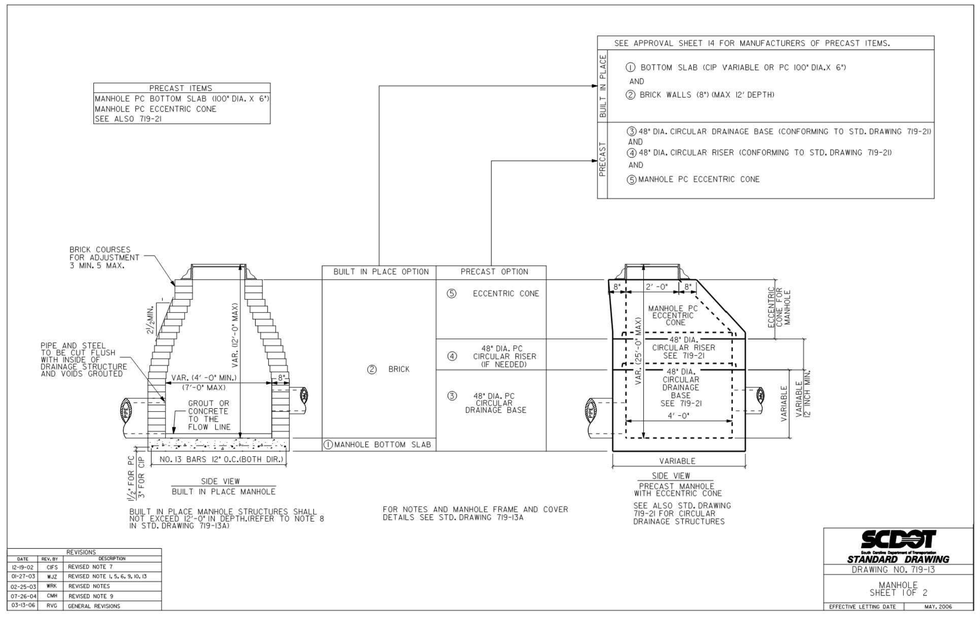
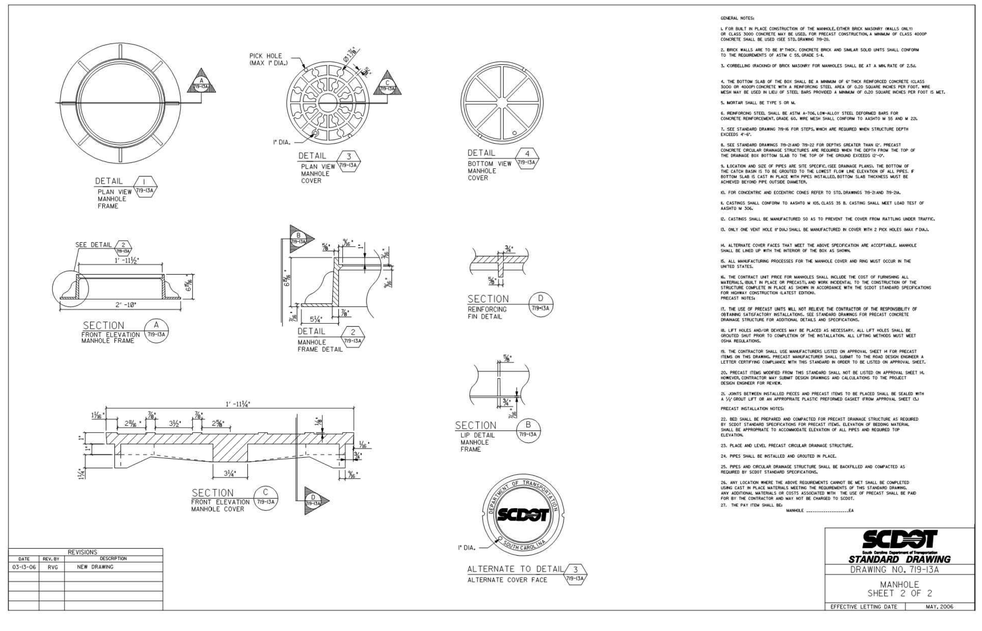




DROP INLET DETAIL (STRUCTURE #

NOT TO SCALE – FOR REFERENCE ONLY





STORM MANHOLE DETAIL (STRUCTURE #

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PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 12

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION No. 5072

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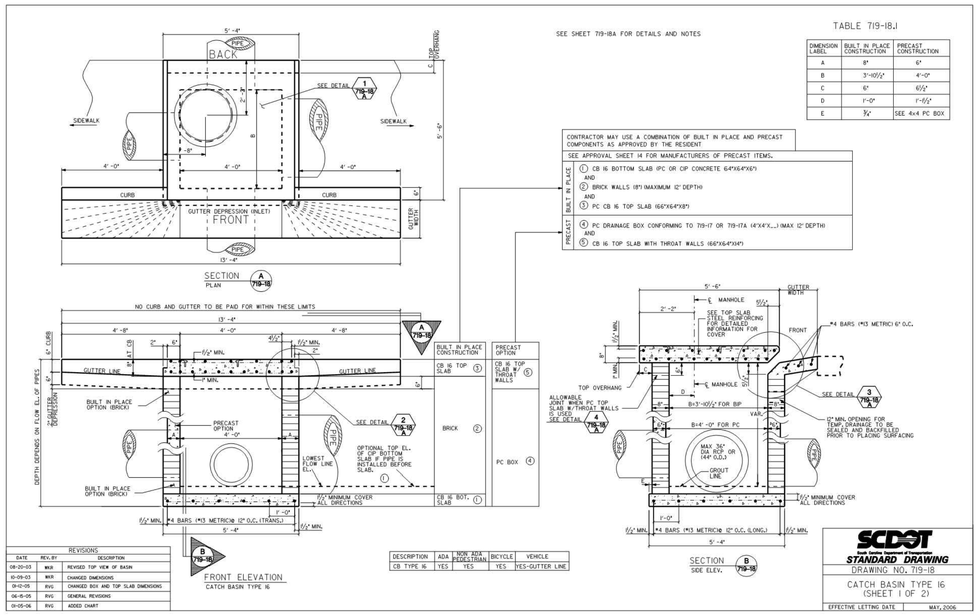
Sheet: C4.12



CURB INLET DETAIL (STRUCTURE #'s

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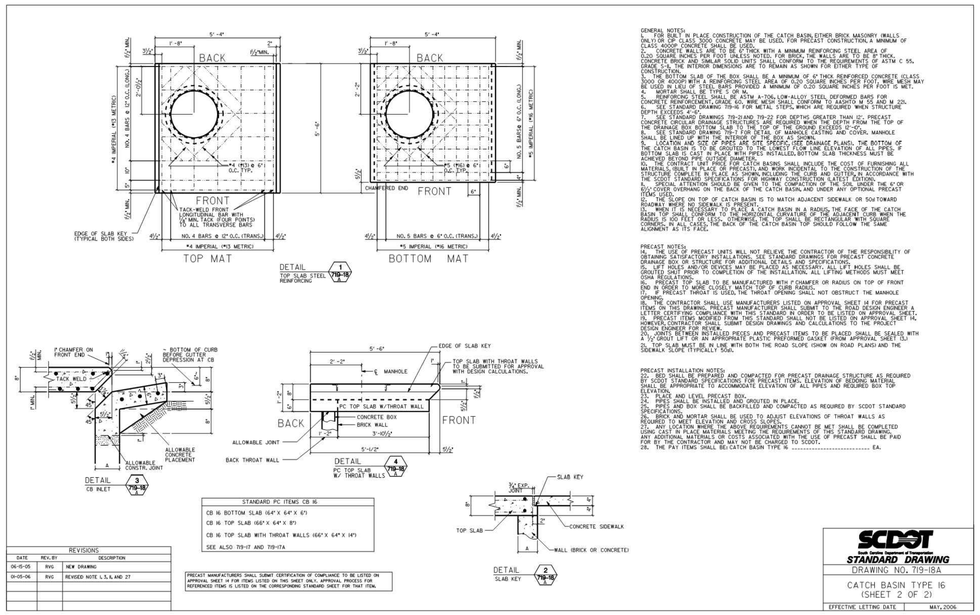
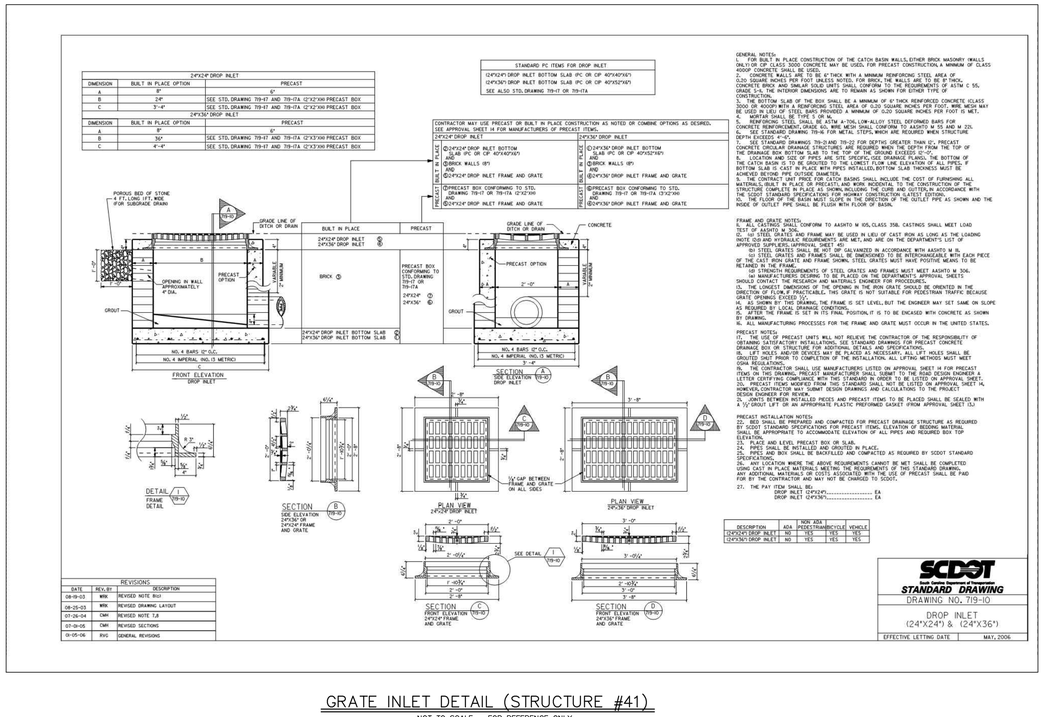
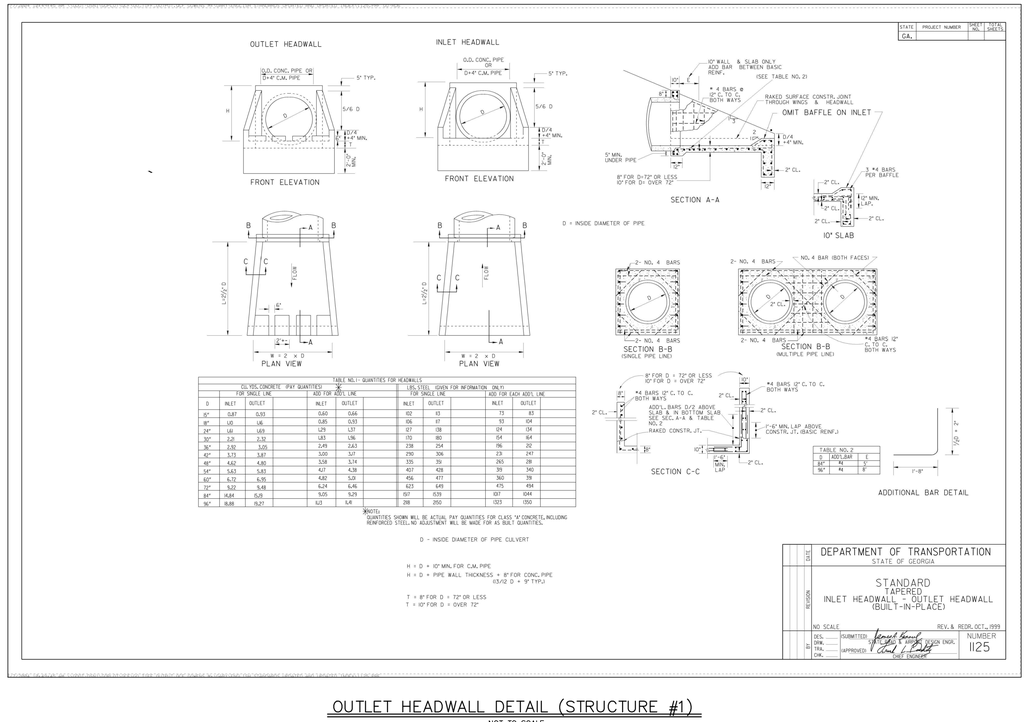




GRATE INLET DETAIL (STRUCTURE #41)

NOT TO SCALE – FOR REFERENCE ONLY

USE FRAME & GRATE BY US FOUNDRY, #5100, # 6147 OR APPROVED EQUIVALENT



OUTLET HEADWALL DETAIL (STRUCTURE #1)

NOT TO SCALE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

CIVIL DETAILS 13

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ORIGINAL RELEASE DATE:
AUGUST 18, 2020

Sheet: C4.13

Commercial Grade Steel Landscape Edging

Steel Specifications

Approximately 5/64" through 1/4" thick (see decimal equivalents)
Hot Rolled low carbon steel ASTM-A-36, ASTM-A-283, and ASTM-A-569.

Hot Rolled steel is soft enough to bend flat on itself in any direction without cracking and ductile enough for shallow drawing. Surface has normal mill oxide. The smooth deoxidized matte finish gives an excellent base for paint. Conforms to a minimum ASTM - A398 with carbon content held to .10 maximum. These materials meet or exceed ASTM and ASME specification. Material is hardness tested to maximum Rockwell of 70 and maximum Webster rating of 15, approximate Brinell hardness is 137. Tensile strength ksi is 58 to 80; yield strength ksi is 36 minimum.

Commercial Edging

Product Number	Description	Decimal Range	Stake/ Pieces	Stake Size	Approx. Lbs. Ea.
1014	10' x 14 ga. x 4" Steel Edging	.0817 -.0677	4	12" x 10 ga.	11
1014-6	10' x 14 ga. x 6" Steel Edging	.0817 -.0677	4	16" x 10 ga.	15
1012	10' x 12 ga. x 4" Steel Edging	.1126 -.0966	4	12" x 10 ga.	15
1012-6	10' x 12 ga. x 6" Steel Edging	.1126 -.0966	4	16" x 10 ga.	20
1011	10' x 1/8" x 4" Steel Edging	.125 min.	4	12" x 10 ga.	17
1011-5	10' x 1/8" x 5" Steel Edging	.125 min.	4	12" x 10 ga.	23
1011-6	10' x 1/8" x 6" Steel Edging	.125 min.	4	16" x 10 ga.	27
1007	10' x 3/16" x 4" Steel Edging	.1875 min.	4	12" x 10 ga.	25
1007-5	10' x 3/16" x 5" Steel Edging	.1875 min.	4	12" x 10 ga.	32
1007-6	10' x 3/16" x 6" Steel Edging	.1875 min.	4	16" x 10 ga.	38
1025	10' x 1/4" x 4" Steel Edging	.25 min.	4	12" x 10 ga.	35
1025-5	10' x 1/4" x 5" Steel Edging	.25 min.	4	12" x 10 ga.	44
1025-6	10' x 1/4" x 6" Steel Edging	.25 min.	4	16" x 10 ga.	52

PROJECT SELECTION (BROWN) → 1011

Commercial Tree Ring

Product Number	Description	Decimal Range	Stake/ Pieces	Stake Size	Approx. Lbs. Ea.
14TR2	2.5' Diameter 14 ga. Tree-Ring-1 Piece	.0817 -.0677	4	12" x 10 ga.	10.5
14TR3	3' Diameter 14 ga. Tree-Ring-1 Piece	.0817 -.0678	4	12" x 10 ga.	13
14TR4	4' Diameter 14 ga. Tree-Ring-2 Piece	.0817 -.0679	7	12" x 10 ga.	17.5
14TR5	5' Diameter 14 ga. Tree-Ring-2 Piece	.0817 -.0680	8	12" x 10 ga.	21
14TR6	6' Diameter 14 ga. Tree-Ring-2 Piece	.0817 -.0681	8	12" x 10 ga.	26

Paint Application

Electrostatically applied powder coating specially formulated to withstand extended outdoor exposure. This coating is ideally suited for lawn and garden equipment, fencing, playground and recreational equipment. Colors include green, brown, and black. 14 ga. through 1/8" available in a galvanized finish; 3/16" and 1/4" available in a Hot Dipped galvanized finish.

The information contained here is true and accurate to the best of our knowledge. This information is for the specified COL-MET products, and not for use with any other brand of edging. Specification on other products and coatings are available upon request. COL-MET is a registered trademark of Collier Metal Specialties® LTD Garland, Texas USA and cannot be reproduced without written permission.

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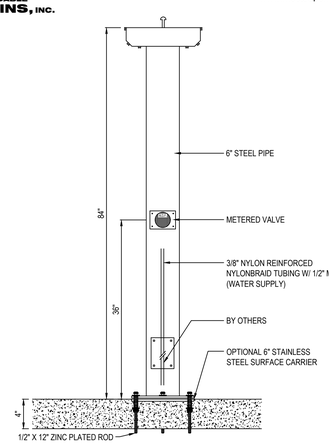
STEEL EDGING FOR SCREENINGS TRAIL

NOT TO SCALE – INSTALLATION PER MFG SPECS

MOST DEPENDABLE FOUNTAINS, INC.

MOST DEPENDABLE FOUNTAINS, INC.
5705 COMMANDER DR. P.O. BOX 587
ARLINGTON, TN 38002-0587
PHONE: (901) 867-0039
www.mostdependable.com



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-11.3.

MODEL 535 SM
SHOWN W/ OPTIONAL 6" SS SURFACE CARRIER

19020024E — REVISION DATE 08/28/2020

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MISTING STATION DETAIL

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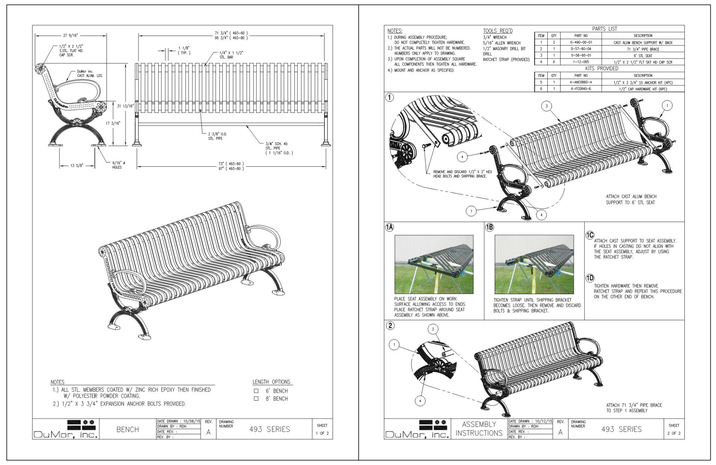

DUMOR BENCH #493 CUT SHEET

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Pilot Rock PARK · STREET · CAMP SITE PRODUCTS

MODEL K-20 MULTILVEL PARK GRILL

SPECIFICATION BULLETIN #SPC-GR-007 REV 08-19

Model K-20/S B2 Grill with Optional Utility Back Shelf

- **Grate tips out of the way for fire building and cleaning**
- **Grate is permanently attached to the grill with retainer bars**
- **Four cooking height levels**
- **Grate supported at four points on three sides of the firebox**
- **Integral ash retainer flange combats heat warpage and prevents ashes from falling from the firebox**
- **Theft-proof base attachment**
- **Full 360° rotation for draft control**
- **Public use-type spring grips of coiled steel bar**
- **Economic design, quality construction**

AVAILABLE OPTIONS
Hot Plate Grate
Back Utility Shelf
Portable Disk Base
Bolt-down Base Plate Base
Grill Cover
Swivel Shelf

SPECIFICATIONS:

- **Model K-20 B2** has a 300 sq. in. grate that adjusts to 4 levels in a 15" x 20" firebox with 10" sides.
- Firebox and swivel mechanisms are constructed entirely of 3/16" steel plate with integral ash flange die-formed into front edge of firebox to retain ashes and provide reinforcement. All exposed corners are rounded to 1-1/2" radius and all edge connections are entirely welded. Allowance for drainage is provided.
- Removal of grate from firebox is prevented by 2 steel retainer bars that allow grate to tip vertically for cleaning or fire building and prevent grate from falling into ashes.
- Grate is constructed from 5/8" dia. A-36 steel bar around the perimeter and handles and 1/2" dia. A-36 steel bars to provide the grate surface.
- Grate is provided with two substantially constructed spring coil grips suitable for public use made from 1/8" x 1/2" steel flat bar (not wire springs).
- Grill are permanently attached after base installation by means of absolutely theft-proof base attachment allowing continuous rotation of grill in either direction.
- **Standard:** Grill is supported by a 3-1/2" O.D., 40" long, steel pipe for permanent installation in concrete footing (indicated by "**B2**" in model no., e.g. K-20 **B2**).
- Entire unit is finished in high temperature, nontoxic black enamel.
- **Optional:** Grill is provided with a 3/16" x 7" x 19-1/4" steel plate utility shelf. (Add "/**S**" to model no., e.g. K-20/**S** B2.)
- **Optional:** Cook grate includes 3/16" x 8" x 15" welded-in steel hot plate (in place of standard grate bars) on one side of the grate. Add "/**HP**" to model no., e.g. K-20/**HP** B2.
- **Optional:** Grill is provided with a bolt-down base plate base for hard surface mounting applications. Replace "**B2**" in model no. with "**B4**", e.g. K-20 **B4**.
- **Optional:** A rear hinged Grill Cover is a 21" x 15-1/2" x 5" canopy with enclosed ends constructed of formed and welded 14 ga. steel. Two 3/8" carriage bolts with locking nuts act as the hinge points. A handle constructed of a 1/8" x 1/2" coil spring grip and 1/2" dia. steel bars attached to one side of the cover. Finished in high temperature, nontoxic black enamel. Cover can not be used with optional shelf. Indicate choice by adding "/**GC**" to model no., e.g. K-20/**GC** B2.
- **Optional: Model S6** 8' x 16" swivel shelf is available as an additional item. Shelf must be installed on base post before grill.

RJ Thomas Mfg. Co., Inc.
PO Box 946 • Cherokee, IA 51012-0946 • PH: 712-225-5115 • 800-762-5002 • FAX: 712-225-5796
E-mail: pilotrock@rjthomas.com • Web Site: http://www.pilotrock.com
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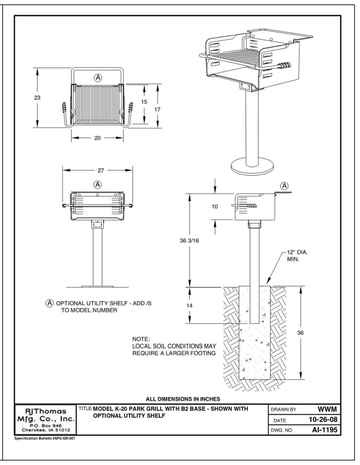

GRILL STATION DETAIL (7 REQUIRED)

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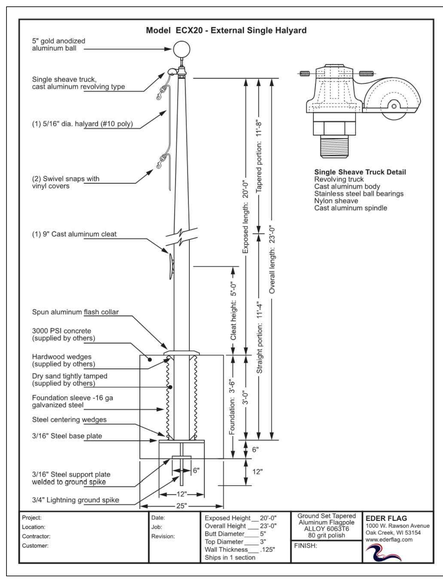
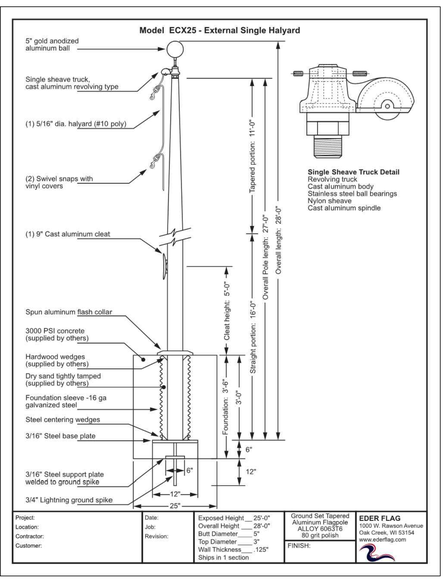


FLAGPOLES #1 & #3



FLAGPOLE #2

ELDER BRAND FLAGPOLES ECX20 & ECX25

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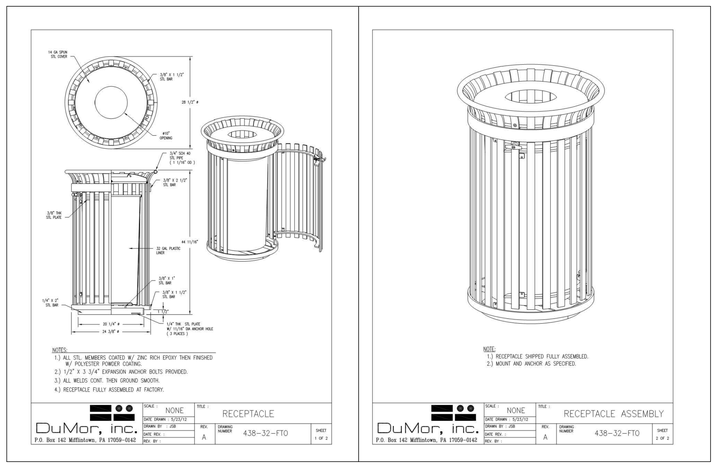

DUMOR RECEPTACLE #438–32 CUT SHEET

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REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 14

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 5072 CERTIFICATE OF AUTHORITY

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: NONE
ORIGINAL RELEASE DATE: AUGUST 18, 2020

Sheet: C4.14

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	BRENT HUTCHINSON 864-399-0545 BRENT.HUTCHINSON@ADS-PIPE.COM
ADS SALES REP:	JEFF HARTZOG 843-615-0731 JEFF.HARTZOG@ADS-PIPE.COM
PROJECT NO:	

ADVANCED DRAINAGE SYSTEMS, INC.

LANGLEY POND PARK

AIKEN, SC

SiteASSIST by StormTech
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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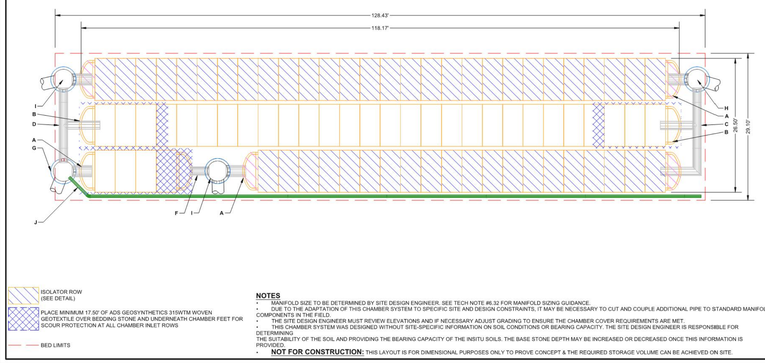
PROPOSED LAYOUT



ISOLATOR ROW (SEE DETAIL)
PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
BED LIMITS

PROPOSED ELEVATIONS

80	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	191.00
8	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	186.50
12	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	186.00
9	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	186.00
40	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	185.00
	TOP OF STONE	184.50
15393	TOP OF MC-4500 CHAMBER	184.00
	TOP OF MANIFOLD	184.00
	18" x 18" TOP MANIFOLD INVERT	181.40
	18" TOP CONNECTION	181.40
3737	SYSTEM AREA (SF)	179.10
515.1	SYSTEM PERIMETER (ft)	179.10
	54" ISOLATOR ROW INVERT	179.10
	BOTTOM OF MC-4500 CHAMBER	179.10
	12" STORM INVERT	179.10
	BOTTOM OF STONE	178.60

PROPOSED ELEVATIONS		INVERT ABOVE BASE OF CHAMBER	
	PART TYPE	INVERT	MAX FLOW
80	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	191.00	
8	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	186.50	
12	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	186.00	
9	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	186.00	
40	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	185.00	
	TOP OF STONE	184.50	
15393	TOP OF MC-4500 CHAMBER	184.00	
	TOP OF MANIFOLD	184.00	
	18" x 18" TOP MANIFOLD INVERT	181.40	
	18" TOP CONNECTION	181.40	
3737	SYSTEM AREA (SF)	179.10	
515.1	SYSTEM PERIMETER (ft)	179.10	
	54" ISOLATOR ROW INVERT	179.10	
	BOTTOM OF MC-4500 CHAMBER	179.10	
	12" STORM INVERT	179.10	
	BOTTOM OF STONE	178.60	

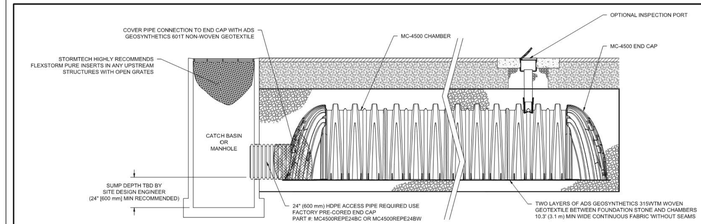
PART TYPE	ITEM ON LAYOUT	DESCRIPTION
PREFABRICATED END CAP	A	24" BOTTOM PARTIAL CUT END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS
PREFABRICATED END CAP	B	18" TOP PARTIAL CUT END CAP/TYP OF ALL 18" TOP CONNECTIONS
MANIFOLD	C	18" x 18" TOP MANIFOLD, ADS N-12
MANIFOLD	D	18" x 18" TOP MANIFOLD, ADS N-12
MANIFOLD	E	18" x 18" TOP MANIFOLD, ADS N-12
PIPE CONNECTION	F	18" TOP CONNECTION
CONCRETE STRUCTURE	G	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)
CONCRETE STRUCTURE	H	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)
CONCRETE STRUCTURE	I	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)
UNDERDRAIN	J	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

LANGLEY POND PARK
AIKEN, SC
DATE: | DRAWN: BH | PROJECT #: | CHECKED: N/A
REV | DRWN | CHK | DESCRIPTION

SHEET 2 OF 5



MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

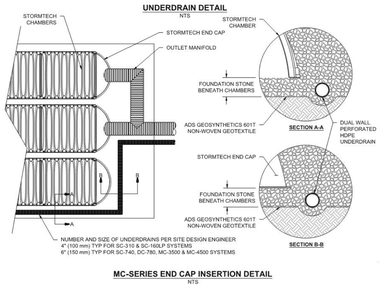
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

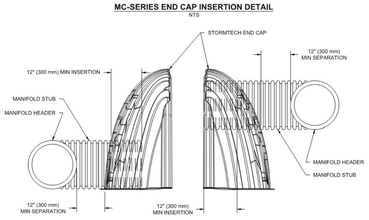
LANGLEY POND PARK
AIKEN, SC
DATE: | DRAWN: BH | PROJECT #: | CHECKED: N/A
REV | DRWN | CHK | DESCRIPTION

SHEET 4 OF 5

UNDERDRAIN DETAIL
NTS

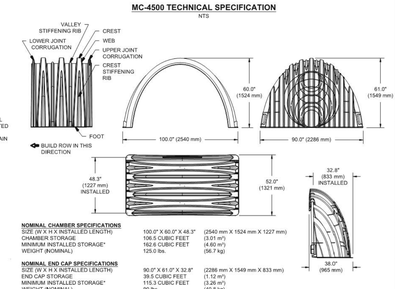


MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-4500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT (NOMINAL)	125.0 lbs.	(56.7 kg)

NOMINAL END CAP SPECIFICATIONS

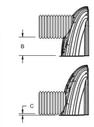
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC4500EPP08T	8" (150 mm)	42.54" (1081 mm)	---
MC4500EPP08B		---	0.86" (22 mm)
MC4500EPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC4500EPP08B		---	1.01" (26 mm)
MC4500EPP10T	10" (250 mm)	38.37" (975 mm)	---
MC4500EPP10B		---	1.37" (34 mm)
MC4500EPP12T	12" (300 mm)	35.69" (907 mm)	---
MC4500EPP12B		---	1.57" (39 mm)
MC4500EPP15T	15" (375 mm)	32.72" (831 mm)	---
MC4500EPP15B		---	1.72" (43 mm)
MC4500EPP18T	18" (450 mm)	29.36" (746 mm)	---
MC4500EPP18TW			
MC4500EPP18B		---	1.97" (50 mm)
MC4500EPP18BW			
MC4500EPP24T	24" (600 mm)	23.05" (585 mm)	---
MC4500EPP24TW			
MC4500EPP24B		---	2.24" (57 mm)
MC4500EPP24BW			
MC4500EPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC4500EPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC4500EPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE ORIENTED STUBS. FOR ECCENTRIC MANIFOLDS, CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

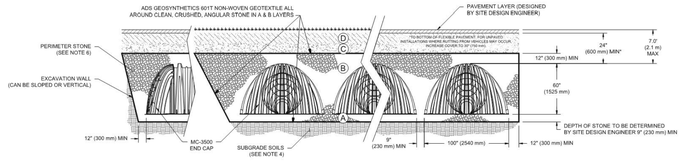
LANGLEY POND PARK
AIKEN, SC
DATE: | DRAWN: BH | PROJECT #: | CHECKED: N/A
REV | DRWN | CHK | DESCRIPTION

SHEET 5 OF 5

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

LANGLEY POND PARK
AIKEN, SC
DATE: | DRAWN: BH | PROJECT #: | CHECKED: N/A
REV | DRWN | CHK | DESCRIPTION

SHEET 3 OF 5

ADS DETENTION SYSTEM DRAWINGS:
NOT TO SCALE, REFER TO MANUFACTURER FOR ALL DETAILS AND DIMENSIONS

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASED FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

PLANNING & CIVIL ENGINEERING BY:

benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:
Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
CIVIL DETAILS 15

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO:	19020024
DRAWN BY:	CWH
CHECKED BY:	RB/EH
DRAWING FILE:	19020024PRE1.DWG
DRAWING SCALE:	NONE
ORIGINAL RELEASE DATE:	AUGUST 18, 2020

Sheet: C4.15

NOTE;

SEE SHEET L2.0 FOR PLANT LIST, PLANTING NOTES AND DETAILS

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASE FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

ELECTRICAL DESIGN BY:

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

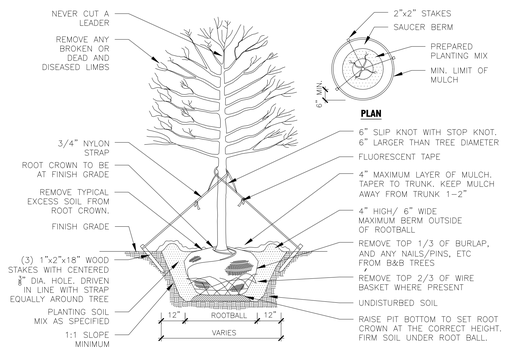
LANDSCAPE

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE: 19020024PRE1.DWG
DRAWING SCALE: 1"=40'
ORIGINAL RELEASE DATE: JULY 8, 2020

SCALE 40 0 40 IN FEET

Sheet: L1.0

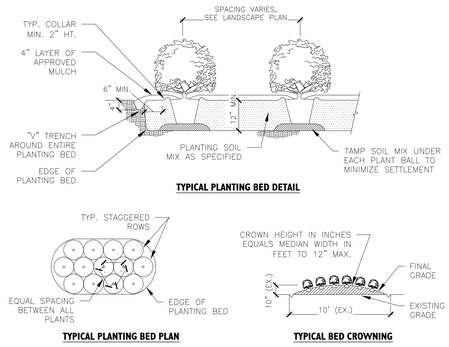


ALL TREES SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004)

FOR EXAMPLE: CALIPER	HEIGHT (RANGE)	MAX. HT.	MIN. ROOT BALL DIA.	MIN. ROOT BALL DEPTH
2"	12-14'	16'	24"	16"
3"	14-16'	18'	32"	21"

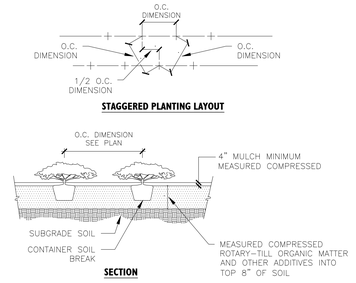
NOTES
1. ALL TREES ARE TO BE NURSERY GROWN, BALL AND BURLAP (B&B) PREFERRED.
2. REMOVE ALL TREATED OR PLASTIC-COATED BURLAP, STRAPPING, WIRE OR NYLON TWINE FROM ROOT BALL AND CANOPY. AFTER SETTING IN HOLE, CUT AWAY TOP 2/3 OF WIRE BASKET, IF PRESENT, AND TOP 1/3 OF BURLAP.
3. SOAK PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.
4. INSTALL TOP OF PLANT BALL 2" ABOVE FINISH GRADE.
5. 4" SAUCER WILL BE OUTSIDE OF BACKFILL.
6. NO BACKFILL ALLOWED ON TOP OF ROOT BALL.
7. WHERE STRAPPING OR GUYING IS INSTALLED, CONTRACTOR SHALL REMOVE ALL STAKES, GUYING ETC. AT END OF WARRANTY PERIOD.
8. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.
9. REMOVE EXCESS SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
10. RE-SEED UNMULCHED, DISTURBED AREAS.
11. STAKING IS REQUIRED FOR ALL TREES IN R.O.W. OR UPON REQUEST OF ARBORIST.

1 Tree Planting Detail
N.T.S.

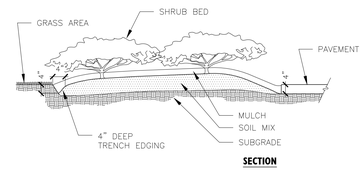


NOTES
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINISHED GRADE.
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.
6. SEE SPECIFICATIONS FOR FURTHER SOIL AND PLANTING REQUIREMENTS.

2 Shrub Planting Detail
N.T.S.



3 Groundcover Planting Detail
N.T.S.



4 Trench Edging Detail
N.T.S.

PLANT SCHEDULE							
TREES	QTY	BOTANICAL / COMMON NAME	ROOT	CAL.	REMARKS	SIZE	SPACING
AR	14	Acer rubrum `Autumn Glory` / Autumn Glory Maple	B & B	2"Cal	MATCHED, STRAIGHT	10-12` HT.	
Bd	6	Betula nigra `BNMTF` TM / Dura Heat River Birch	B & B		3-5 stems	10-12` HT.	
Cd2	6	Cercis chinensis `Don Egolf` / Don Egolf Redbud	B & B	2"Cal	Single Stem Full Spec	8-10` HT.	As Shown
Cv	8	Chionanthus virginicus / White Fringetree	B&B or CONT.	1.5"-2.0"	Single Stem Full Spec	6-8` HT.	As Shown
Iv	3	Ilex vomitoria / Yaupon Holly	B & B	1 1/2" per stem	3-5 stems	8-10` HT.	Specimen
Ml	14	Magnolia grandiflora `Little Gem` / Dwarf Southern Magnolia	B&B or Container		Full to Ground, Matched	6-8` HT.	As Shown
Ma	6	Magnolia x soulangeana `Alexandrina` / Saucer Magnolia Multi-Trunk	B & B	1 1/2" per stem	Full Specimen	8-10` HT.	As Shown
Ql	7	Quercus lyrata / Overcup Oak	B & B	2.5"Cal	Full, Matched,Straight	10-12` HT.	As Shown
Ql2	9	Quercus lyrata `Dahlonega` TM / Green Spring Overcup Oak	B & B	2"Cal	Full, Straight Specimen	10-12` HT.	As Shown
Qp	22	Quercus phellos / Willow Oak	B & B	2"Cal	Full, Matched,Straight	10-12` HT.	As Shown
Qs	8	Quercus shumardii / Shumard Red Oak	B & B	2"Cal	Full, Straight Specimen	10-12` HT.	As Shown
DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	ROOT	CAL.	REMARKS	SIZE	SPACING
QS	9	Quercus shumardii / Shumard Red Oak	B & B	2"Cal	Full, Straight Specimen	10-12` HT.	As Shown
SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	REMARKS	HEIGHT	SPREAD	
Ai	22	Azalea Encore `Autumn Ivory` TM / Encore Azalea	Container	3` O.C.	15-18" HT.	15-18"	
Aa	43	Azalea Encore `Autumn Sundance` TM / Encore Azalea	Container	4` O.C.	18-24" HT.	18-24"	
De	56	Distylium x `Vintage Jade` / Vintage Jade Distylium	3 gal	4` O.C.	12-15"	18-24"	
Hr	6	Hibiscus syriacus `SHIMRR38` TM / Lil` Kim Red Rose of Sharon	5 gal	Full Specimen	24"	15-18"	
Ho	36	Hydrangea quercifolia `Snow Queen` / Snow Queen Oakleaf Hydrangea	Container	5` O.C.	24"	24"	
IC	83	Ilex crenata `Compacta` / Dwarf Japanese Holly	Container	FULL	24" min.	24"	
Ln	45	Loropetalum chinense `Kurenai Daiou` TM / Jazz Hands Bold Loropetalum	3 gal	Full Specimen	8-12" HT	12"-15"	
Ls	40	Loropetalum chinense `Shang-hi` TM / Purple Diamond Shang-hi Fringe Flower	Container	4` O.C.	18-24" HT.	18-24"	
Of	6	Osmanthus x fortunei / Fortune Osmanthus	Container or B&B	Full Specimen	36" min.	18-24"	
Re	129	Rosa `Meiggili` Peach Drift` PP 18,542 / Peach Drift Groundcover Rose	3 gal	3` O.C.	8-12" Ht.	12"-15"	
Vp	11	Viburnum x pragense / Prague Viburnum	Container	6` O.C.		24-30"	
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT	REMARKS	SPACING		
Aw	555	Aster novae-angliae Woods Purple / Woods Purple Aster	1 qt.	Full Specimen	18" O.C.		
Cb	228	Carex frankii / Bristly Cattail Sedge	1 gal	Full Specimen	18" O.C.		
Ep	60	Echinacea purpurea / Coneflower	1 gal	Full Specimen	18" O.C.		
Hr2	155	Hemerocallis x `Ruby Stella` / Ruby Stella Daylily	1 gal	Full Specimen	18" O.C.		
Ml2	1,310	Miscanthus sinensis `Little Kitten` / Little Kitten Eulalia Grass	3 gal	Full Specimen	24" O.C.		
Mm	40	Miscanthus sinensis `Morning Light` / Eulalia Grass	3 gal	Full Specimen	48" O.C.		
Mc	425	Muhlenbergia capillaris / Pink Muhly Grass	3 gal	Full Specimen	24" O.C.		
Pc	315	Pennisetum alopecuroides `Cassian`s Choice` / Cassian Fountain Grass	1 gal	Full Specimen	18" O.C.		
Rg	235	Rudbeckia fulgida `Goldsturm` / Goldsturm Coneflower	1 gal	Full Specimen	24" O.C.		
Sa	421	Seasonal Color / Seasonal Color	4"pot	Full Specimen	12" O.C.		
Ss	104	Stachys byzantina `Silver Carpet` / Silver Carpet Lamb`s Ears	1 gal	Full Specimen	18" O.C.		
Sh	66	Stachys officinalis `Hummelo` / Hummelo Stachys	1 gal	Full Specimen	18" O.C.		

LANDSCAPE NOTES

PLANT MATERIAL

1. MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER AND 8' TALL FOR SINGLE-STEM TREES. ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 10' TALL.
2. ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEM TREES ARE SPECIFIED. ALL TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED OR CUT BACK TO MULTIPLY THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS AND CRACKS. ALL PRUNING CUTS GREATER THAN 2" DIAMETER SHALL HAVE CALLUS TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER AT THE HEIGHT WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2" OF SOIL COVERING THE ROOT BALL/FLARE FROM WILL NOT BE ACCEPTED.
3. SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (LATEST EDITION) AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
4. ALL TREES OF A PARTICULAR SPECIES AND VARIETY SHALL BE UNIFORM IN SIZE AND CONFIGURATION.

PLANTING REQUIREMENTS

1. PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING. SEE DETAILS AND SPECIFICATIONS FOR APPROVED STAKING METHOD/MATERIALS.
2. ALL STRAPPING, AND TOP ⅔ OF WIRE BASKET AND BURLAP MUST BE CUT AWAY AND REMOVED FROM ROOT BALL WHEN PLANTING.
3. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL, OR TILL AND AMEND THE TOP 24" OF EXISTING SOIL TO MEET TOPSOIL/ PLANTING MIX STANDARDS FOR TREES.
4. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
5. THE TOP OF ALL ROOT BALLS FOR SHRUBS & GROUNDCOVERS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE, AS BORN TO PREVIOUS GROWING CONDITIONS.
6. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
7. MULCH A MINIMUM 4 FOOT AREA AROUND EACH TREE AND - MULCH A CONTINUOUS AREA AROUND ALL SHRUB BEDS, AS INDICATED ON THE PLAN. MULCH SHALL BE 3-4" THICK. MULCH AROUND TREES SHALL BE TAPERED TOWARD TRUNK SO THAT NO MORE THAN 2" IS PLACED AT TREE TRUNK AS SHOWN ON DETAIL. SEE SPECIFICATIONS FOR TYPE.

UTILITY ISSUES

1. LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL LANDSCAPE ARCHITECT TO RESOLVE BEFORE PLANTING.
2. CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITIES LOCATED AND CLEARLY PAINTED WITHIN 10 DAYS OF ANY GROUND DISTURBING ACTIVITY. OWNER WILL NOT PAY FOR UTILITY REPAIRS DUE TO FAILURE TO MARK AND OBSERVE UTILITY LOCATIONS.
3. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES- PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS WATER, PHONE AND ELECTRICAL LINES).

GENERAL

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUANTITY OF PLANTS SHOWN ON THE PLAN. ANY DISCREPANCIES BETWEEN QUANTITIES ON PLAN AND PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND ANY FIELD ADJUSTMENTS OR QUANTITY ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO PLANTING.
2. ALL PLANTS SHALL BE GUARANTEED TO BE IN HEALTHY CONDITION FOR ONE (1) YEAR AFTER ACCEPTANCE BY OWNER OF ALL PLANT MATERIAL.
3. ALL DISTURBED AREAS SHALL BE SEEDED AS SPECIFIED.
4. SEE EROSION CONTROL/GRADING PLAN FOR ADDITIONAL TREE PRESERVATION NOTES.

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASE FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

ELECTRICAL DESIGN BY:

PLANNING & CIVIL ENGINEERING BY:

benesch

Alfred Benesch & Company
1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
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PROJECT TITLE:
Aiken County Langley Pond Park Phase 1

PREPARED FOR:
Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:
LANDSCAPE DETAILS & NOTES

SOUTH CAROLINA ALFRED BENESCH & COMPANY No. 5072 CERTIFICATE OF AUTHORIZATION

JOB NO: 19020024
DRAWN BY: CWH
CHECKED BY: RB/EH
DRAWING FILE:19020024PRE1.DWG
DRAWING SCALE:1"=40'
ORIGINAL RELEASE DATE:
JULY 8, 2020

Sheet: L2.0

LEGEND

LIGHTING AND POWER

- CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL CONTAINING 3 NUMBER 12 CONDUCTORS UNLESS SHOWN OTHERWISE. HASH MARKS, IF SHOWN, INDICATE QUANTITY OF NUMBER 12 CONDUCTORS. WHERE DRAWING SPACE PROHIBITS HASH MARKS BEING SHOWN REFER TO CIRCUIT NUMBERS AND PROVIDE REQUIRED NUMBER OF CONDUCTORS PER CIRCUIT TYPE.
- CONDUIT RUN CONCEALED IN OR BELOW FLOOR SLAB, OR UNDERGROUND.
- A-2,4,6 — HOMERUN TO PANELBOARD, LETTER OR LETTERS INDICATE PANELBOARDS, NUMBERS INDICATE CIRCUIT NUMBERS.
- DIRECTIONAL LIGHTING FIXTURE, GROUND, WALL OR CEILING MOUNTED AS NOTED ON THE DRAWINGS.
- J — JUNCTION BOX, FLUSH WALL MOUNTED.
- DUPLEX CONVENIENCE OUTLET, GFI TYPE. +18" TO CENTER LINE UNLESS OTHERWISE NOTED. "WP" WHERE SHOWN INDICATES WEATHER-RESISTENT DEVICE WITH METAL IN-USE WEATHERPROOF COVER.
- SQUARE D SERVICEPAK POWER OUTLET PANEL. REFER TO DETAIL 3/E3.1 FOR MOUNTING REQUIREMENTS AND ADDITIONAL INFORMATION. PROVIDE 3/4"C, 3#8,1#10 FROM EACH PEDESTALS TO PANEL INDICATED.
- PANELBOARD, SEE SCHEDULE.

GENERAL NOTES:

1. ALL GROUND WIRES SHALL BE GREEN FOR THE ENTIRE LENGTH, NO TAPE.
2. PRIOR TO TRENCHING, LOCATE AND MARK ALL EXISTING UNDERGROUND UTILITIES.
3. ALL CONDUIT MUST LAY FLAT IN TRENCH.
4. CONSULT CIVIL AND LANDSCAPE DRAWINGS FOR LAYOUT OF ALL POLES, PLANTERS AND LOCATION OF UTILITIES.
5. POTENTIAL CONTRACTORS SHALL VISIT THE PROJECT SITE PRIOR TO BID DATE TO SATISFY THEMSELVES AS TO THE EXISTING CONDITIONS AND DISTANCES.
6. ALL POWER WIRING SHALL BE IN CONDUIT.
7. ALL WIRING SHALL BE COPPER WITH TYPE THHN INSULATION.
8. BOND WIRE SHALL BE INSTALLED IN ALL CONDUIT.
9. PROVIDE WARNING TAPE OVER ALL CONDUIT LOCATED IN TRENCHES. TAPE SHALL BE LOCATED 1'-0" BELOW GRADE AND SHALL BE YELLOW, 4" WIDE METALLIC TAPE, READING "WARNING - ELECTRICAL LINES BURIED BELOW".

FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER
A	L.E.D. FLOOD LIGHT FIXTURE. FIXTURE SHALL BE GROUND MOUNTED WITH OPTICS COORDINATED FOR APPLICATION. FINISH TO BE DARK BRONZE. FIXTURE SHALL BE U.L. LISTED FOR WET LOCATIONS. PROVIDE WITH INTEGRAL PHOTOCELL OPTION. COORDINATE EXACT SET BACK IN THE FIELD. LIGHT SOURCE: 129 WATT MAXIMUM, 4000°K, 13,950 LUMENS MINIMUM OUTPUT DRIVER: MULTI VOLT ELECTRONIC, 0-10V DIMMABLE	LITHONIA "DSXF3-LED" SERIES COOPER HUBBLE METALUX

SPECIFICATIONS:

SECTION 16000 - GENERAL

1.01 WORK INCLUDED

A. THIS DIVISION OF THE SPECIFICATIONS (16000) COVERS THE COMPLETE INTERIOR AND EXTERIOR ELECTRICAL SYSTEM FOR ALL WORK SHOWN ON THE DRAWINGS AS SPECIFIED HEREIN PROVIDING ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL SYSTEMS COMPLETE AND IN OPERATING CONDITION.

B. INCLUDE IN THE ELECTRICAL WORK ALL THE NECESSARY SUPERVISION AND THE ISSUING OF ALL COORDINATING INFORMATION TO ANY OTHER TRADES WHO ARE SUPPLYING WORK TO ACCOMMODATE THE ELECTRICAL INSTALLATIONS.

C. THE DRAWINGS FOR ELECTRICAL WORK UTILIZE SYMBOLS AND SCHEMATIC DIAGRAMS WHICH HAVE NO DIMENSIONAL SIGNIFICANCE. THE WORK SHALL THEREFORE, BE INSTALLED TO FULFILL THE DIAGRAMMATIC INTENT EXPRESSED ON THE ELECTRICAL DRAWINGS.

D. SUBMIT FOR APPROVAL BY THE ARCHITECT ALL MATERIALS AND EQUIPMENT TO BE INCORPORATED IN THE ELECTRICAL WORK.

E. SUBMIT ONLY SHOP DRAWINGS WHICH COMPLY WITH THE CONTRACT DOCUMENTS.

F. MARK EACH INDIVIDUAL SUBMITTAL ITEM TO SHOW SPECIFICATION SECTION WHICH PERTAINS TO THE ITEM.

G. WHEN SHOP DRAWINGS ARE REVIEWED, SOME ERRORS MAY BE DETECTED BUT OTHERS MAY BE OVERLOOKED. THIS DOES NOT GRANT THE CONTRACTOR PERMISSION TO PROCEED IN ERROR. REGARDLESS OF ANY INFORMATION CONTAINED IN THE SHOP DRAWINGS, THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS SHALL BE FOLLOWED AND ARE NOT WAIVED OR SUPERSEDED IN ANY WAY BY THE SHOP DRAWING REVIEW.

H. ONE COMPLETE SET OF ELECTRICAL DRAWINGS SHALL BE RESERVED FOR AS-BUILT DRAWINGS. ANY APPROVED DEVIATION FROM THE CONTRACT DRAWINGS SHALL BE RECORDED ON THESE DRAWINGS.

I. COMPLETED AS-BUILT DRAWINGS SHALL BE PRESENTED TO THE ARCHITECT PRIOR TO FINAL INSPECTION.

J. PROVIDE AT THE TIME OF FINAL INSPECTION THREE SETS OF MAINTENANCE AND OPERATING INSTRUCTION FOR: LIGHTING AND POWER PANELBOARDS, FUSES, WIRING DEVICES

K. ALL ELECTRICAL WORK SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF THE FOLLOWING CODES AND/OR OTHER AUTHORITIES EXERCISING JURISDICTION OVER THE ELECTRICAL CONSTRUCTION WORK AND THE PROJECT.

a. THE NATIONAL ELECTRICAL CODE (NFPA 70) - 2017 EDITION
b. THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
c. THE LIFE SAFETY CODE (NFPA 101) - 2012 EDITION
d. THE INTERNATIONAL BUILDING CODE - 2012 EDITION
e. REGULATIONS OF THE LOCAL UTILITY COMPANY WITH RESPECT TO METERING AND SERVICE ENTRANCE.
f. MUNICIPAL AND STATE ORDINANCES GOVERNING ELECTRICAL WORK.

M. ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES SHALL BE OBTAINED, AND MADE AVAILABLE AT THE COMPLETION OF THE WORK. PERMITS, INSPECTIONS, AND CERTIFICATION FEES SHALL BE PAID FOR AS A PART OF THE ELECTRICAL WORK.

N. THIS CONTRACTOR SHALL SCHEDULE HIS WORK AND IN EVERY WAY POSSIBLE COOPERATE WITH ALL OTHER CONTRACTORS ON THE JOB TO AVOID DELAYS, INTERFERENCES, AND UNNECESSARY WORK. HE SHALL NOTIFY THEM OF ALL OPENINGS, HANGERS, EXCAVATIONS, ETC., SO THAT PROPER PROVISIONS SHALL BE MADE FOR HIS WORK.

O. THIS CONTRACTOR SHALL DO ALL CUTTING AND EXCAVATING NECESSARY FOR THE COMPLETE INSTALLATION OF HIS WORK, BUT HE SHALL NOT CUT THE WORK OF ANY OTHER CONTRACTOR WITHOUT FIRST CONSULTING THE ARCHITECT. HE SHALL REPAIR ANY WORK DAMAGED BY HIM OR HIS WORKMEN, EMPLOYING THE SERVICES OF THE CONTRACTOR WHOSE WORK IS DAMAGED. SAW CUT EXISTING SLAB AS REQUIRED FOR ROUTING CONDUITS AND FLOOR BOXES NOTED TO BE INSTALLED IN EXISTING FLOORS. RESTORE TO ORIGINAL FINISH.

P. RACEWAYS, FIXTURES, DEVICES, AND OTHER ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH RECOGNIZED GOOD PRACTICE FOR A FIRST CLASS INSTALLATION.

Q. THE ARCHITECT OR HIS REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REJECT ANY WORKMANSHIP NOT COMPLYING WITH THE CONTRACT DOCUMENTS.

R. THE ELECTRICAL CONTRACTOR SHALL PERSONALLY OR THROUGH AN AUTHORIZED LICENSED AND COMPETENT ELECTRICIAN, CONSTANTLY SUPERVISE THE WORK FROM BEGINNING TO COMPLETE AND FINAL INSPECTION.

S. CONSULT OWNER AND UTILITY COMPANIES FOR UNDERGROUND LINES BEFORE ANY UNDERGROUND WORK IS STARTED. CONTRACTORS SHALL BE RESPONSIBLE FOR ANY DAMAGE.

T. ALL EMPTY CONDUITS SHALL HAVE A PULL STRING INSTALLED. ALL FLUSH RECESSED BOXES SHALL HAVE BLANK PLATES INSTALLED.

U. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION TO INSTALL CONDUIT STRUCTURES AND EQUIPMENT SPECIFIED IN THIS DIVISION OF THE SPECIFICATIONS.

V. TRENCH EXCAVATION. THE BOTTOM OF THE TRENCHES SHALL BE GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. OVER DEPTHS SHALL BE BACKFILLED WITH LOOSE, GRANULAR, MOIST EARTH, TAMPED. REMOVED UNSTABLE SOIL THAT IS NOT CAPABLE OF SUPPORTING THE CONDUIT AND REPLACE WITH SPECIFIED MATERIAL.

W. BACKFILLING. THE TRENCHES SHALL BE BACKFILLED WITH THE EXCAVATED MATERIALS APPROVED FOR BACKFILLING, CONSISTING OF EARTH, LOAM, SANDY CLAY, AND GRAVEL OR SOFT SHALE, FREE FROM LARGE CLODS OF EARTH OR STONES, DEPOSITED IN 6" LAYERS AND TAMPED UNTIL THE CONDUIT HAS A COVER OF NOT LESS THAN THE ADJACENT EXISTING GROUND BUT NOT GREATER THAN 2" ABOVE EXISTING GROUND.

X. ALL EQUIPMENT REQUIRING ELECTRICAL POWER CONNECTIONS SHALL BE CONNECTED UNDER THIS DIVISION OF THESE SPECIFICATIONS.

Y. ELECTRICAL CIRCUITS TO EQUIPMENT FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS ARE BASED ON DESIGN LOADS. IF ACTUAL EQUIPMENT FURNISHED HAS LOADS OTHER THAN DESIGN LOADS ELECTRICAL CIRCUITS AND PROTECTIVE DEVICES SHALL BE REVISED TO BE COMPATIBLE WITH EQUIPMENT FURNISHED AT NO ADDITIONAL COST TO THE OWNER. ANY REVISIONS MUST HAVE PRIOR APPROVAL BY THE ARCHITECT

Z. REMOVE OIL, DIRT, GREASE AND FOREIGN MATERIALS FROM ALL RACEWAYS, FITTINGS, BOXES, PANELBOARD TRIMS AND CABINETS TO PROVIDE A CLEAN SURFACE FOR PAINTING. TOUCH-UP SCRATCHED OR MARRED SURFACES OF LIGHTING FIXTURES, PANELBOARD AND CABINET TRIMS, MOTOR CONTROL CENTER, SWITCHBOARD OR EQUIPMENT ENCLOSURES WITH PAINT FURNISHED BY THE EQUIPMENT MANUFACTURERS SPECIFICALLY FOR THAT PURPOSE.

AA. THE ELECTRICAL SERVICE AND TELEPHONE/CATV SERVICE FOR THIS PROJECT HAS BEEN COORDINATED BETWEEN THE ENGINEER AND THE UTILITY COMPANY. HOWEVER, BEFORE INSTALLING SERVICE CONDUIT (UNDERGROUND OR MAST), CONTRACTOR SHALL CONTACT UTILITY COMPANY AND VERIFY VOLTAGE, LOCATION AND TYPE OF SERVICE. PRIOR TO ROUGH-IN, COORDINATE AN ON-SITE MEETING WITH EACH UTILITY COMPANY TO REVIEW EXACT REQUIREMENTS. SUBMIT LETTER OF COORDINATION TO ENGINEER FOR REVIEW.

AB. ALL SYSTEMS AND COMPONENT PARTS SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE COMPLETE PROJECT. DEFECTS FOUND DURING THIS GUARANTEED PERIOD SHALL BE PROMPTLY CORRECTED AT NO ADDITIONAL COST TO THE OWNER.

SECTION 16010 - LIGHTING AND POWER PANELBOARDS

A. COMPLETE PANELBOARD SHOP DRAWINGS SHALL BE SUBMITTED, LISTING AS A MINIMUM THE FOLLOWING ITEMS: VOLTAGE RATING, BUS ASSEMBLY RATING, MAIN BREAKER RATING BY CAPACITY, NUMBER OF POLES AND INTERRUPTING RATING IN RMS SYMMETRICAL AMPERES, SURFACE OR FLUSH MOUNTING, LISTING OF BRANCH BREAKERS BY CAPACITY NUMBER OF POLES AND INTERRUPTING RATING IN RMS SYMMETRICAL AMPERES, SCHEDULE SIMILAR TO THAT SHOWN ON THE DRAWINGS, DEPICTING BRANCH BREAKER ARRANGEMENT AND BREAKER SIZES AND GIVING FULL EXPLANATION FOR ANY DIFFERENCE BETWEEN THE TWO., LUG SIZES AS REQUIRED FOR FEEDERS SHOWN ON DRAWINGS.

B. FOR THE PURPOSE OF SELECTING QUALITY AND TYPES OF PANELS, EQUIPMENT AS MANUFACTURED BY SQUARE "D" COMPANY HAS BEEN SPECIFIED. FOLLOWING MANUFACTURERS MEETING THESE SPECIFICATIONS ARE ACCEPTABLE: G. E., SIEMENS, CUTLER HAMMER

C. FURNISH AND INSTALL CIRCUIT BREAKER LIGHTING AND POWER PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE PLANS. PANELBOARDS SHALL BE OF THE DEAD-FRONT SAFETY TYPE, EQUIPPED WITH THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKERS WITH FRAME AND TRIP RATING AS SHOWN IN THE SCHEDULE.

D. CIRCUIT BREAKERS SHALL BE HACR RATED, QUICK-MAKE, QUICK-BREAK, THERMAL-MAGNETIC, TRIP-INDICATING, AND HAVE COMMON TRIP ON ALL MULTI-POLE BREAKERS. TRIP INDICATION SHALL BE CLEARLY SHOWN BY THE BREAKER HANDLE TAKING POSITION BETWEEN ON AND OFF, WHEN THE BREAKER IS TRIPPED. BRANCH CIRCUIT BREAKERS FEEDING CONVENIENCE OUTLETS SHALL HAVE SENSITIVE INSTANTANEOUS TRIP SETTING OF NOT MORE THAN 10 TIMES THE TRIP RATING OF THE BREAKERS. CONNECTION TO BUS IN ALL PANELS SHALL BE BOLTED. ALL BREAKERS SHALL BE 20 AMPERE TRIP, UNLESS OTHERWISE SHOWN. ALL BREAKERS SHALL BE MINIMUM FOR 120/208 VOLTS 10,000 A.I.C. SYM. UNLESS OTHERWISE NOTED.

E. PANEL FRONT SHALL BE PROVIDED WITH A CONTINUOUS PIANO HINGE ON ONE SIDE. CUTLER HAMMER "EZ-TRIM" IS NOT ACCEPTABLE.

F. A STEEL CIRCUIT DIRECTORY FRAME PERMANENTLY ATTACHED (SPOT WELDED) AT FACTORY (NOT GLUED), AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE DIRECTORY CARD SHALL PROVIDE A SPACE AT LEAST 1/4" HIGH X 3" LONG FOR EACH CIRCUIT.

G. ALL PANELS SHALL BE EQUIPPED WITH A COPPER EQUIPMENT GROUNDING BAR. THE BAR SHALL HAVE LUGS OF SUFFICIENT SIZE TO HANDLE ALL GROUNDING CONDUCTORS.

H. WIRING IN PANELBOARDS SHALL BE NEATLY GROUPED AND SECURED WITH TY-WRAPS.

I. ELECTRICAL PANELS SHALL NOT BE USED AS WIREWAYS OR JUNCTION BOXES FOR CONTROL CONDUCTORS.

SECTION 16020 - RACEWAYS

A. ACCEPTABLE MANUFACTURERS OF RIGID STEEL AND ELECTRICAL METALLIC TUBING CONDUIT ARE: ALLIED TUBE AND CONDUIT CO., WHEATLAND TUBE CO., REPUBLIC CONDUIT

B. ACCEPTABLE MANUFACTURER'S OF POLYVINYL CHLORIDE (PVC) CONDUIT ARE: CERTAINTEED, GEORGIA PIPE, CARLON, CAN-TEX

C. ALL METALLIC CONDUIT AND ELECTRIC METALLIC TUBING SHALL BE STEEL, OF STANDARD PIPE DIMENSIONS, SMOOTH INSIDE AND OUT, AND SHALL BE GALVANIZED. WHERE THE WORD "CONDUIT" IS USED HEREINAFTER IT SHALL MEAN EITHER RIGID STEEL CONDUIT, ELECTRIC METALLIC TUBING, FLEXIBLE STEEL CONDUIT, LIQUID TIGHT FLEXIBLE STEEL CONDUIT OR SCHEDULE 40 PLASTIC CONDUIT. INTERMEDIATE GRADE CONDUIT IS NOT ACCEPTABLE.

D. GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN ALL AREAS WHERE IT WILL BE EXPOSED TO PHYSICAL DAMAGE. SCHEDULE 40 PLASTIC CONDUIT SHALL BE USED UNDERGROUND AND IN SLAB-ON-GRADE. IN NO CASE SHALL PLASTIC CONDUIT BE EXPOSED; SWITCH TO RIGID STEEL CONDUIT WHEN TURNING UP EXPOSED. ANY EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL ONLY.

E. CONDUIT SYSTEMS INDICATED ON THE DRAWINGS FOR COMMUNICATION AND SIGNALING SYSTEMS ARE FOR TYPICAL SYSTEMS. INSTALL CONDUIT SYSTEMS FOR THE SYSTEM BEING INSTALLED.

C. GALVANIZED RIGID STEEL CONDUIT COUPLINGS AND CONNECTIONS:

a. INSTALL STANDARD, CONDUIT-THREADED FITTINGS.
b. FOR CONNECTION TO SHEET METAL BOXES, CABINETS AND OTHER SHEET METAL ENCLOSURES, INSTALL LOCKNUTS ON THE INSIDE AND OUTSIDE OF THE ENCLOSURE FOR EACH CONNECTION. SEE SECTION 16110 OF THESE SPECIFICATIONS.

I. INSTALLATION OF PLASTIC CONDUIT:

a. SHALL BE A MINIMUM OF 2'-0" BELOW FINISHED GRADE WHEN NOT COVERED BY CONCRETE.
b. SHALL HAVE PROPERLY SIZED BOND WIRE INSTALLED WITH ALL CIRCUITS.
c. BENDS AND TURNS SHALL BE KEPT TO A BARE MINIMUM.
d. ALL CONDUIT AND FITTINGS SHALL BE SOLVENT WELDED.
e. PLASTIC CONDUIT MAYBE TURNED UP CONCEALED IN MASONRY AND GYPSUM BOARD WALLS. PVC CONDUIT SHALL BE ALLOWED TO BE ROUTED CONCEALED IN WALLS TO A MAXIMUM HEIGHT OF 48" A.F.F.
f. DO NOT INSTALL CONDUIT IN SLAB. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 6" BELOW SLAB. CONDUITS SHALL NOT BE BUNCHED TOGETHER. MAINTAIN 1" CLEARANCE BETWEEN CONDUITS.
g. ALL 90° ELBOWS USED FOR FEEDER CONDUITS ROUTED TO SERVICE TRANSFORMERS, MAIN SWITCHGEAR AND PANELBOARDS SHALL BE GALVANIZED RIGID STEEL. 90° PVC ELBOWS FOR FEEDER CONDUITS SHALL NOT BE PERMITTED.

J. INSULATED BUSHINGS:

a. INSTALL NYLON INSULATED BUSHINGS ON THE END OF ALL RIGID CONDUIT.
b. THE INSULATING MATERIAL SHALL BE DESIGNED FOR RUGGED, LONG SERVICE.
c. BUSHINGS WHICH CONSIST OF ONLY INSULATING MATERIAL WILL NOT BE ACCEPTED.
d. FITTINGS WHICH INCORPORATE INSULATED BUSHINGS WILL BE CONSIDERED FOR APPROVAL IN LIEU OF FITTINGS WITH SEPARATE BUSHINGS.

K. ALL COUPLINGS AND CONNECTIONS IN LOCATION WHERE WATER OR OTHER LIQUID OR VAPOR MIGHT CONTACT THE CONDUIT SHALL BE WATERTIGHT.

L. CLOSE EMPTY CONDUIT AS COMPLETE RUNS BEFORE PULLING IN THE CABLES AND WIRES.

M. INSTALL EXPOSED CONDUIT PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE BUILDING. LOCATE THEM SO THEY WILL NOT OBSTRUCT HEADROOM OR WALKWAYS OR CAUSE TRIPPING.

N. INSTALL CONDUIT CLAMPS:
a. AT INTERVALS AS REQUIRED BY THE NEC.

SECTION 16030 - CONDUCTORS

O. ACCEPTABLE MANUFACTURERS ARE: GENERAL, SOUTHWIRE, ESSEX OR APPROVED EQUAL

P. ALL WIRING SHALL BE MANUFACTURED IN THE UNITED STATES.

Q. RATINGS AND SIZES:

a. SHALL BE NOT LESS THAN INDICATED ON THE DRAWINGS AND NOT LESS THAN REQUIRED BY THE NEC.
b. MINIMUM SIZE SHALL BE NO. 12 AWG COPPER PROVIDED THE MAXIMUM VOLTAGE DROPS IN THE CONTROL CIRCUITS WILL NOT ADVERSELY AFFECT THE OPERATION OF THE CONTROLS.
c. CONDUCTOR SIZES INDICATED ON THE DRAWINGS ARE FOR COPPER CONDUCTORS.

R. CONDUCTORS AND GROUND WIRES:
a. SHALL BE COPPER.
b. SIZE NO. 8 AWG AND LARGER SHALL BE STRANDED.
c. SIZE NO. 10 AWG AND SMALLER SHALL BE SOLID.

E. CONDUCTOR INSULATION: CONDUCTOR INSULATION SHALL BE THE NEC TYPE THHN.

F. WIRE SHALL BE FACTORY COLOR CODED IN SIZE NO. 6 AND SMALLER. COLOR SHALL BE BY INTEGRAL PIGMENTATION WITH A SEPARATE COLOR FOR EACH PHASE, NEUTRAL AND GROUNDING CONDUCTOR. COLOR CODE PER PHASE SHALL BE CONTINUOUS THROUGHOUT THE PROJECT.

G. ALL WIRING SHALL BE IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.

H. OUTER JACKETS SHALL BE COLOR CODED AS FOLLOWS:
a. THREE PHASE OR SINGLE PHASE CIRCUITS, 120/208 VOLTS:
b. PHASE A - BLACK
c. PHASE B - RED
d. PHASE C - BLUE
e. NEUTRAL - WHITE
f. INSULATED GROUND WIRE - GREEN
g. DEDICATED NEUTRALS SHALL BE PROVIDED FOR ALL MULTI-WIRE BRANCH CIRCUITS AND OUTER JACKET SHALL BE PROVIDED WITH APPROPRIATE COLORED TRACER. 120/208V: WHITE WITH RED TRACER, WHITE WITH BLUE TRACER, WHITE WITH BLACK TRACER.
h. ONLY FOR LARGE POWER CABLES AND WIRES WHICH DO NOT HAVE COLOR CODED JACKETS: NO. 6 AND LARGER.
i. INSTALL BANDS OF ADHESIVE NON-FADING COLORED TAPE OR SLIP-ON BANDS OF COLORED PLASTIC TUBING OVER THE CABLES AND WIRES AT THEIR ORIGINATING AND TERMINATIONS POINTS AND AT ALL OUTLETS OF JUNCTION BOXES.
j. COLOR SHALL BE PERMANENT AND SHALL WITHSTAND CLEANINGS.
k.

SECTION 16040 - OUTLETS

A. BOXES SHALL BE GALVANIZED PRESSED SHEET STEEL FOR ALL CONCEALED WORK.

B. WHERE CONDUIT RUNS ARE EXPOSED, OUTLET SHALL BE OF THE CAST METAL TYPE.

C. FOR CONCEALED WORK EACH BOX SHALL BE PROVIDED WITH A SQUARE CORNERED PLASTER RING.

D. EACH SURFACE LIGHTING FIXTURE, RECEPTACLE AND SWITCH SHALL BE PROVIDED WITH FLUSH MOUNTED OUTLET BOX. ALL OUTLETS INSTALLED IN PANELS AND OTHER ARCHITECTURAL FEATURES SHALL BE CENTERED. THE LOCATION OF ANY OUTLET MAY BE MOVED AS MUCH AS 10'-0" BY THE ARCHITECT BEFORE THE OUTLET IS PLACED WITHOUT INCURRING ANY EXTRA COST. ALL DIMENSIONS REFER TO THE FINISHED FLOOR LINE. OUTLET BOXES SHALL BE PRESSED SHEET STEEL AND SHALL BE GALVANIZED FOR ALL CONCEALED WORK. WHERE CONDUIT RUNS ARE EXPOSED OUTLETS SHALL BE OF THE CAST METAL TYPE.

E. BOXES SHALL BE FOR THE SERVICE AND THE TYPE OF OUTLET AND SHALL NOT BE LESS THAN 4" SQUARE AND 1-1/2" DEEP EXCEPT WHERE OTHERWISE SPECIFIED. BOXES INSTALLED IN WALLS SHALL BE PROVIDED WITH A SQUARE CORNERED 1-1/2" PLASTER RING INSTALLED FLUSH WITH SURFACE OF WALL. COORDINATE DEPTH OF PLASTER RING REQUIRED FOR PARTICULAR WALL CONSTRUCTION. EACH OUTLET BOX ABOVE CEILING SHALL BE SUPPORTED FROM A STRUCTURAL MEMBER OF THE BUILDING EITHER DIRECTLY OR BY USING A SUBSTANTIAL AND APPROVED METAL SUPPORT. CONDUIT IS NOT AN APPROVED MEANS OF SUPPORT. BOXES INSTALLED IN WALL SHALL BE SUPPORTED EITHER DIRECTLY TO A STUD OR BETWEEN STUDS UTILIZING AN APPROVED BAR HANGER. IN NO CASE SHALL SWITCH BOX SUPPORT AND CLIPS USED FOR MOUNTING BOXES IN OLD WORK BE USED UNLESS SPECIFICALLY CALLED FOR. TOP OF OUTLET BOX SHALL BE LEVEL.

F. ALL CEILING OR WALL RECESSED OUTLET BOXES OR THEIR ASSOCIATED PLASTER RINGS SHALL BE FLUSH WITH THE FINISHED SURFACE. USING COVERPLATE TO SECURE WIRING DEVICES OR SHIMMING THE DEVICE IS NOT ACCEPTABLE. CONTRACTOR SHALL EXERCISE DUE CARE WHEN CUTTING OPENING IN WALLS OR CEILINGS FOR OUTLET BOXES SO THAT OPENING SIZE WILL PERMIT THE PROPER INSTALLATION OF BOXES AND DEVICES. FIXTURE STUDS IN CEILINGS AND BRACKET OUTLETS SHALL BE BOLTED WITH STOVE BOLTS OR SHALL BE LOCKING TYPE OF STUD MOUNTING.

G. REMOVE ONLY KNOCKOUTS AS REQUIRED AND PLUG UNUSED OPENINGS. USE THREADED PLUGS FOR CAST METAL BOXES AND SNAP-IN METAL COVERS FOR SHEET METAL BOXES.

H. "THERE SHALL BE NO OUTLETS INSTALLED BACK TO BACK. A MINIMUM OF 4" SHALL SEPARATE EACH OUTLET."

I. WHERE THE VOLUME ALLOWED PER CONDUCTOR EXCEEDS THAT ALLOWED IN TABLE 370-6(B) OF THE NEC FOR THE MINIMUM SIZE OUTLET SPECIFIED, A LARGER SIZE OUTLET BOX SHALL BE USED AND SHALL BE SIZED IN ACCORDANCE WITH THE TABLE NOTED ABOVE.

J. OUTLET BOXES SHALL BE CLEAN AND FREE FROM DUST, PAINT, DIRT, PLASTER READY MIX JOINT COMPOUND AND /OR ANY OTHER DEBRIS.

K. ALL JUNCTION BOX COVER PLATES SHALL BE LABELED IDENTIFYING THE SYSTEM IT CONTAINS. THE LABEL SHALL BE NEATLY HAND WRITTEN WITH A WIDE TIP PERMANENT NON-REMOVABLE MARKER AND BE EASILY IDENTIFIED. JUNCTION BOXES CONTAINING HIGH VOLTAGE WIRING SHALL INCLUDE PANEL AND CIRCUIT DESIGNATION (EX. HA - 1,3,5 OR LA - 2,4,6). JUNCTION BOXES UTILIZED FOR LOW VOLTAGE SYSTEM SHALL BE LABELED IN ACCORDANCE WITH THE SYSTEM (EX. FA FOR FIRE ALARM SYSTEM).

SECTION 16050 - WIRING DEVICES AND DEVICE PLATE

F. FOR THE PURPOSE OF SELECTING QUALITY AND TYPE OF DEVICE, EQUIPMENT MANUFACTURED BY HUBBELL HAS BEEN SPECIFIED. THE FOLLOWING MANUFACTURERS MEETING THIS SPECIFICATION ARE ACCEPTABLE: PASS AND SEYMOUR, COOPER, LEVITON.

G. RECEPTACLE: ALL RECEPTACLES SHALL BE OF THE GROUNDING TYPE, TAMPER RESISTANT AND OF THE CONFIGURATION SHOWN ON THE DRAWINGS AND SHALL BE FLUSH WALL MOUNTING TYPE. COLOR SHALL BE GRAY.

a. STANDARD DUPLEX RECEPTACLE: 20 AMPERE, 125 VOLT, TAMPER RESISTANT NEMA TYPE 5-20 R, 2 POLE, 3 WIRE, STRAIGHT BLADE, U-GROUNDING SLOT, SPECIFICATION GRADE. HBL 5362.
b. GROUND FAULT INTERRUPTER RECEPTACLE: 20 AMPERE, 125 VOLTS, TAMPER RESISTANT NEMA TYPE 5-20R, 2-POLE, 3-WIRE WITH GROUNDED U SLOT. HBL GF5362.

H. DEVICE PLATES: PLATES SHALL BE FURNISHED FOR ALL DEVICES AND OUTLETS INDICATED ON THE DRAWINGS (TELEPHONE, COMPUTER, TV, ETC.). ALL PLATES ON MASONRY WALLS SHALL BE OVERSIZED JUMBO TYPE.

I. FLUSH MOUNTED PLATES: BEVELED TYPE WITH SMOOTH ROLLED OUTER EDGE, STAINLESS STEEL TYPE 302 WITH BRUSHED FINISH.

J. SURFACE BOX PLATES, BEVELED, GALVANIZED STEEL, PRESSURE FORMED FOR SMOOTH EDGE TO FIT BOX.

K. DIE CAST WEATHERPROOF COVER. LOCKABLE HASP VERTICAL MOUNTING. INTERMATIC #WP1010MC.

I. RECEPTACLES:

a. CONDUCTORS SHALL BE LOOPED AROUND THE TERMINAL SCREWS, "DO NOT BACK WIRE DEVICES."
b. RECEPTACLES SHALL BE GROUNDED BY THE GREEN WIRE BOND AND SHALL BE PIGTAILED AS SHOWN ON THE DRAWINGS.
c. RECEPTACLES SHALL BE SCREWED TIGHT TO THE PLASTER RING OR OUTLET BOX AND SHALL NOT DEPEND ON THE DEVICE PLATE TO PULL THEM TIGHT.
d. CENTER LINE OF GENERAL USE RECEPTACLES SHALL BE IN GENERAL, SET 18" ABOVE THE FLOOR WITH RECEPTACLE MOUNTED IN THE VERTICAL POSITION AND WITH GROUNDING POLE AT THE BOTTOM.
e. COORDINATE RECEPTACLE HEIGHT WITH ARCHITECTURAL DRAWINGS AND LOCATE SO THAT BOTTOM OF RECEPTACLE PLATE SHALL BE 1" ABOVE COUNTER OR BACK SPLASH AND CLEAR ALL MOLDINGS.
f. CENTER LINE OF RECEPTACLES LOCATED ADJACENT TO LAVATORIES IN TOILETS SHALL BE SET 3'-6" ABOVE FLOOR.
g. RECEPTACLES SERVING WATER COOLERS SHALL BE LOCATED WITHIN COOLER HOUSING OR AS CLOSE TO BOTTOM OF HOUSING AS POSSIBLE. CORD SERVING UNIT SHALL BE AS SHORT AS POSSIBLE. IN NO CASE SHALL CORD OR RECEPTACLE BE SEEN FROM NORMAL VIEWING ANGLE.
h. ALL RECEPTACLES INSTALLED IN BATHROOMS OR TOILETS OR WITHIN 6 FEET OF LAVATORIES OR SINKS, OR ANY RECEPTACLE LOCATED ON BUILDING EXTERIOR SHALL BE GROUND FAULT CIRCUIT INTERRUPTER TYPE.
i. ALL RECEPTACLES INSTALLED IN KITCHENS OR OUTDOORS SHALL BE GFCI TYPE.

J. PLATES:

a. PLATES SHALL BE LEVEL AND ALL EDGES SHALL BE IN FULL CONTACT WITH WALL.
b. PLATES SHALL BE FURNISHED FOR ALL DEVICES AND OTHER OUTLETS INDICATED ON THE DRAWINGS.
c. INSTALL PLATES ON OUTLET BOXES AND JUNCTION BOXES IN UNFINISHED AREAS ABOVE CEILINGS AND ON SURFACE MOUNTED OUTLETS.
d. PLATES SHALL NOT BE USED TO KEEP DEVICES SECURE.
e. PLATES SHALL BE CLEAN AND FREE FROM DUST, PLASTER OR PAINT AND SPOTS.
PLATE SHALL COVER OPENINGS AROUND OUTLETS.

SECTION 16060 - LIGHTING FIXTURES

A. LIGHTING FIXTURES SHALL BE SELECTED FROM THOSE FIXTURES INCLUDED IN THE FIXTURE SCHEDULE AS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS.

B. DRIVER MANUFACTURE: SYLVANIA, PHILLIPS, GENERAL ELECTRIC, E.Y.E.

C. FIXTURES SHALL BE SELECTED FROM THE FIXTURE SCHEDULE NOT ONLY BY CATALOG NUMBER BUT WITH CONSIDERATION TO MOUNTING AND REFERENCE NOTES AS CONTAINED IN THE FIXTURE SCHEDULE AND AS NOTED ON THE DRAWINGS AND IN THE SPECIFICATIONS. MANUFACTURERS NOT LISTED ON FIXTURE SCHEDULE OR ADDED BY ADDENDUM WILL NOT BE ACCEPTED.

D. LIGHTING FIXTURES SHALL BE LOCATED AS SHOWN ON THE LIGHTING PLAN. IF FOR ANY REASON THIS IS IMPOSSIBLE OR IMPRACTICAL, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR A DECISION AS TO THE BEST DIRECTION FOR THE SHIFT.

E. UPON COMPLETION OF INSTALLATION, LIGHTING FIXTURES AND EQUIPMENT SHALL BE IN FIRST CLASS OPERATING ORDER, IN PERFECT CONDITION AS TO FINISH, FREE FROM DEFECTS. AT FINAL INSPECTION, FIXTURES SHALL BE COMPLETE WITH REQUIRED DIFFUSERS, REFLECTORS, SIDE PANELS, LOUVERS OR THE OTHER COMPONENTS NECESSARY TO COMPLETE FIXTURES. ALL FIXTURES AND EQUIPMENT SHALL BE CLEAN AND FREE FROM DUST, INSECTS, PLASTER OR PAINT SPOTS. ANY REFLECTORS, DIFFUSERS, SIDE PANELS OR OTHER PARTS BROKEN PRIOR TO FINAL INSPECTION SHALL BE REPLACED BY CONTRACTOR.

SECTION 16090 - PHOTO CONTROL AND CONTACTOR

H. PHOTO CONTROL SHALL BE RATED AT 1800 V.A., 90% POWER FACTOR ON 120 VOLT SYSTEM. SWITCHING MECHANISM SHALL BE HERMETICALLY SEALED AND SHALL BE CALIBRATED TO CLOSE CIRCUIT WHEN ILLUMINATION FALLS BELOW FIVE FOOT CANDLES. SWITCHING MECHANISM SHALL CONTAIN DELAY FEATURE TO PREVENT CIRCUIT OPENING IN TRANSIENT ILLUMINATION SUCH AS HEADLIGHTS FROM PASSING VEHICLES. (PHOTO CONTROL SHALL CONTAIN MANUALLY ADJUSTABLE LIGHT LEVEL SLIDE.) ORIENT PHOTO CONTROL LIGHT SENSING ELEMENT NORTH.

I. CONTACTOR SHALL BE ELECTRICALLY HELD, 120 OR 277 VOLT OPERATING COIL AND IN NEMA 1 ENCLOSURE. THE NUMBER AND RATING OF POLES SHALL BE AS NOTED ON THE DRAWINGS.

J. TIME CLOCK SHALL BE ELECTRONIC 24 HOUR TYPE WITH GENERAL PURPOSE INDOOR CASE. TIME CLOCK SHALL BE DIGITAL TYPE WITH BATTERY BACKUP.

SECTION 16100 - PULL BOXES AND JUNCTION BOXES AND FITTINGS

A. BOXES SHALL BE PROVIDED IN THE RACEWAY SYSTEMS WHEREVER REQUIRED FOR THE PULLING OF WIRES AND THE MAKING OF CONNECTIONS.

B. PULL BOXES OF NOT LESS THAN THE MINIMUM SIZE REQUIRED BY THE NATIONAL ELECTRICAL CODE ARTICLE 370 SHALL BE CONSTRUCTED OF CODE-GAUGE GALVANIZED SHEET STEEL. BOXES SHALL BE FURNISHED WITH SCREW-FASTENED COVERS. COVERS ON FLUSH WALL MOUNTED BOXES IN WELL APPOINTED AREAS (OFFICES, RECEPTION, CLASSROOMS, MEDIA CENTER, ETC) SHALL BE MINIMUM 1/16 302 STAINLESS STEEL. BOXES LOCATED ON THE EXTERIOR OF THE BUILDING SHALL BE WATERTIGHT. COVERS SHALL BE SECURED WITH TAMPER PROOF SCREWS.

C. BOXES SHALL BE SECURELY AND RIGIDLY FASTENED TO THE SURFACE OF WHICH THEY ARE MOUNTED OR SHALL BE SUPPORTED FROM STRUCTURAL MEMBER OF THE BUILDING EITHER DIRECTLY OR BY USING A SUBSTANTIAL AND APPROVED METAL ROD OR BRACE.

D. ALL BOXES SHALL BE SO INSTALLED THAT THE WIRING CONTAINED IN THEM CAN BE RENDERED ACCESSIBLE WITHOUT REMOVING PART OF THE BUILDING.

E. WHERE SEVERAL CIRCUITS PASS THROUGH A COMMON PULL BOX, THE CIRCUITS SHALL BE TAGGED TO INDICATE CLEARLY THEIR ELECTRICAL CHARACTERISTICS, CIRCUIT NUMBER AND DESIGNATION.

F. ALL JUNCTION BOXES LARGER THAN 4" X 4" FLUSH MOUNTED IN WALL SHALL HAVE OVERLAPPING COVER PLATE TO COVER ROUGH-IN OPENINGS.

SECTION 16110 - GROUNDING

A. THE WORK REQUIRED UNDER THIS SECTION OF THE SPECIFICATIONS CONSISTS OF FURNISHING, INSTALLATION AND CONNECTIONS OF THE BUILDING SECONDARY GROUNDING SYSTEMS. EXTERIOR BRANCH CIRCUIT WIRING AND FEEDER CONDUCTORS EXTENDED BEYOND THE BUILDING ARE INCLUDED. THE BUILDING ELECTRICAL SYSTEM SHALL BE A 3 PHASE, 4 WIRE GROUNDED WYE DELTA SYSTEM SUPPLEMENTED WITH EQUIPMENT GROUNDING SYSTEM. EQUIPMENT GROUNDING SYSTEM SHALL BE ESTABLISHED WITH EQUIPMENT GROUNDING CONDUCTORS; THE USE OF METALLIC RACEWAYS FOR EQUIPMENT GROUNDING IS NOT ACCEPTABLE.

B. ALL MATERIALS SHALL BE UL LISTED AND BEAR A UL LABEL.

C. GROUNDING ELECTRODE CONDUCTOR SHALL BE BARE OR GREEN INSULATED COPPER CONDUCTOR SIZED AS INDICATED ON THE DRAWINGS.

D. EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN INSULATED TYPE THHN CONDUCTORS SIZED AS INDICATED ON THE DRAWINGS. WHERE SIZE IS NOT INDICATED ON THE DRAWINGS, CONDUCTOR SIZE SHALL BE DETERMINED FROM THE NATIONAL ELECTRICAL CODE TABLE OF SIZES OF EQUIPMENT GROUNDING CONDUCTORS.

E. BONDING JUMPERS SHALL BE FLEXIBLE COPPER BONDING JUMPERS SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE TABLE ON SIZES OF EQUIPMENT GROUNDING ELECTRODE CONDUCTORS.

F. EACH RECEPTACLE AND SWITCH DEVICE SHALL BE FURNISHED WITH A GROUNDING SCREW CONNECTED TO THE METALLIC DEVICE FRAME. BOND EQUIPMENT GROUNDING CONDUCTOR TO EACH OUTLET BOX. FOR ISOLATED GROUND RECEPTACLES, BOND EQUIPMENT GROUNDING CONDUCTOR TO BOX, AND ISOLATED GROUND CONDUCTOR TO DEVICE GROUNDING SCREW.

G. GROUND RODS SHALL BE 3/4" X 10'-0" COPPER CLAD STEEL. CONNECTION TO ALL GROUND RODS SHALL BE BY EXOTHERMIC WELD.

H. GROUND ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL SYSTEM, I.E., WIREWAYS, EQUIPMENT ENCLOSURES AND FRAMES, JUNCTION AND OUTLET BOXES, MACHINE FRAMES AND OTHER CONDUCTIVE ITEMS IN CLOSE PROXIMITY WITH ELECTRICAL CIRCUITS, TO PROVIDE A LOW IMPEDANCE PATH FOR POTENTIAL GROUNDED FAULTS.

I. SERVICE ENTRANCE AND SEPARATELY DERIVED ELECTRICAL SYSTEMS, GROUNDING ELECTRODE SYSTEM.

a. THE NEUTRAL CONDUCTOR OF THE ELECTRICAL SERVICE SERVING THE PREMISES WIRING SYSTEM SHALL BE GROUNDED TO THE GROUND BUS BAR IN THE SERVICE EQUIPMENT WHICH SHALL BE GROUNDED TO THE COLD WATER SYSTEM, THE GROUND ROD SYSTEM, AND OTHER GROUNDING ELECTRODES SPECIFIED HEREIN OR INDICATED ON THE DRAWINGS. GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN RIGID, NON-METALLIC CONDUIT TO POINT OF GROUND CONNECTION, UNLESS SUBJECT TO PHYSICAL DAMAGE IN WHICH CASE THEY SHALL BE INSTALLED IN GALVANIZED RIGID STEEL. WHERE METALLIC CONDUIT IS PERMITTED, BOND CONDUIT AT BOTH ENDS TO GROUNDING ELECTRODE CONDUCTOR WITH A UL BONDING BUSHING.

J. GROUND THE NEUTRAL OF ALL DRY TYPE TRANSFORMERS AS INDICATED ON THE DRAWINGS.

K. GROUNDING ELECTRODE CONNECTIONS TO STRUCTURAL STEEL, REINFORCING BARS, GROUND RODS, OR WHERE INDICATED ON THE DRAWINGS SHALL BE WITH CHEMICAL EXOTHERMIC WELD CONNECTION DEVICES RECOMMENDED FOR THE PARTICULAR CONNECTION TYPE. CONNECTIONS TO PIPING SHALL BE WITH UL LISTED MECHANICAL GROUND CLAMPS.

L. WHERE MORE THAN ONE SERVICE SERVES A BUILDING OR INTERCONNECTED BUILDINGS, CONNECT EACH SERVICE EQUIPMENT GROUND BUS TOGETHER WITH A #4/0 COPPER CONDUCTOR IN PVC CONDUIT.

M. BONDING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

N. INSTALL GROUND RODS WHERE INDICATED ON THE DRAWINGS WITH THE TOP OF THE GROUND RODS 12" BELOW FINISHED GRADE.

O. GROUNDING CONDUCTORS SHALL BE PROVIDED IN ALL BRANCH CIRCUIT RACEWAYS AND CABLES. GROUNDING CONDUCTORS SHALL BE THE SAME AWG SIZE AS BRANCH CIRCUIT CONDUCTORS.

P. A GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FLEXIBLE CONDUIT INSTALLATIONS. FOR BRANCH CIRCUITS, GROUNDING CONDUCTOR SHALL BE SIZED TO MATCH BRANCH CIRCUIT CONDUCTORS.

Q. A FEEDER SERVING SEVERAL PANELBOARDS SHALL HAVE A CONTINUOUS GROUNDING CONDUCTOR WHICH SHALL BE CONNECTED TO EACH RELATED CABINET GROUNDING BAR.

R. UPON COMPLETION OF THE GROUND ROD INSTALLATION, GROUNDING RESISTANCE READING SHALL BE TAKEN BEFORE CONNECTION IS MADE TO THE BUILDING COLD WATER PIPING SYSTEM. GROUND RESISTANCE READINGS SHALL NOT BE TAKEN WITHIN FORTY-EIGHT HOURS OF RAINFALL. RESULTS OF GROUND RESISTANCE READINGS SHALL BE FORWARDED, IN WRITING, IMMEDIATELY TO THE ARCHITECT AND OWNER.

SECTION 16120 - EQUIPMENT IDENTIFICATION

A. LAMINATED PLASTIC PLATES WITH 3/16" HIGH WHITE LETTER ETCHED ON BLACK BACKGROUND.

B. PLATES SHALL BE PERMANENTLY MOUNTED UTILIZING POP RIVETS OR A PERMANENT MASTIC/EPOXY.

C. PAINTED, STENCILED OR INDENTED TAPE IDENTIFICATION IS NOT ACCEPTABLE.

D. ALL ELECTRICAL APPARATUS SUCH AS WIRING TROUGHS, PANELBOARDS, INDIVIDUAL CIRCUIT BREAKERS, TRANSFORMERS AND DISCONNECT SWITCHES SHALL HAVE LAMINATED PLASTIC IDENTIFICATION PLATES. IDENTIFICATION SHALL MATCH LABELING SHOWN ON PLANS.

E. A "STEEL" CIRCUIT DIRECTORY FRAME PERMANENTLY ATTACHED AT FACTORY (NOT GLUED), AND A DIRECTORY CARD WITH A PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF EACH PANEL DOOR. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT AND THE AREAS SERVED. SPACES OR ROOM NUMBERS SHOWN ON THE DRAWINGS ARE NOT NECESSARILY THE FINAL NUMBERS TO BE ASSIGNED TO THESE AREAS. THE CONTRACTORS SHALL BEFORE COMPLETION OF THE PROJECT OBTAIN FROM THE ARCHITECT FINAL SPACE OR ROOM NUMBERS SO THAT IT CAN BE TYPED ONTO DIRECTORY.

F. CIRCUIT BREAKERS AND DISCONNECTS SHALL IDENTIFY DESIGNATION OF THE EQUIPMENT SERVED, CIRCUIT AND PANEL FROM WHICH IT IS SERVED AS WELL AS VOLTAGE/PHASE OF CIRCUIT.

G. ON ALL PANELBOARDS THE EXTERIOR IDENTIFICATION PLATE SHALL MATCH THAT ON THE DRAWINGS AND THE PANEL AND CIRCUIT NUMBER SERVING THE PANEL SHALL BE DESIGNATED WITHIN THE PANEL.

SECTION 16220 - CONSTRUCTION REVIEWS INSPECTION AND TESTING

A. THE ARCHITECT OR HIS REPRESENTATIVE SHALL OBSERVE AND REVIEW THE INSTALLATION OF ALL ELECTRICAL SYSTEMS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

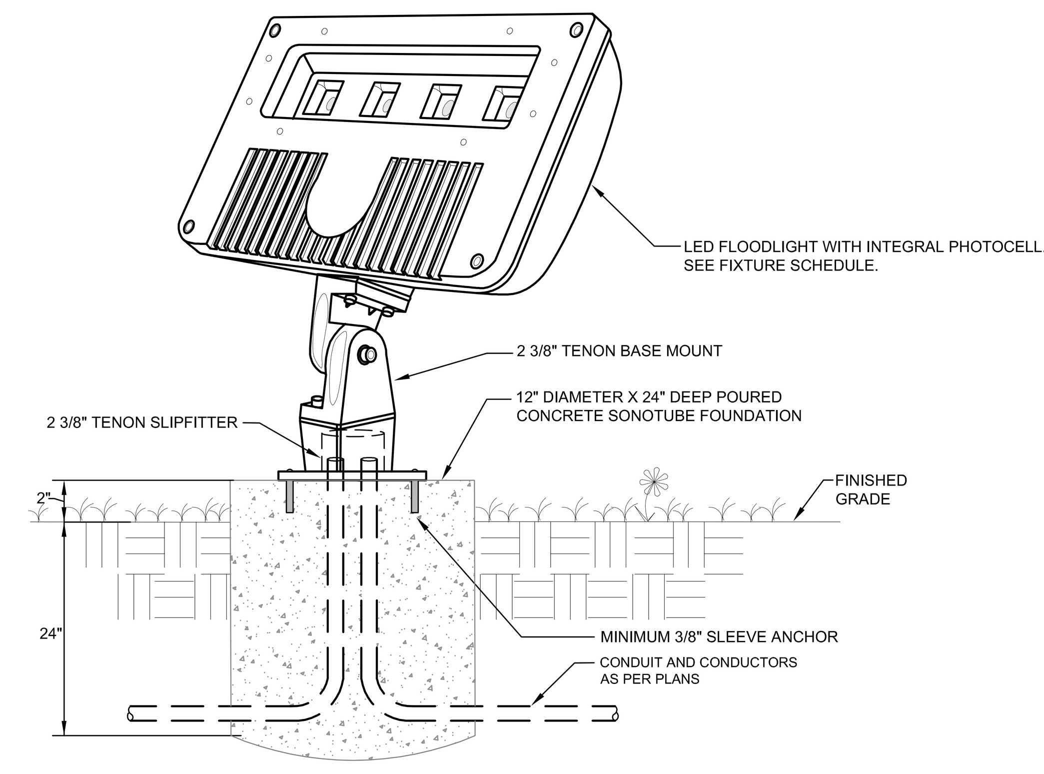
B. BEFORE COVERING OR CONCEALING ANY CONDUIT BELOW GRADE OR SLAB, IN WALL OR ABOVE CEILING, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT SO THAT HE CAN REVIEW THE INSTALLATION.

C. AT THE TIME OF THE CONTRACTOR'S FINAL INSPECTION, ALL SYSTEMS SHALL BE CHECKED AND TESTED FOR PROPER INSTALLATION AND OPERATION BY THE CONTRACTOR IN THE PRESENCE OF THE ARCHITECT OR HIS REPRESENTATIVE.

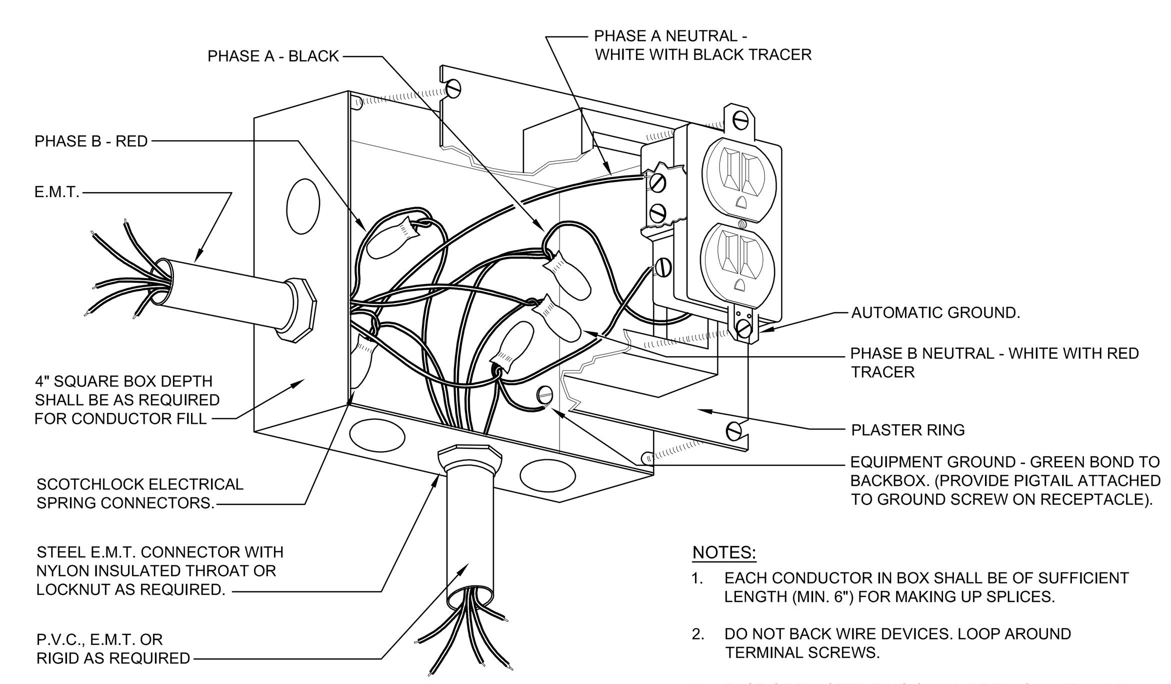
D. THE CONTRACTOR SHALL FURNISH THE PERSONNEL, TOOLS AND EQUIPMENT REQUIRED TO INSPECT AND TEST ALL SYSTEMS.

E. FOLLOWING IS A LIST OF ITEMS THAT THE CONTRACTOR MUST DEMONSTRATE TO THE ARCHITECT OR HIS REPRESENTATIVE AS COMPLYING WITH THE PLANS AND SPECIFICATIONS. PLEASE NOTE THAT THIS LIST DOES NOT NECESSARILY REPRESENT ALL ITEMS TO BE COVERED IN THE FINAL INSPECTION, BUT SHOULD GIVE THE CONTRACTOR AN IDEA OF WHAT IS TO BE REVIEWED.

b. SERVICE GROUND, SHOW CONNECTION TO GROUND ROD AND COLD WATER MAIN.
c. DEMONSTRATE THAT MAIN SERVICE EQUIPMENT IS PROPERLY BONDED.
d. DEMONSTRATE THAT ALL PANELS HAVE BREAKERS AS SPECIFIED, GROUND BAR, COPPER BUS, TYPED DIRECTORY FOR CIRCUIT IDENTIFICATION AND THAT THEY ARE FREE OF TRASH.
e. DEMONSTRATE THAT ALL CONDUITS ARE SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
f. DEMONSTRATE THAT ALL OUTLET BOXES ABOVE OR ON THE CEILING ARE SUPPORTED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
g. DEMONSTRATE THAT OUTLET BOXES IN WALL OR CEILINGS OF COMBUSTIBLE MATERIALS ARE FLUSH WITH SURFACE OF WALL OR CEILING, AND THAT OUTLET BOXES IN WALLS OR CEILINGS OF NON-COMBUSTIBLE MATERIALS ARE SO INSTALLED THAT THE FRONT EDGE OF THE BOX OR PLASTER RING IS NOT SET BACK MORE THAN 1/4"
h. DEMONSTRATE THAT OUTLET BOXES IN WALL ARE SECURE
i. DEMONSTRATE THAT ALL DEVICES ARE PROPERLY SECURED TO BOXES, THAT DEVICE PLATES ARE PROPERLY ALIGNED AND ARE NOT BEING USED TO SECURE DEVICE.
j. UTILIZING A WOODHEAD NO. 1750 TESTING DEVICE, DEMONSTRATE THAT ALL 125 VOLT RECEPTACLES ARE PROPERLY CONNECTED.



1 / E1.0 DETAIL - STANCHION MOUNTED FLOODLIGHT
SCALE: NONE



NOTES:
1. EACH CONDUCTOR IN BOX SHALL BE OF SUFFICIENT LENGTH (MIN. 6") FOR MAKING UP SPLICES.
2. DO NOT BACK WIRE DEVICES. LOOP AROUND TERMINAL SCREWS.
3. FACE OF PLASTER RING SHALL BE FLUSH WITH WALL.

2 / E1.0 DETAIL - RECEPTACLE CONNECTION
SCALE: NONE

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASE FOR BID

REVISION BLOCK

AIKEN COUNTY PARKS, RECREATION & TOURISM

ELECTRICAL DESIGN BY:

ELECTRICAL DESIGN CONSULTANTS, INC.
ELECTRICAL ENGINEERS
1201 BROAD ST., SUITE 1-A
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PH: (706) 724-3551
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EDC PROJECT #: 20005

PLANNING & CIVIL ENGINEERING BY:

benesch
Alfred Benesch & Company
1005 Broad Street, Suite 200
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P 706.722.4114
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PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

ELECTRICAL SPECIFICATIONS

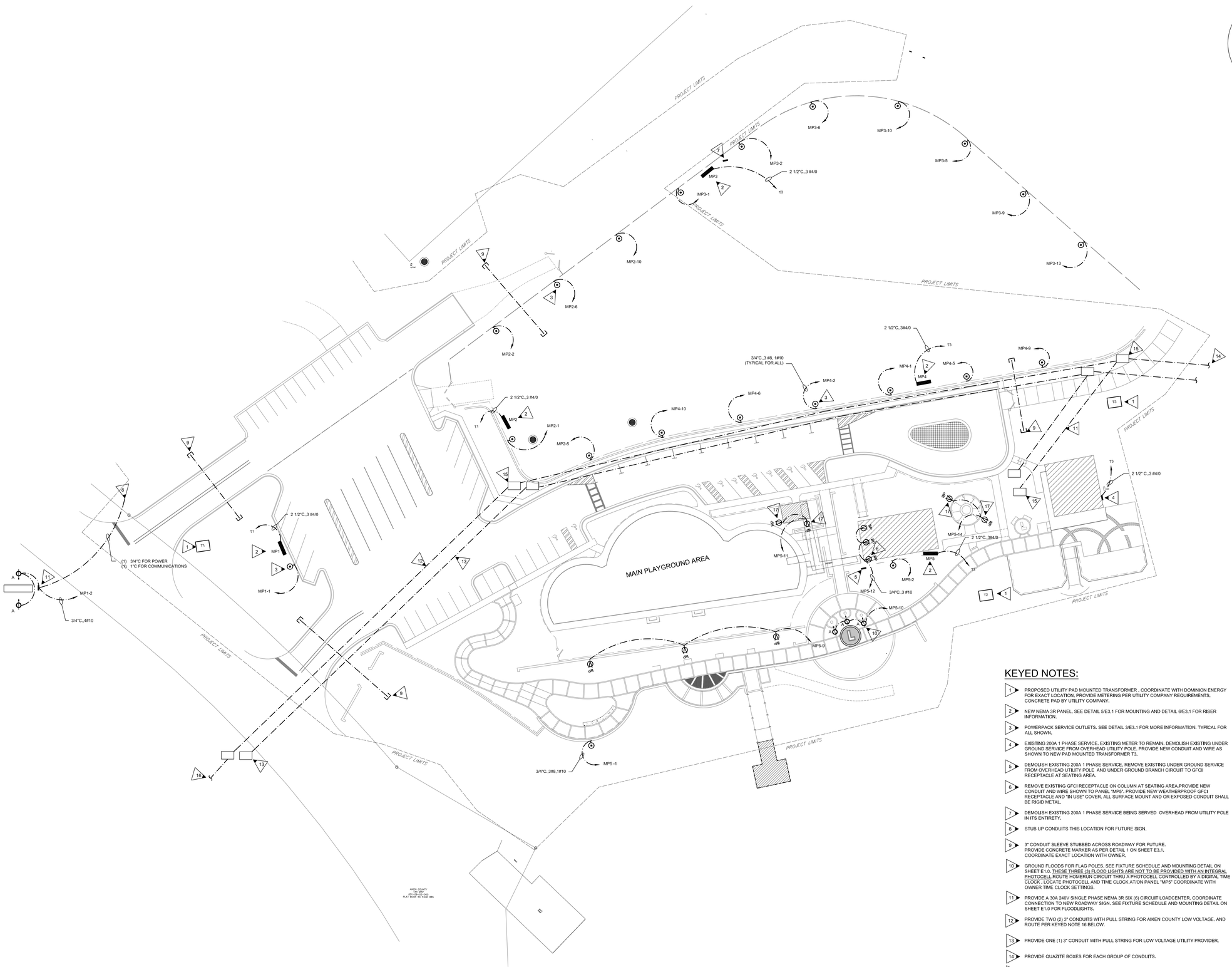
SOUTH CAROLINA ELECTRICAL DESIGN CONSULTANTS, INC. No. C01139 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 35209 J. TOM BRINSON
08-21-20

JOB NO: 19020024
DRAWN BY: KH
CHECKED BY: TB
DRAWING FILE:
DRAWING SCALE: AS NOTED
ORIGINAL RELEASE DATE: AUGUST 21, 2020

SCALE 30 0 30 IN FEET

Sheet: E1.0



1 ELECTRICAL PLAN
E2.1 SCALE: 1"=30'-0"

KEYED NOTES:

1. PROPOSED UTILITY PAD MOUNTED TRANSFORMER , COORDINATE WITH DOMINION ENERGY FOR EXACT LOCATION. PROVIDE METERING PER UTILITY COMPANY REQUIREMENTS. CONCRETE PAD BY UTILITY COMPANY.
2. NEW NEMA 3R PANEL. SEE DETAIL 5/E3.1 FOR MOUNTING AND DETAIL 6/E3.1 FOR RISER INFORMATION.
3. POWERPACK SERVICE OUTLETS. SEE DETAIL 3/E3.1 FOR MORE INFORMATION. TYPICAL FOR ALL SHOWN.
4. EXISTING 200A 1 PHASE SERVICE. EXISTING METER TO REMAIN. DEMOLISH EXISTING UNDER GROUND SERVICE FROM OVERHEAD UTILITY POLE. PROVIDE NEW CONDUIT AND WIRE AS SHOWN TO NEW PAD MOUNTED TRANSFORMER T3.
5. DEMOLISH EXISTING 200A 1 PHASE SERVICE. REMOVE EXISTING UNDER GROUND SERVICE FROM OVERHEAD UTILITY POLE AND UNDER GROUND BRANCH CIRCUIT TO GFCI RECEPTACLE AT SEATING AREA.
6. REMOVE EXISTING GFCI RECEPTACLE ON COLUMN AT SEATING AREA.PROVIDE NEW CONDUIT AND WIRE SHOWN TO PANEL "MP5". PROVIDE NEW WEATHERPROOF GFCI RECEPTACLE AND "IN USE" COVER, ALL SURFACE MOUNT AND OR EXPOSED CONDUIT SHALL BE RIGID METAL.
7. DEMOLISH EXISTING 200A 1 PHASE SERVICE BEING SERVED OVERHEAD FROM UTILITY POLE IN ITS ENTIRETY.
8. STUB UP CONDUITS THIS LOCATION FOR FUTURE SIGN.
9. 3" CONDUIT SLEEVE STUBBED ACROSS ROADWAY FOR FUTURE. PROVIDE CONCRETE MARKER AS PER DETAIL 1 ON SHEET E3.1. COORDINATE EXACT LOCATION WITH OWNER.
10. GROUND FLOODS FOR FLAG POLES. SEE FIXTURE SCHEDULE AND MOUNTING DETAIL ON SHEET E1.0. THESE THREE (3) FLOOD LIGHTS ARE NOT TO BE PROVIDED WITH AN INTEGRAL PHOTOCELL.ROUTE HOMERUN CIRCUIT THRU A PHOTOCELL CONTROLLED BY A DIGITAL TIME CLOCK . LOCATE PHOTOCELL AND TIME CLOCK AT/ON PANEL "MP5" COORDINATE WITH OWNER TIME CLOCK SETTINGS.
11. PROVIDE A 30A 240V SINGLE PHASE NEMA 3R SIX (6) CIRCUIT LOADCENTER. COORDINATE CONNECTION TO NEW ROADWAY SIGN. SEE FIXTURE SCHEDULE AND MOUNTING DETAIL ON SHEET E1.0 FOR FLOODLIGHTS.
12. PROVIDE TWO (2) 3" CONDUITS WITH PULL STRING FOR AIKEN COUNTY LOW VOLTAGE, AND ROUTE PER KEYED NOTE 16 BELOW.
13. PROVIDE ONE (1) 3" CONDUIT WITH PULL STRING FOR LOW VOLTAGE UTILITY PROVIDER.
14. PROVIDE QUAZITE BOXES FOR EACH GROUP OF CONDUITS.
15. EXTEND CONDUITS TO REAR OF PROPERTY IN VICINITY OF THE MAINTENANCE BUILDING. COORDINATE WITH AIKEN COUNTY.
16. CONDUITS SHALL BE STUBBED INTO THE EXISTING AIKEN COUNTY BUILDING. COORDINATE EXACT TERMINATION LOCATION WITH OWNER PRIOR TO INSTALLATION. CONDUITS SHALL BE ROUTED UP ON EXTERIOR OF BUILDING AND TURN IN ABOVE ACCESSIBLE CEILING UTILIZING "LB'S". PAINT CONDUIT TO MATCH BUILDING.
17. TURN UP WITH RIGID ELBOW AND MOUNT ON NEAREST POST. PROVIDE GFCI WITH "LOCKABLE" WEATHERPROOF COVERS.

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASE FOR BID

REVISION BLOCK

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS TO LOCATE EQUIPMENT OR OUTLETS.
2. THE ELECTRICAL DRAWINGS ARE ONLY A PART OF THE CONTRACT DOCUMENTS. ALL OF THE DRAWINGS AND SPECIFICATIONS MUST BE REVIEWED FOR THEIR INTERRELATIONSHIP AND REQUIRED COORDINATION BETWEEN DISCIPLINES.
3. COORDINATE WITH UTILITY COMPANY DOMINION ENERGY FOR THE DISCONNECT OF EXISTING SERVICES. PROVIDE NEW SERVICE EQUIPMENT AS SHOWN AND DESCRIBED IN THESE DRAWINGS. ALL NEW SERVICES SHALL BE UNDER GROUND, NO EXCEPTIONS.

AIKEN COUNTY PARKS, RECREATION & TOURISM

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EDC PROJECT #: 20005

PLANNING & CIVIL ENGINEERING BY:

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PROJECT TITLE:

Aiken County
Langley Pond Park
Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

ELECTRICAL PLAN

SOUTH CAROLINA
ELECTRICAL DESIGN CONSULTANTS, INC.
No. C01139
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
NO. 22000
J. TOM BRINSON
08-21-20

JOB NO:	19020024
DRAWN BY:	KH
CHECKED BY:	TB
DRAWING FILE:	
DRAWING SCALE:	AS NOTED
ORIGINAL RELEASE DATE:	AUGUST 21, 2020

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SCALE IN FEET

Sheet: E2.1

VOLTAGE 240/120
PHASE 1 WIRE 3

PANEL MP1

MAIN AMPS 200

LOCATION EXTERIOR
MOUNTING SURFACE
MAIN BREAKER

SERVING	VA	BREAKER AMPS	P	CKT NO.	CKT NO.	P	BREAKER AMPS	VA	SERVING
POWER PEDASTAL 1	7600	40	2	1	2	2	30	3200	ROADWAY SIGN & INFO BOARD
				3	4				
SPARE		40	2	5	6	2	40		SPARE
				7	8				
SPARE		20	1	9	10	1	20		SPARE
SPARE		20	1	11	12	1	20		SPARE
				13	14	1	20		SPARE
				15	16	1	20		SPARE
				17	18				
				19	20				
				21	22				
				23	24				

REMARKS:
– PROVIDE NEMA 3R ENCLOSURE
– 22,000 AIC RATED

VOLTAGE 240/120
PHASE 1 WIRE 3

PANEL MP2

MAIN AMPS 200

LOCATION EXTERIOR
MOUNTING SURFACE
MAIN BREAKER

SERVING	VA	BREAKER AMPS	P	CKT NO.	CKT NO.	P	BREAKER AMPS	VA	SERVING
POWER PEDESTAL 1	7600	40	2	1	2	2	40	7600	POWER PEDESTAL 2
				3	4				
POWER PEDESTAL 3	7600	40	2	5	6	2	40	7600	POWER PEDESTAL 4
				7	8				
SPARE		40	2	9	10	2	40	7600	POWER PEDESTAL 5
				11	12				
SPARE		20	1	13	14	1	20		SPARE
SPARE		20	1	15	16	1	20		SPARE
SPARE				17	18				
				19	20				
				21	22				
				23	24				

REMARKS:
– PROVIDE NEMA 3R ENCLOSURE
– 22,000 AIC RATED

VOLTAGE 240/120
PHASE 1 WIRE 3

PANEL MP3

MAIN AMPS 200

LOCATION EXTERIOR
MOUNTING SURFACE
MAIN BREAKER

SERVING	VA	BREAKER AMPS	P	CKT NO.	CKT NO.	P	BREAKER AMPS	VA	SERVING
POWER PEDESTAL 1	7600	40	2	1	2	2	40	7600	POWER PEDESTAL 2
				3	4				
POWER PEDESTAL 3	7600	40	2	5	6	2	40	7600	POWER PEDESTAL 4
				7	8				
POWER PEDESTAL 5	7600	40	2	9	10	2	40	7600	POWER PEDESTAL 6
				11	12				
POWER PEDESTAL 7	7600	40	2	13	14	1	20		SPARE
				15	16	1	20		SPARE
SPARE		20	1	17	18	1	20		SPARE
SPARE		20	1	19	20	1	20		SPARE
				21	22				
				23	24				

REMARKS:
– PROVIDE NEMA 3R ENCLOSURE
– 22,000 AIC RATED

VOLTAGE 240/120
PHASE 1 WIRE 3

PANEL MP4

MAIN AMPS 200

LOCATION EXTERIOR
MOUNTING SURFACE
MAIN BREAKER

SERVING	VA	BREAKER AMPS	P	CKT NO.	CKT NO.	P	BREAKER AMPS	VA	SERVING
POWER PEDESTAL 1	7600	40	2	1	2	2	40	7600	POWER PEDESTAL 2
				3	4				
POWER PEDESTAL 3	7600	40	2	5	6	2	40	7600	POWER PEDESTAL 4
				7	8				
POWER PEDESTAL 5	7600	40	2	9	10	2	40	7600	POWER PEDESTAL 6
				11	12				
SPARE		40	2	13	14	2	40		SPARE
				15	16				
				17	18	1	20		SPARE
				19	20	1	20		SPARE
SPARE		20	1	21	22	1	20		SPARE
SPARE		20	1	23	24	1	20		SPARE

REMARKS:
– PROVIDE NEMA 3R ENCLOSURE
– 22,000 AIC RATED

VOLTAGE 240/120
PHASE 1 WIRE 3

PANEL MP5

MAIN AMPS 200

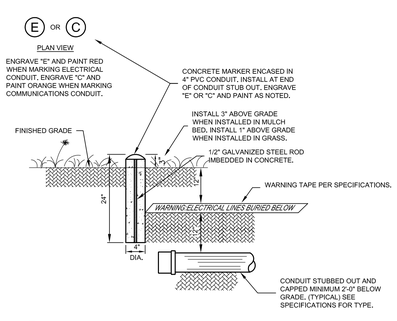
LOCATION EXTERIOR
MOUNTING SURFACE
MAIN BREAKER

SERVING	VA	BREAKER AMPS	P	CKT NO.	CKT NO.	P	BREAKER AMPS	VA	SERVING
POWER PEDESTAL 1	7600	40	2	1	2	2	40	7600	POWER PEDESTAL 2
				3	4				
SPARE		40	2	5	6	2	40		SPARE
				7	8				
PATHWAY RECPT	1800	20	1	9	10	1	20	2800	FLAG POLE FLOODS
SPARE		20	1	11	12	1	20	1875	SEATING AREA LTS & RECPT
SPARE		20	1	13	14	1	20	1500	GRILL AREA RECPT
SPARE		20	1	15	16	1	20		SPARE
SPARE		20	1	17	18	1	20		SPARE
SPARE		20	1	19	20	1	20		SPARE
				21	22				
				23	24				

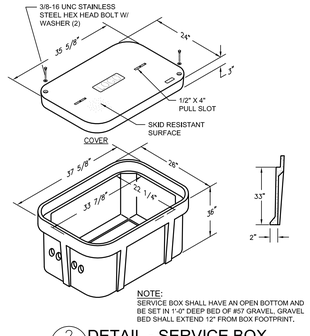
REMARKS:
– PROVIDE NEMA 3R ENCLOSURE
– 22,000 AIC RATED

REV. NO.	DATE	DESCRIPTION
	08/28/2020	RELEASE FOR BID

REVISION BLOCK

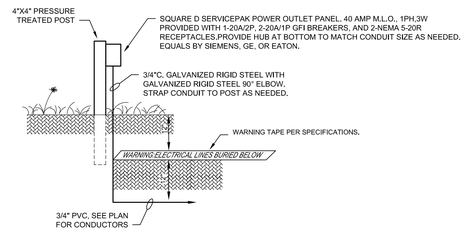


1 E3.1 DETAIL - CONCRETE MARKER DETAIL
SCALE: NONE

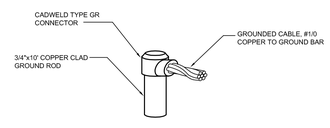


NOTE:
SERVICE BOX SHALL HAVE AN OPEN BOTTOM AND BE SET IN 1'-0" DEEP BED OF #57 GRAVEL. GRAVEL BED SHALL EXTEND 12" FROM BOX FOOTPRINT.

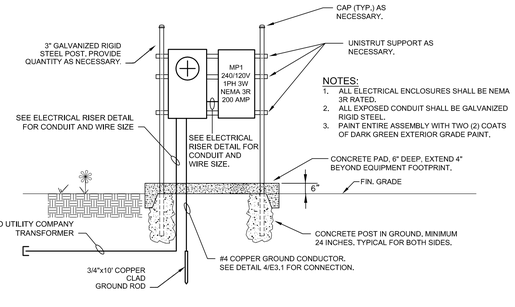
2 E3.1 DETAIL - SERVICE BOX
SCALE: NONE



3 E3.1 SERVICEPAK POWER OUTLET PANELS (TYPICAL FOR ALL)
SCALE: NONE

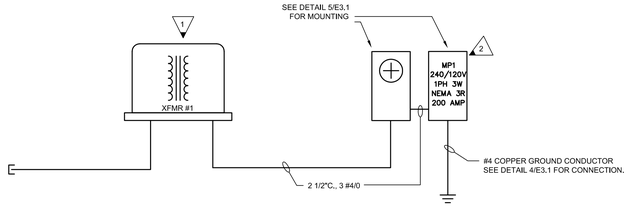


4 E3.1 DETAIL - CABLE CONNECTION TO GROUND ROD
SCALE: NONE



NOTES:
1. ALL ELECTRICAL ENCLOSURES SHALL BE NEMA 3R RATED.
2. ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL.
3. PAINT ENTIRE ASSEMBLY WITH TWO (2) COATS OF DARK GREEN EXTERIOR GRADE PAINT.

5 E3.1 ELECTRICAL PANEL MOUNTING DETAIL (TYPICAL ALL)
SCALE: NONE



6 E3.1 ELECTRICAL RISER (TYPICAL)
SCALE: NONE

KEYED NOTES:

1. UTILITY COMPANY PAD MOUNTED TRANSFORMER. COORDINATE WITH UTILITY COMPANY FOR EXACT LOCATION. PROVIDE METERING PER UTILITY COMPANY REQUIREMENTS CONCRETE PAD IS PROVIDED BY UTILITY COMPANY.
2. CONTRACTOR SHALL FIELD MARK SERVICE EQUIPMENT IN ACCORDANCE WITH NEC 110.24 IN REGARD TO MAXIMUM AVAILABLE FAULT CURRENT. MARKING SHALL CLEARLY DENOTE MAXIMUM AVAILABLE FAULT CURRENT AND INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED. DIVISION 16 SHALL BE RESPONSIBLE FOR OBTAINING AVAILABLE FAULT CURRENT AT TRANSFORMER FROM LOCAL UTILITY. PERFORM CALCULATIONS BASED ON SUCH.

AIKEN COUNTY PARKS, RECREATION & TOURISM

ELECTRICAL DESIGN BY:

ELECTRICAL DESIGN CONSULTANTS, INC.
ELECTRICAL ENGINEERS
1201 BROAD ST., SUITE 1-A
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EDC PROJECT #: 20005

PLANNING & CIVIL ENGINEERING BY:

benesch
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1005 Broad Street, Suite 200
Augusta, GA 30901
P 706.722.4114
www.benesch.com

PROJECT TITLE:

Aiken County Langley Pond Park Phase 1

PREPARED FOR:

Aiken County Parks, Recreation, & Tourism Department

SHEET TITLE:

PANEL SCHEDULES AND DETAILS PLAN

SOUTH CAROLINA ELECTRICAL DESIGN CONSULTANTS, INC. No. C01139 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 35090 JOHN BRINSON, III
08-21-20

JOB NO:	19020024
DRAWN BY:	KH
CHECKED BY:	TB
DRAWING FILE:	
DRAWING SCALE:	AS NOTED
ORIGINAL RELEASE DATE:	AUGUST 21, 2020

30 0 30
SCALE IN FEET

Sheet: E3.1