



City of Charleston

HOWLE AVENUE STORMWATER RETROFIT LANDSCAPE PROJECT

To: All Prospective Bidders

Subject: Addendum 01

Date: 05/13/2025

This addendum modifies the Contract Documents only in the manner and to the extent stated herein and on any accompanying drawings. This addendum will become part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

Bidder shall acknowledge receipt of the Addendum in the space provided on the bid form. Failure to do so may constitute informality in the bid.

a. Changes to prior Addenda

- a. None with this addendum.

b. Changes to Bidding Requirements

- a. None with this addendum.

c. Changes to the Specifications

- a. None with this addendum.

d. Changes to the Drawings

- a. Revised the Gravel-lok Detail on sheet C6-00 for clarity. To use 4" Cell-Tek.

e. Clarifications

- a. The following clarifications are provided
 - i. None with this addendum.
- b. The following questions have been submitted by Bidders
 - i. None with this addendum

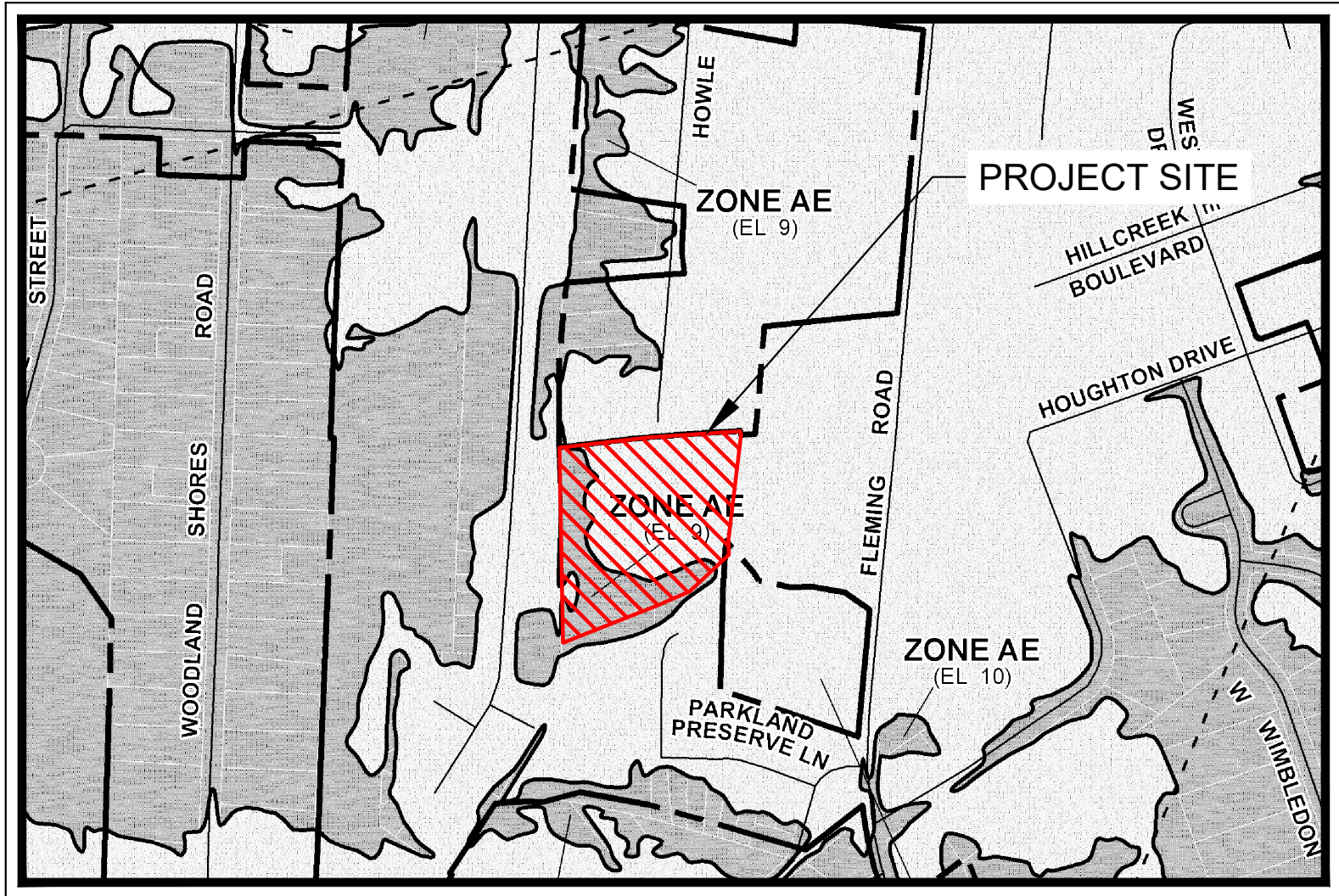
Addendum 01
Howle Avenue Stormwater Retrofit Landscape Project
05/13/2025
Page 2

If you have any questions, please feel free to call 843-724-3764 or e-mail cavet@charleston-sc.gov.

END OF ADDENDUM 01

Drawing name: K:\CHA_LDEV\013156 City of Charleston\008 Howle Ave\02 - DWG\PlanSheets\CO-00 - COVER SHEET.dwg CO-00 COVER SHEET Mar 25, 2025 8:16am By: evan.macle
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

CIVIL CONSTRUCTION DRAWINGS
FOR
HOWLE AVE STORMWATER RETROFIT
HOWLE AVE, CITY OF CHARLESTON, SC 29412



FEMA MAP

THE PROJECT SITE DOES LIE WITHIN FLOOD HAZARD ZONE AE PER FIRM
PANEL 45019C0513K DATED 01/29/2021.

PROJECT CONTACTS

OWNER / APPLICANT: CITY OF CHARLESTON
2 GEORGE ST, SUITE 2100
PHONE: (843) 724-3764
CONTACT: TARLETON CAVE JR.

LANDSCAPE ARCHITECT: KIMLEY-HORN & ASSOCIATES, INC.
115 FAIRCHILD STREET, SUITE 250
CHARLESTON, SC 29492
PHONE: (843) 823-6793
CONTACT: ANDREW TODD-BURKE, P.L.A.
EMAIL: ANDREW.TODD-BURKE@KIMLEY-HORN.COM

CIVIL ENGINEER: KIMLEY-HORN & ASSOCIATES, INC.
115 FAIRCHILD STREET, SUITE 250
CHARLESTON, SC 29492
PHONE: (843) 737-6390
CONTACT: THOMAS PURCELL, P.E.
EMAIL: THOMAS.PURCELL@KIMLEY-HORN.COM

SWPPP CERTIFICATION:

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.

ADA NOTE:

THE PUBLIC 10-FT PATH WILL BE ADA COMPLIANT.

PARCEL NO.: 343-07-00-055
ZONING: SR-4 (SINGLE FAMILY RESIDENTIAL)

CITY OF CHARLESTON, SC

PROPERTY AREA = 3.65 ACRES
TOTAL DISTURBED AREA = 2.5 ACRES

CITY OF CHARLESTON PROJECT ID #: TRC-SP2023-000695

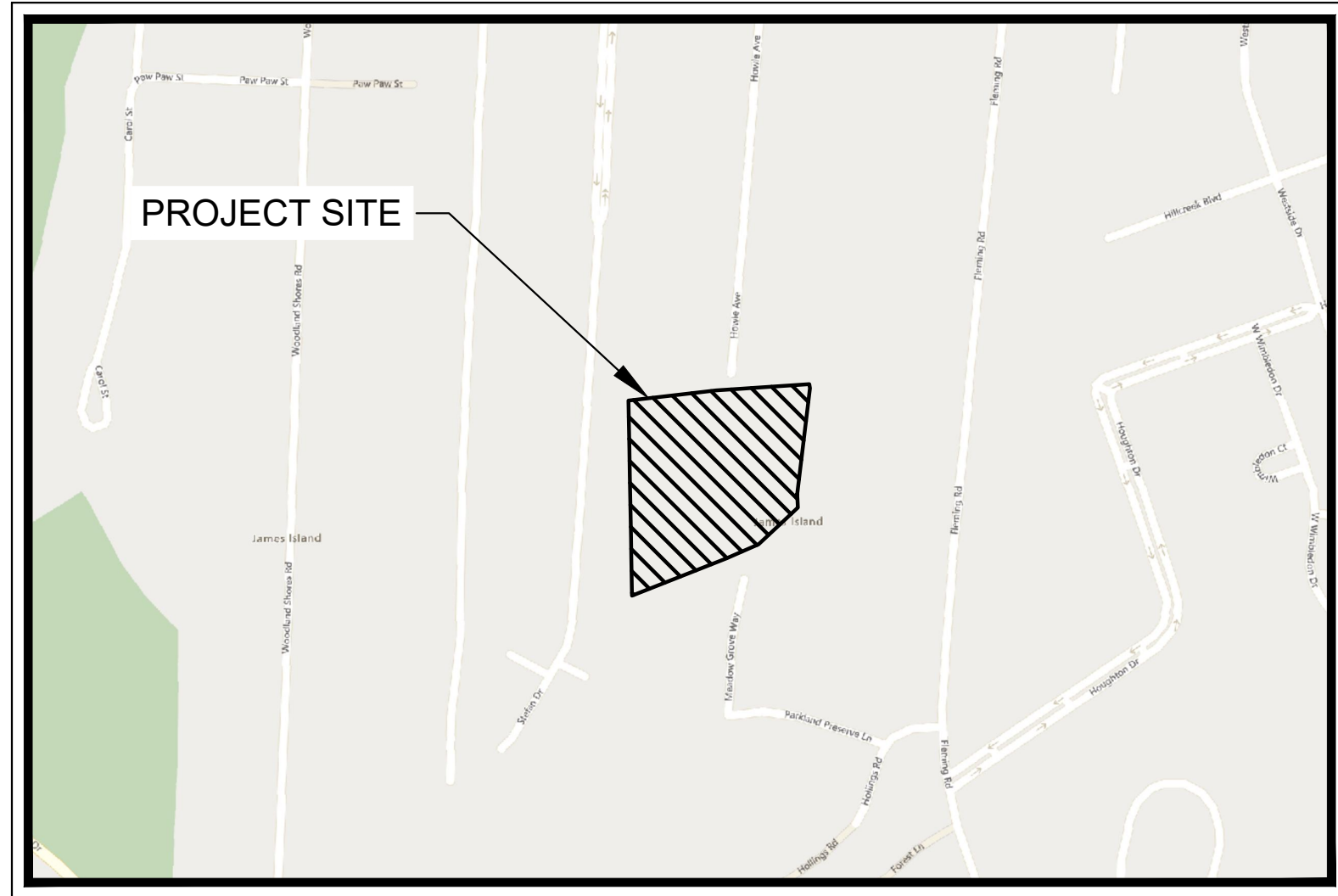
PROJECT NARRATIVE:

THE PROJECT PROPOSES THE REDEVELOPMENT OF A 3.65 ACRE UNDEVELOPED PARCEL OF LAND TO PROVIDE ADDITIONAL FLOODPLAIN STORAGE OF APPROXIMATELY 1.42 AC-FT. ADDITIONALLY, THE PROJECT WILL INCLUDE THE CONSTRUCTION OF A PEDESTRIAN PATH, AND LANDSCAPING. THE OVERALL PROJECT DISTURBED AREA IS 2.5 ACRES. APPROXIMATELY 0.12 AC OF JURISDICTIONAL WETLANDS AND 0.02 AC OF NON-JURISDICTIONAL WETLANDS WILL BE IMPACTED. THE PROJECT WILL NOT INCREASE IMPERVIOUS COVERAGE FOR THE PROPOSED IMPROVEMENTS.

ALL ELEVATIONS SHOWN ARE BASED ON NAVD 88.

NOTES:

- ATTENTION IS DRAWN TO THE FACT THAT THE SCALE OF THESE DRAWINGS MAY HAVE BEEN DISTORTED DURING THE REPRODUCTION PROCESS. THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.
- IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE **CONTRACTOR** MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.
- THE APPROVAL OF THESE PLANS AND THE ISSUANCE OF THIS LAND DISTURBANCE PERMIT DOES NOT IN ANY WAY SUGGEST THAT ALL OTHER REQUIREMENTS FOR THE LEGAL OR APPROPRIATE OPERATIONS FOR THIS ACTIVITY, WHICH MAY REQUIRE ADDITIONAL PERMITTING HAVE BEEN MET. THE ONUS IS ON THE OWNER/DEVELOPER/ BUILDER TO DISCOVER WHAT ADDITIONAL PERMITTING OR APPROVALS MAY BE NECESSARY TO OPERATE FROM THIS POINT IN AN APPROPRIATE AND LEGAL MANNER. PLAN APPROVAL OR PERMIT ISSUANCE DOES NOT ABSOLVE THE APPLICANT FROM COMPLYING WITH ALL APPLICABLE LAWS, STANDARDS, OR OTHER PERMITS WHICH MAY BE REQUIRED FOR THIS PROJECT.



VICINITY MAP

N.T.S.

CIVIL SHEET INDEX

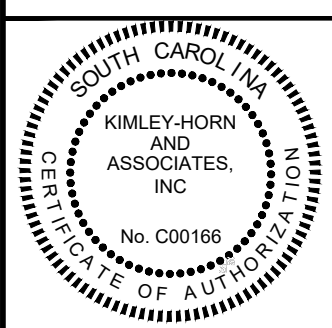
REVISION	SHEET NUMBER	SHEET TITLE
5	C0-00	COVER SHEET
5	C0-01	GENERAL NOTES
5	C1-00	EXISTING CONDITIONS AND DEMOLITION PLAN
5	C3-00	SITE, GRADING & DRAINAGE PLAN
5	C5-10	EROSION CONTROL PLAN PHASE 1
5	C5-20	EROSION CONTROL PLAN PHASE 2
5	C5-30	EROSION CONTROL PLAN PHASE 3
5	C6-80	EROSION CONTROL DETAILS
5	C6-00	CONSTRUCTION DETAILS
4	L1-00	LANDSCAPE PLAN
2	L1-01	LANDSCAPE DETAILS
2	L1-02	LANDSCAPE DETAILS - SEED MIX

STORMWATER DESIGN STANDARDS MANUAL (SWDSM)
DESIGN EXCEPTIONS

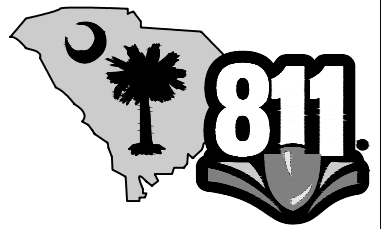
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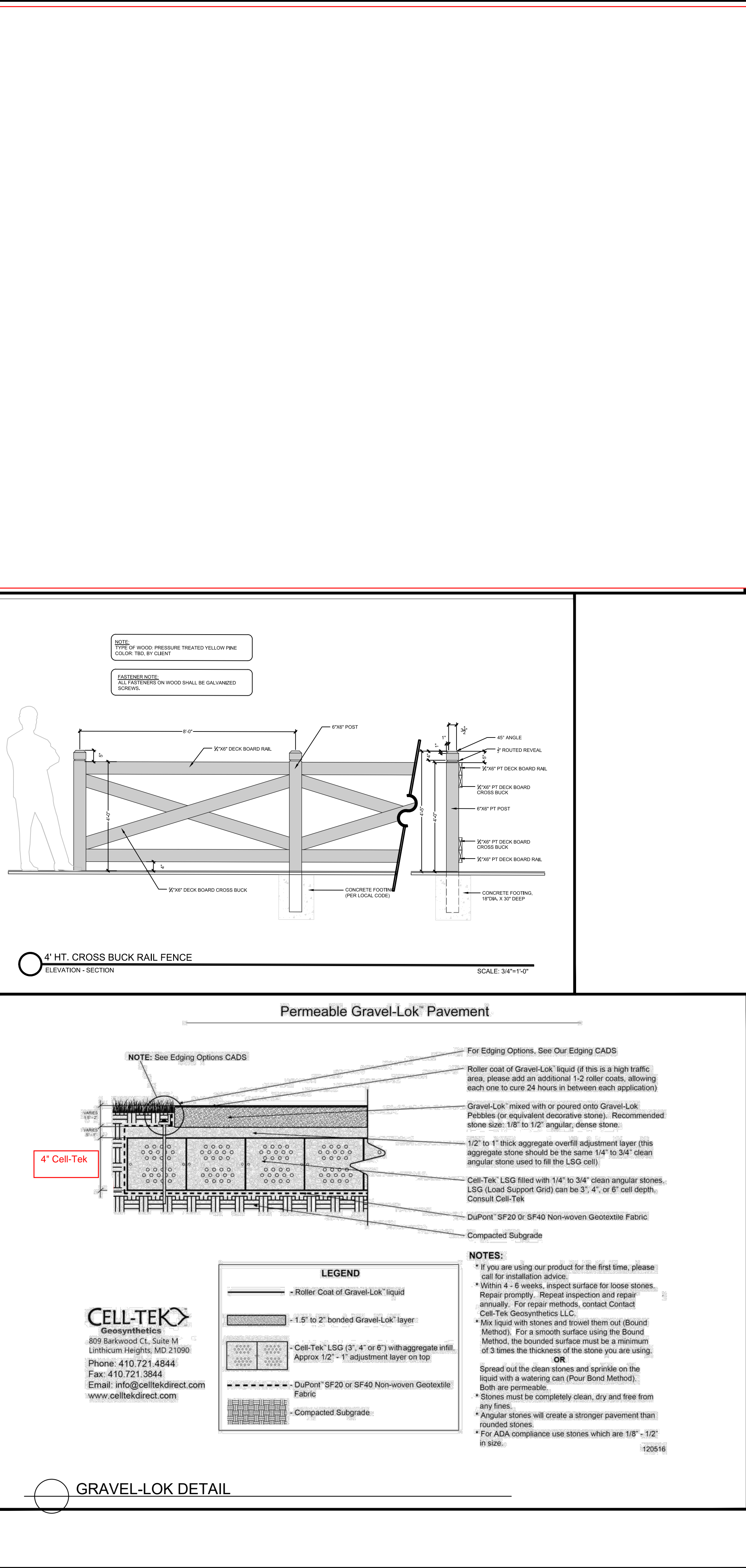
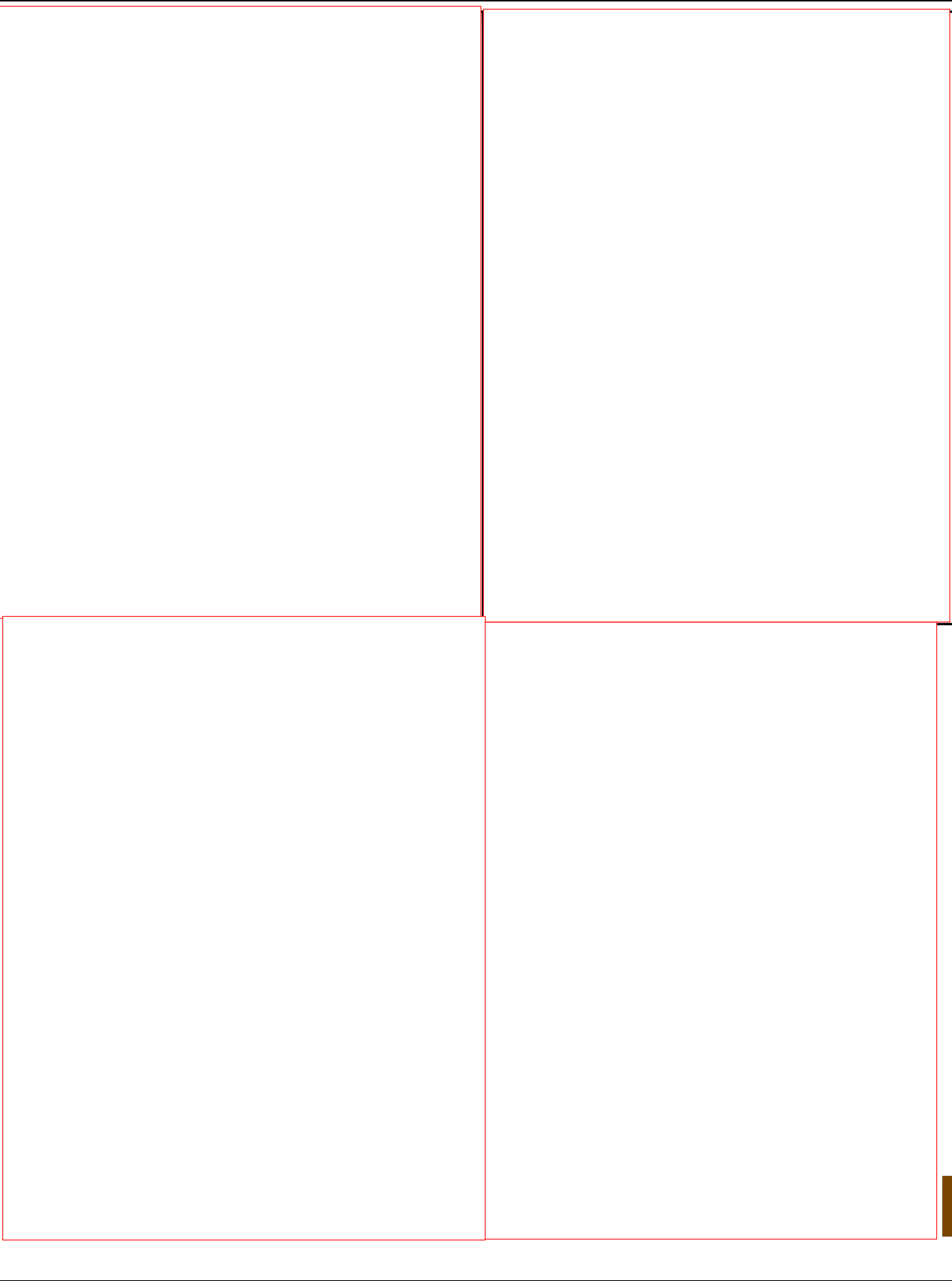
PROJECT:	HOWLE AVE STORMWATER RETROFIT HOWLE AVE, CITY OF CHARLESTON, SC 29412	DATE	09/18/2023
TITLE:	COVER SHEET	PROJECT NO.	013156008
		SHEET NUMBER	C0-00
CLIENT:	CITY OF CHARLESTON 2 GEORGE ST SUITE 2100 CHARLESTON, SC 29401 PHONE: 843.724.3764	ISSUED FOR CONSTRUCTION	5
		REISSUED PER CITY OF CHARLESTON COMMENTS	4
		REISSUED PER CITY OF CHARLESTON AND SCDOT COMMENTS	3
		REISSUED PER CITY OF CHARLESTON COMMENTS	2
		ISSUED FOR PERMIT REVIEW	1
		ISSUED FOR PRE-APP MEETING	0
		REVISIONS	No.
		DATE	BY




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1080 MORRISON DRIVE, SUITE 240
CHARLESTON, SOUTH CAROLINA 29403
PHONE (843) 737-6390
WWW.KIMLEY-HORN.COM



SCALE: AS SHOWN
DRAWN BY: ARC
DESIGNED BY: JPM
CHECKED BY: JPM





PROJECT: HOWLE AVE STORMWATER RETROFIT HOWLE AVE, CITY OF CHARLESTON, SC 29412 DATE 09/18/2023 PROJECT NO. 013156008 SHEET NUMBER C6-00	CLIENT: CITY OF CHARLESTON 2 GREENE ST. SUITE 2100 CHARLESTON, SC 29401 PHONE: 843.724.3764	SCALE: AS SHOWN DRAWN BY: XROCK DESIGNED BY: XROCK CHECKED BY: XROCK	   <p>© 2024 KIMLEY-HORN AND ASSOCIATES, INC. 1080 MORRISON DRIVE, SUITE 240 CHARLESTON, SOUTH CAROLINA 29403 (843) 724-3764 WWW.KIMLEY-HORN.COM</p>	5	ISSUED FOR CONSTRUCTION	KHA	03-25-2025
				4	REISSUED PER CITY OF CHARLESTON COMMENTS	KHA	02-12-2025
				3	REISSUED PER CITY OF CHARLESTON AND SCDOT COMMENTS	KHA	08-15-2024
				2	REISSUED PER CITY OF CHARLESTON COMMENTS	KHA	04-19-2024
				1	ISSUED FOR PERMIT REVIEW	KHA	07-28-2024
				0	ISSUED FOR PRE-APP MEETING	KHA	09-18-2023
				No.	REVISIONS	BY	DATE

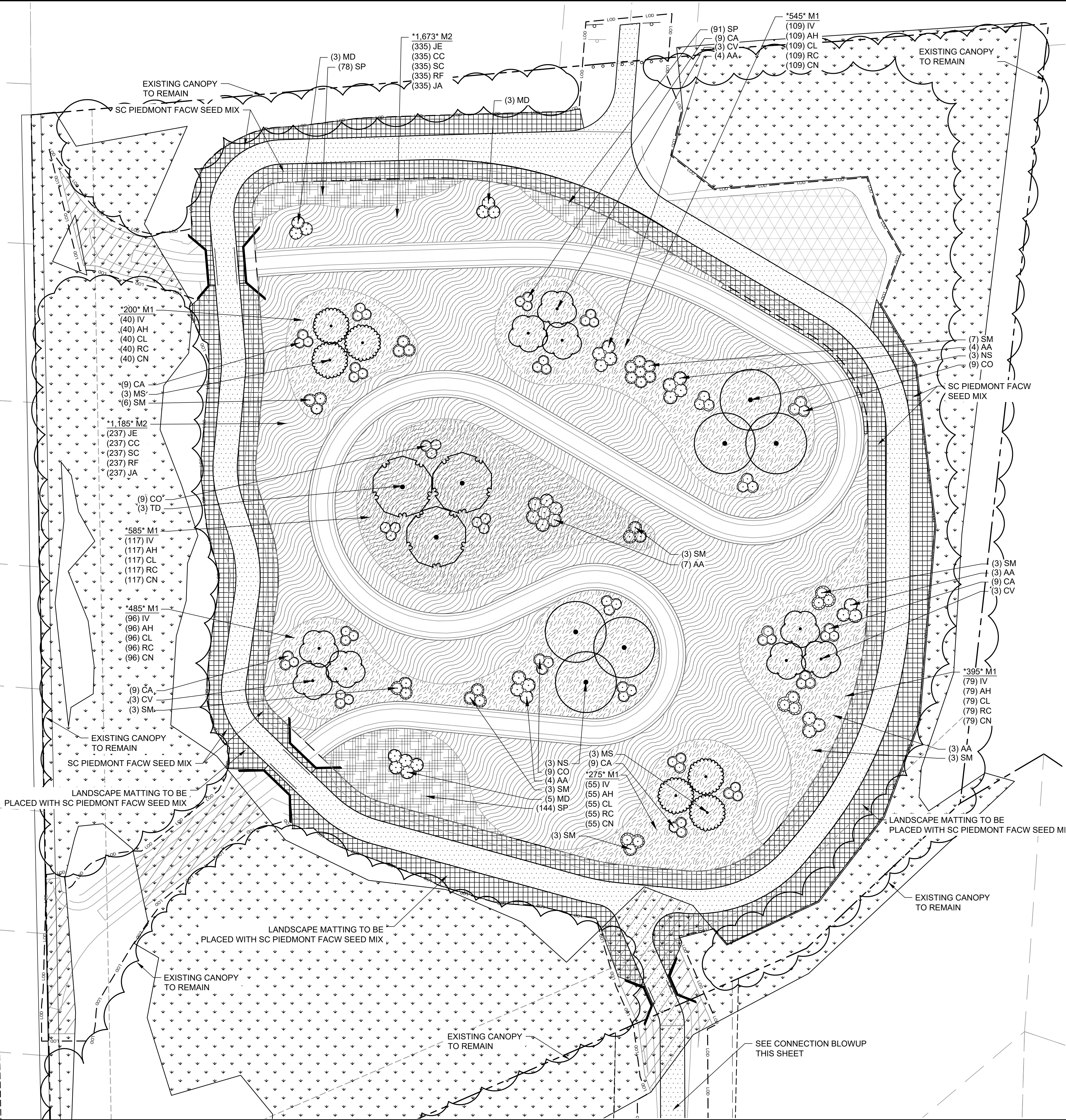
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SCALE: AS SHOWN	AS SHOWN
DRAWN BY: XPK	XPK
DESIGNED BY: XPK	XPK
CHECKED BY: XPK	XPK

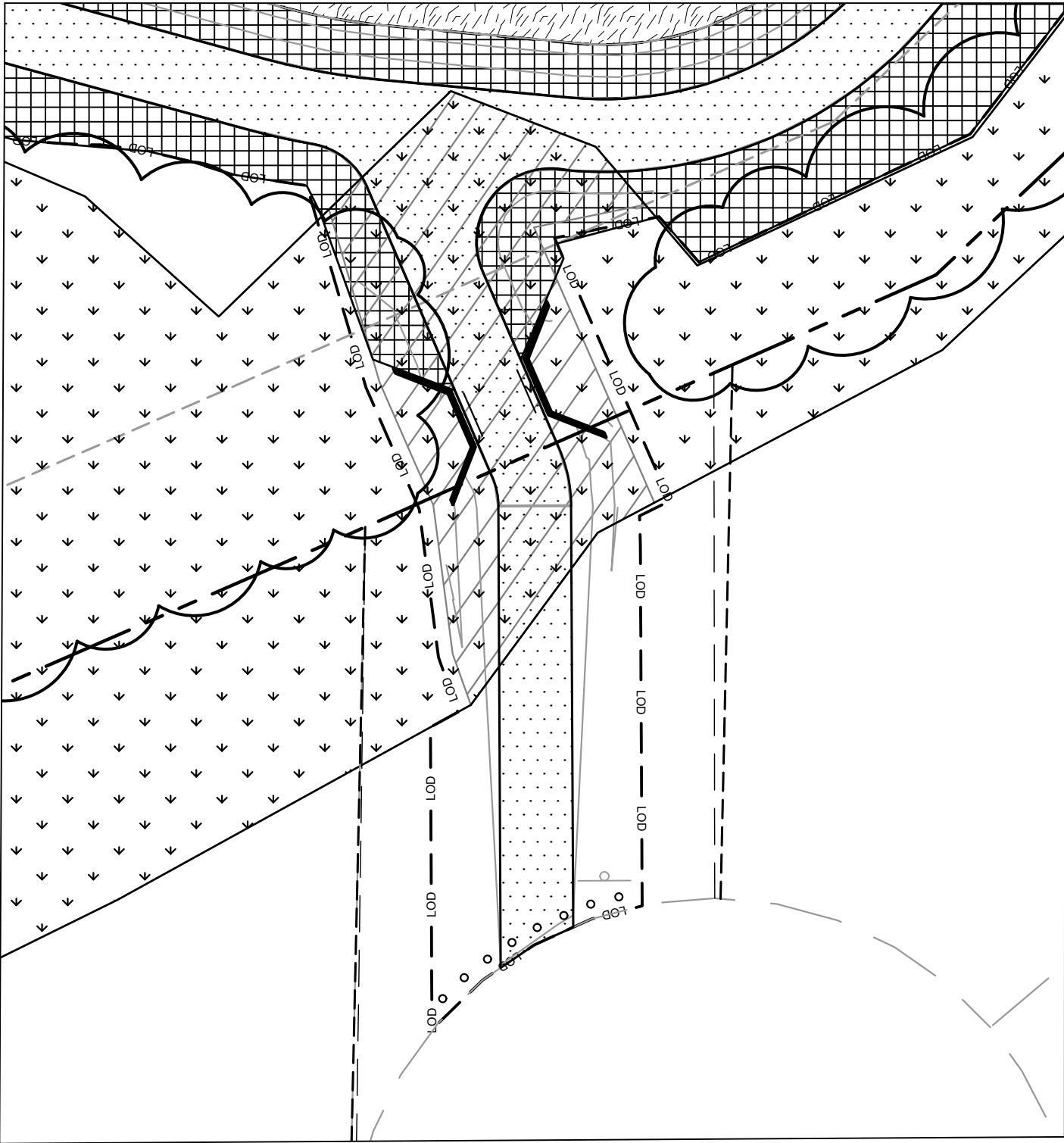
CITY OF CHARLESTON
2 GEORGE ST.
SUITE 2100
CHARLESTON, SC 29401
PHONE: 843.724.3764

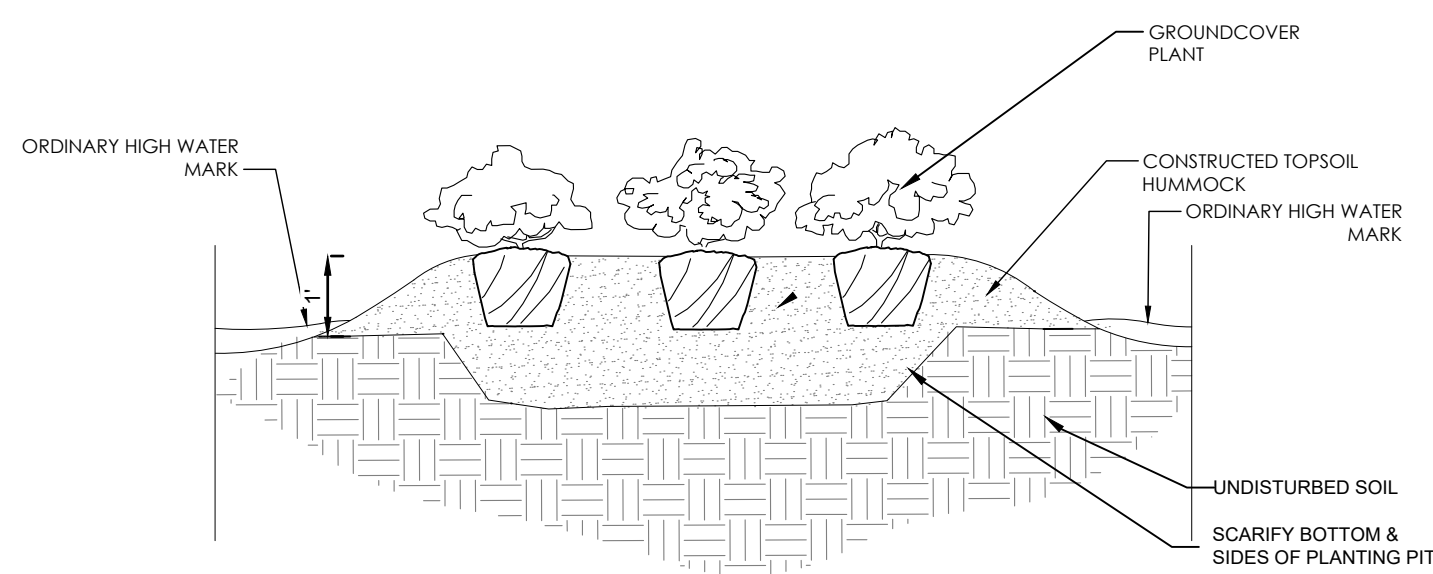


PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE	CONTAINER	HEIGHT
TREES							
	CV	9	WHITE FRINGETREE	CHIONANTHUS VIRGINICUS	1.5" CAL.	B&B	6' MIN.
	MS	6	SWEETBAY MAGNOLIA	MAGNOLIA VIRGINIANA	1.5" CAL.	B&B	6' MIN.
	NS	6	TUPELO	NYSSA SYLVATICA	2" CAL.	B&B	10' MIN.
	TD	3	BALD CYPRESS	TAXODIUM DISTICHUM	2" CAL.	B&B	10' MIN.
SHRUBS							
	AA	25	SWEET AZALEA	AZALEA ARBORESCENS	3 GAL.	POT	24" MIN.
	CO	27	BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	3 GAL.	POT	24" MIN.
	CA	45	SWEET PEPPERBUSH	CLETHRA ALTERNIFOLIA	3 GAL.	POT	24" MIN.
	MD	11	DON'S DWARF WAX MYRTLE	MORELLA CERIFERA 'DON'S DWARF'	3 GAL.	POT	24" MIN.
	SM	31	DWARF PALMETTO	SABAL MINOR	3 GAL.	POT	24" MIN.
SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE	CONTAINER	SPACING
GROUND COVERS							
	M1	2,475	GROUND COVER MIX 1	MIX 1			
	IV	495	NORTHERN BLUE FLAG	IRIS VERSICOLOR	1 GAL.	POT	36" O.C.
	AH	495	EASTERN BLUE STAR	AMSONIA HUBRICHTII	1 GAL.	POT	36" O.C.
	CL	495	SEA OATS	CHASMANTHIUM LATIFOLIUM	1 GAL.	POT	36" O.C.
	RC	495	WHITETOP SEDGE	RHYNCHOSPORA COLORATA	1 GAL.	POT	36" O.C.
	CN	495	BLUE MISTFLOWER	CONOCLINIUM COELESTINUM	1 GAL.	POT	36" O.C.
	M2	2,860	GROUND COVER MIX 2	MIX 2	1 GAL.	POT	36" O.C.
	JE	572	SOFT RUSH	JUNCUS EFFUSUS	1 GAL.	POT	36" O.C.
	CC	572	CHEROKEE SEDGE	CAREX CHEROKEENSIS	1 GAL.	POT	36" O.C.
	SC	572	LIZARD'S TAIL	SAURURUS CERNUUS	1 GAL.	POT	36" O.C.
	RF	572	ORANGE CONEFLOWER	RUBECCKIA FULGIDA	1 GAL.	POT	36" O.C.
	JA	572	AMERICAN WATER-WILLOW	JUSTITIA AMERICANA	1 GAL.	POT	36" O.C.
	SP	313	SALTMEADOW CORDGRASS	SPARTINA PATENS	1 GAL.	POT	36" O.C.
	M3	14,230SF	SC PIEDMONT FACW SEED MIX	(SEE SHEET L1-02)			

CONNECTION TO MEADOW GROVE WAY



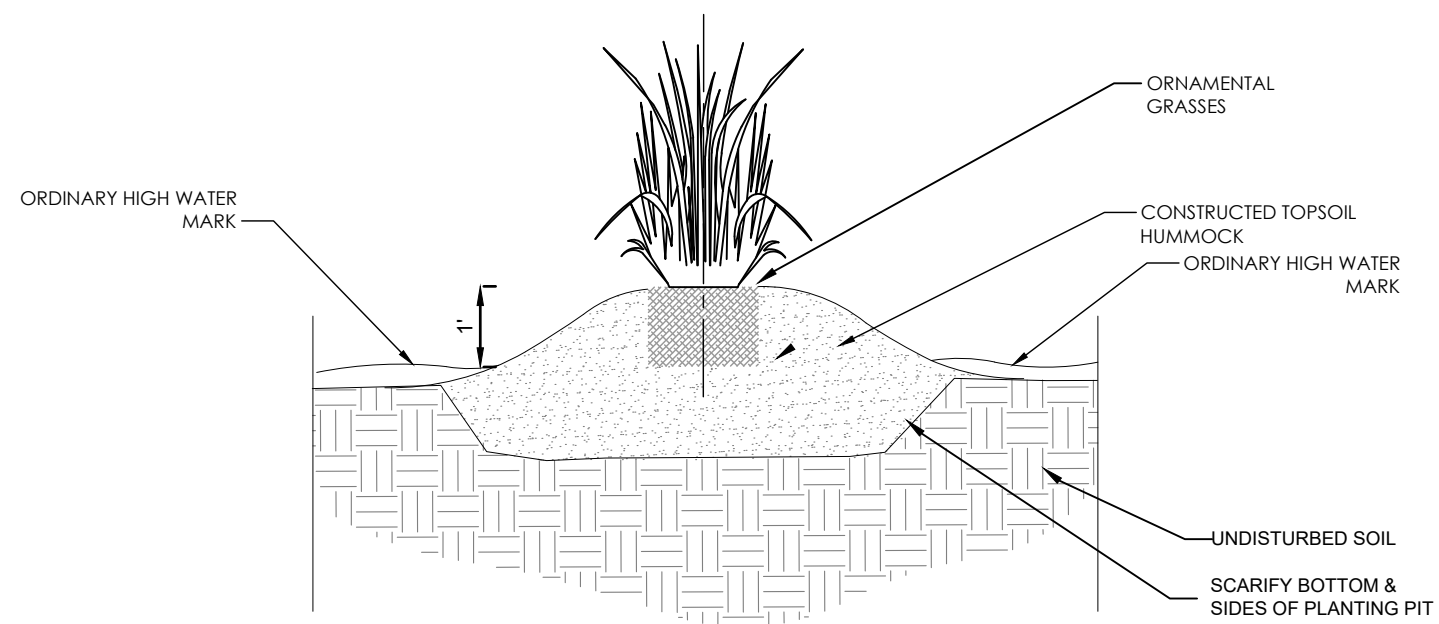


PLANTING NOTES:
1. SPLIT PLANT ROOTS WITH 2-3 EQUALLY-SPACED VERTICAL CUTS.

GROUNDCOVER & SHRUB PLANTING DETAIL

SCALE: NTS

SECTION

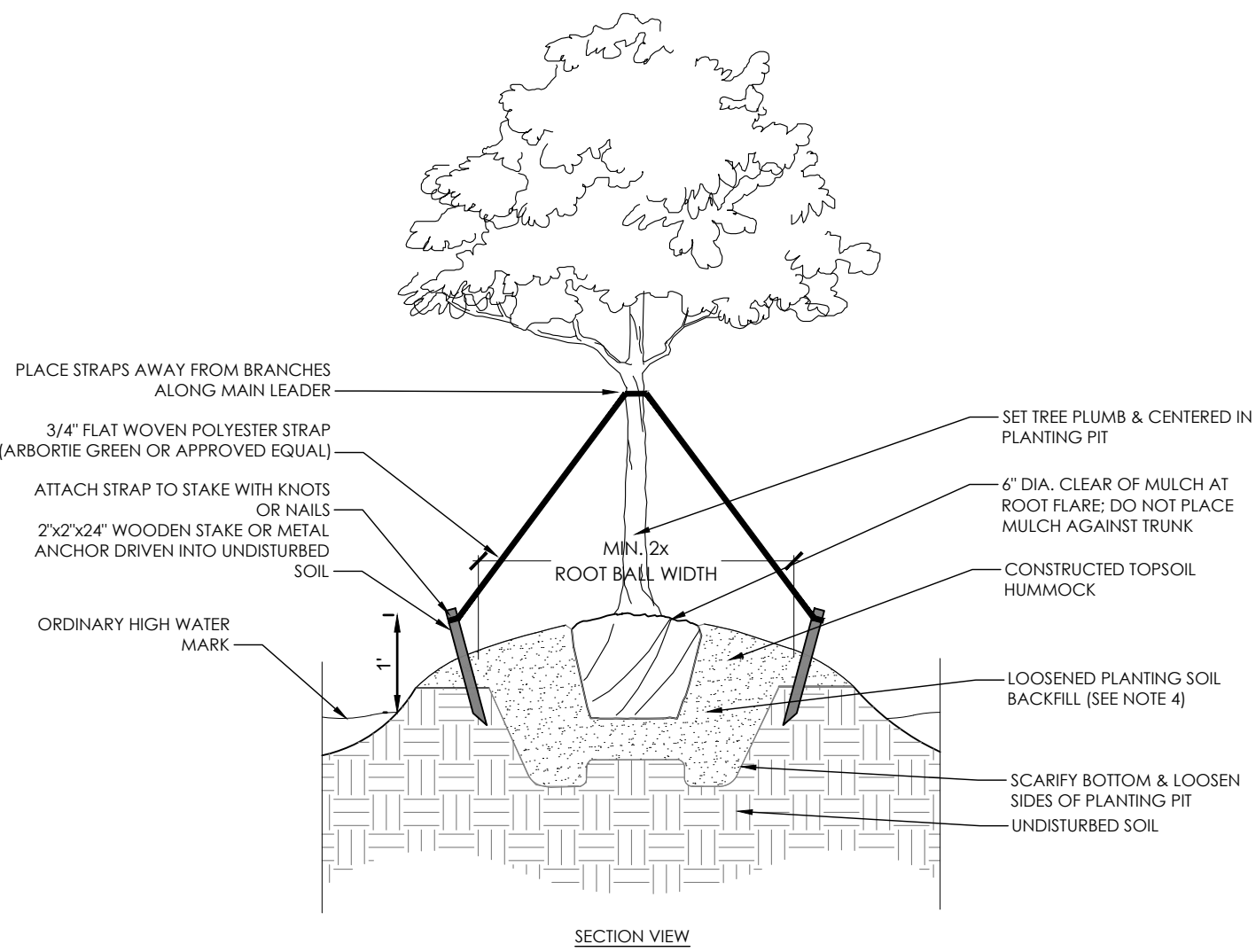


PLANTING NOTES:
1. SPLIT PLANT ROOTS WITH 2-3 EQUALLY-SPACED VERTICAL CUTS.

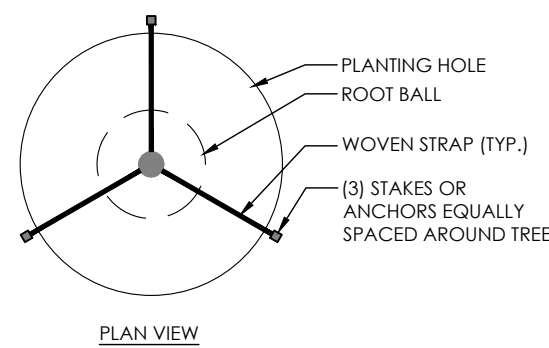
SHRUB AND ORNAMENTAL GRASS PLANTING DETAIL

SCALE: NTS

SECTION



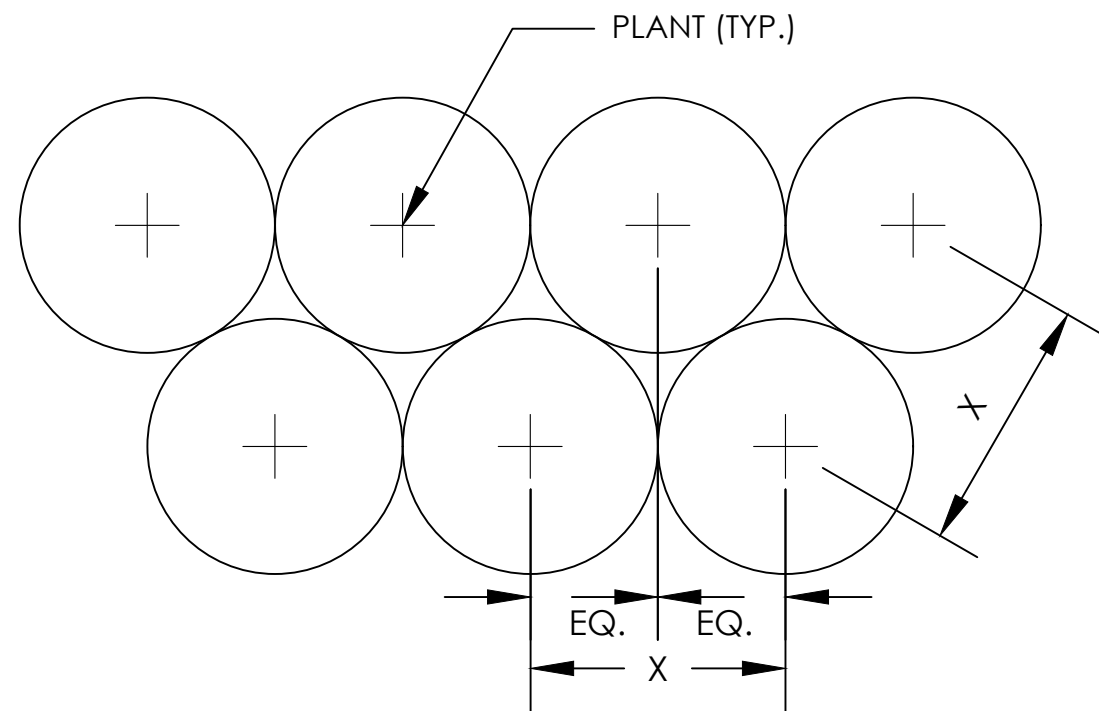
1. FOR CONTAINER PLANTS, REMOVE CONTAINER & SCARRY ROOT MASS PRIOR TO PLANTING.
2. FOR BARE ROOTED, CONIFERS, REMOVE TOP HALF OF WIRE BASKET & BURLAP MATERIAL. REMOVE ALL TWINE, ROPE & WIRE FROM ROOT BALL.
3. SET ROOT BALL ON STABLE SUBSOIL SO THAT TOP OF ROOT BALL IS 1" ABOVE FINISHED GRADE. TAMP SOIL FIRMLY AROUND BOTTOM OF ROOT BALL TO SET TREE PLUMB.
4. DIG & TURN PLANTING SOIL TO REDUCE COMPACTION. LIGHTLY TAMP SOIL AROUND ROOT BALL IN 6" LIFTS TO BRACE THE TREE. DO NOT OVER-COMPACT. MIX COMPOST INTO EACH LIFT OF BACKFILL AS RECOMMENDED IN PART 4. POUR WATER AROUND ROOT BALL TO SETTLE SOIL. AND BACKFILL AS REQUIRED TO MEET REQUIRED FINISHED GRADE.
5. A 3" X 8" X 8" WIDE BRIM SHALL BE MADE AROUND THE ROOT BALL.
6. PRUNE TREES ONLY AS NEEDED TO REMOVE DEAD OR BROKEN BRANCHES.



TREE PLANTING DETAIL

SCALE: NTS

PLAN/SECTION



PLANT SPACING NOTES:

1. SEE PLANTING PLAN FOR GROUND COVER PLANTING AREAS.
2. PLANTS SHALL BE INSTALLED IN STRAIGHT AND PARALLEL ROWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
3. SEE PLANT SCHEDULE FOR PLANT SPACING REQUIREMENTS ("X" DIMENSION IN THIS DETAIL).

PLANT SPACING DETAIL

SCALE: NTS

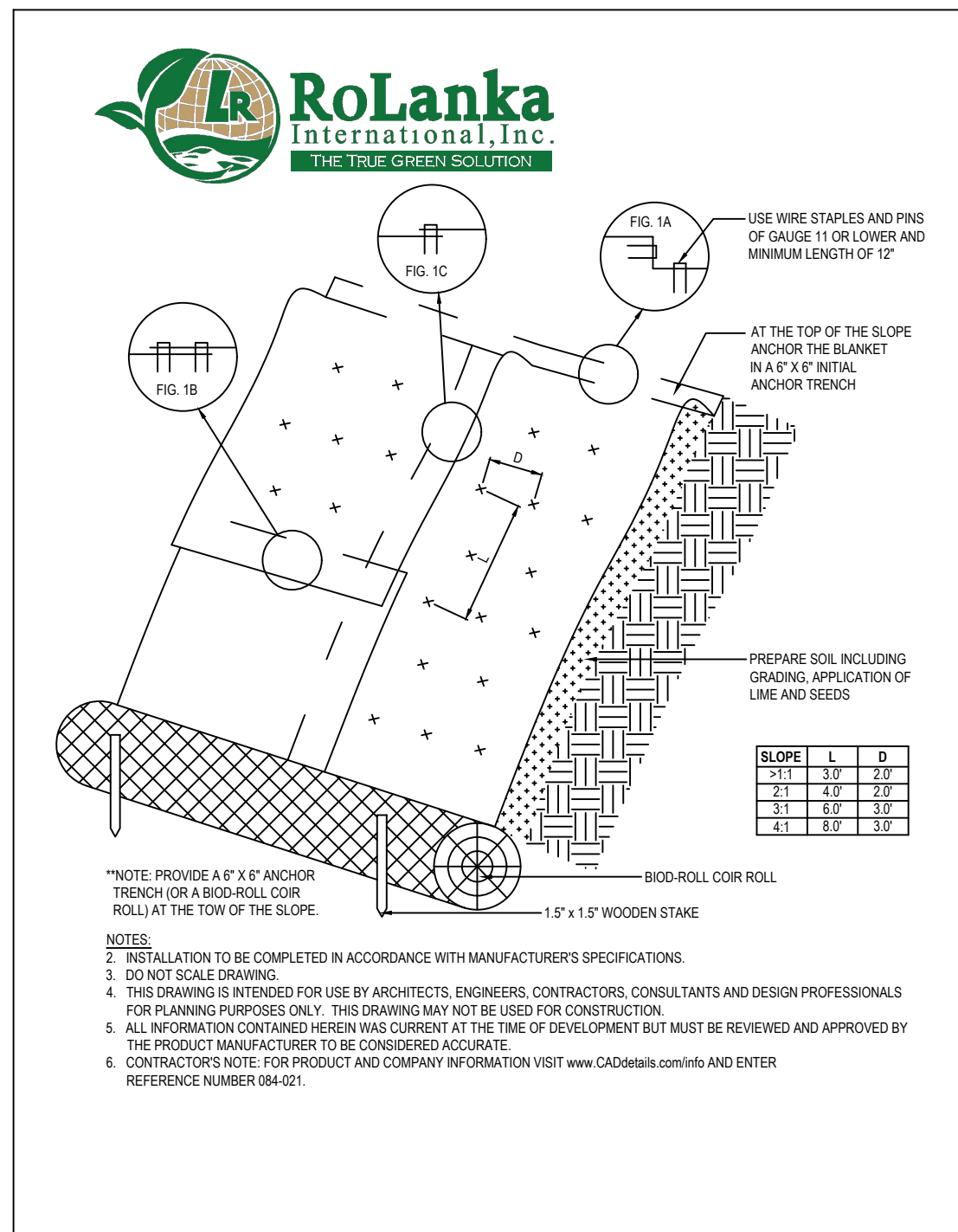
PLAN

GENERAL NOTES

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL FREE OF PESTS AND DISEASE.
2. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
3. ALL TREES MUST HAVE A STRAIGHT TRUNK AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
4. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL TREES LOCATED WITHIN VEHICLE SIGHT TRIANGLES SHALL BE BRANCHED MIN. 8" (MEASURED FROM ADJACENT PROJECTED CURB LINE ELEVATION PER ANSI Z59.1 STANDARDS) FOR HEIGHT OF BRANCHING - STREET TREES.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL UTILITY ADJUSTMENTS WITH FINAL FINISH GRADE. ALL UTILITIES SHALL SIT FLUSH WITH FINISH GRADES (BOTH PAVED AND LANDSCAPED SURFACES).
8. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THE LANDSCAPE PLANS BEFORE PRICING THE WORK. ANY DISCREPANCIES BETWEEN QUANTITIES ON PLAN AND PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT LANDSCAPE ARCHITECT AND ANY FIELD ADJUSTMENTS OR QUANTITY ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO ORDERING AND PLANTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, WEEDING, FERTILIZING, ETC.) OF THE PLANTING AREAS AND LAWN UNTIL SUBSTANTIAL COMPLETION.
10. THE CONTRACTOR SHALL COMPLETELY WARRANTED ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE WARRANTY PERIOD.
11. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIAL PRIOR TO INSTALLATION. CONTRACTOR SHALL CONTACT THE PROJECT LANDSCAPE ARCHITECT A MINIMUM OF ONE (1) WEEK IN ADVANCE TO SCHEDULE STAKING.
12. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE MEETING ALL PLANT SCHEDULE SPECIFICATIONS.
13. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
14. ALL PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH 2-4" RIVER GRAVEL. ANY EXISTING LANDSCAPE BEDS THAT ARE DISTURBED MUST BE RIVER GRAVEL TO MATCH EXISTING RIVER GRAVEL FOUND WITHIN LANDSCAPE BED.
15. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
16. SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
17. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
18. THE TOP OF ALL ROOT BALLS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE, AS BORN TO PREVIOUS GRADE AND GROWING CONDITIONS.
19. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
20. FAILURE TO INSTALL PLANT MATERIAL PER THIS PLAN WILL JEOPARDIZE ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING INSPECTIONS OF PLANT MATERIAL.
21. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES & ORDINANCES REGARDING LANDSCAPING. GENERAL CONTRACTOR IS TO CLEAN THE ENTIRE SITE OF ALL CONSTRUCTION DEBRIS PRIOR TO FINAL INSPECTION.

WETLAND & STORMWATER QUALITY OBJECTIVES

- 1. CREATE SELF SUSTAINING, HIGH FUNCTIONING WETLAND WATERCOURSE SYSTEM:** THE EXISTING WETLAND DEPRESSION IS A VERY LOW-FUNCTIONING ECOSYSTEM. THE WETLAND IS SMALL AND ISOLATED, IS DRAINED AND LACKS WETLAND HYDROLOGICAL CONDITIONS THROUGHOUT MUCH OF THE AREA. LACKS VEGETATION AND VEGETATION THAT IS NOT THOUGHT OF AS BEING A WETLAND. DEGRADES RATHER THAN IMPROVE WATER QUALITY. IT FUNCTIONS MORE AS A NON-WETLAND THAN A WETLAND. ITS SOLE WETLAND FUNCTION IS TO DETAIN STORMWATER RUNOFF. THE PROPOSED WETLAND SYSTEM WILL BE A HIGH FUNCTIONING AND LARGER WETLAND WITH WETLAND VEGETATION AND WETLAND CONDITIONS, WITH A DIVERSITY, AND ABUNDANCE OF WETLAND VEGETATION AND WILDLIFE, AND WITH THE ABILITY TO CONTINUE TO RETAIN STORMWATER RUNOFF AND THEREBY PROVIDE FLOOD CONTROL AND TREAT SURFACE WATER.
- 2. ENHANCE HYDROLOGIC CONDITIONS:** THE EXISTING SUBSURFACE DRAINAGE SYSTEM IS DISABLED. THE PROPOSED WETLAND SYSTEM WILL PROVIDE WETLAND CONDITIONS THROUGHOUT EXISTING AND PROPOSED WETLAND AREAS.
- 3. ENHANCE AND DIVERSIFY VEGETATIVE COMMUNITY:** MUCH OF THE EXISTING WETLAND AND WATERCOURSE IS MAINTAINED AS LAWN. THE REMAINING AREAS ARE VEGETATED WITH MOSTLY INVASIVE PLANT SPECIES. THE RESTORED AND EXPANDED WETLAND AND WATERCOURSE WILL BE COVERED WITH A DIVERSITY OF NATIVE TREES, SHRUBS AND GROUND COVERS. THE DIVERSITY OF VEGETATION WILL BE ACHIEVED THROUGH THE CREATION OF A DIVERSITY OF HABITAT CONDITIONS: HIGH MARSH AND LOW MARSH.
- 4. ENHANCE AND DIVERSIFY WILDLIFE COMMUNITY:** THE EXISTING WETLAND AND WATERCOURSE PROVIDE A LIMITED FAUNA. DUE TO THE DIVERSITY OF SOIL, MICROTOPOGRAPHIC AND HYDROLOGIC CONDITIONS OF THE PROPOSED RESTORED AND EXPANDED WETLAND AND THE DIVERSITY AND ABUNDANCE OF WETLAND VEGETATION, THE WETLAND WILL SUPPORT AN ABUNDANCE AND DIVERSITY OF WETLAND WILDLIFE. BIRDS, MAMMALS, REPTILES, AMPHIBIANS, AND INSECTS WILL USE AND BE FOUND AT THE PROPOSED RESTORED AND EXPANDED WETLAND.
- 5. ENHANCEMENT OF WATER QUALITY:** WATER QUALITY WILL BE ENHANCED THROUGH THE REDUCTION OF A POLLUTANT SOURCE AREA AND THROUGH THE REMOVAL OF POLLUTANTS FROM THE WETLAND. FOLLOWING THROUGH THE WETLAND AND POLLUTANT REMOVAL WILL INCREASED THROUGH THE PROPOSED WETLAND RESTORATION AND EXPANSION DESIGN FEATURES.



LANDSCAPE MATTING DETAIL

SCALE: NTS

PLAN

PROJECT:		CITY OF CHARLESTON		SCALE: AS SHOWN	
HOWLE AVE STORMWATER RETROFIT HOWLE AVE., CITY OF CHARLESTON, SC 29412		DRAWN BY: RJC		DESIGNED BY: RJC	
TITLE:		CITY OF CHARLESTON		CHECKED BY: ATB	
DATE		12/29/2024		PROJECT NO.	
PROJECT NO.		013156608		SHEET NUMBER	
L1-01		LANDSCAPE DETAILS			



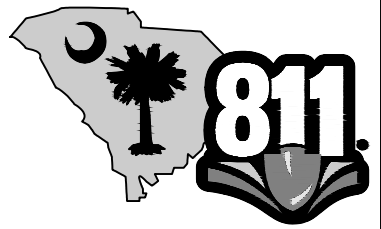
	Botanical Name
39.00 %	<i>Panicum rigidulum</i> , Coastal Plain NC Ecotype
20.00 %	<i>Elymus virginicus</i> , AR Ecotype
15.00 %	<i>Carex albolutescens</i> , Coastal Plain NC Ecotype
12.20 %	<i>Chasmanthium latifolium</i> , WV Ecotype
5.00 %	<i>Carex vulpinoidea</i> , PA Ecotype
3.00 %	<i>Juncus effusus</i>
2.00 %	<i>Helenium autumnale</i> , Northern VA Ecotype
2.00 %	<i>Helenium flexuosum</i> , VA Ecotype
1.00 %	<i>Juncus tenuis</i> , NC Ecotype
0.50 %	<i>Vernonia noveboracensis</i> , PA Ecotype
0.30 %	<i>Scirpus cyperinus</i> , Coastal Plain NC Ecotype
100.00 %	

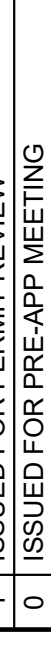
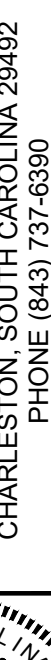





Common Name	Price
Redtop Panicgrass, Coastal Plain NC Ecotype	
Virginia Wildrye, AR Ecotype	
Greenwhite Sedge, Coastal Plain NC Ecotype	
River Oats, WV Ecotype	
Fox Sedge, PA Ecotype	
Soft Rush	
Common Sneezeweed, Northern VA Ecotype	
Purplehead Sneezeweed, VA Ecotype	
Path Rush, NC Ecotype	
New York Ironweed, PA Ecotype	
Woolgrass, Coastal Plain NC Ecotype	

Seeding Rate: 20 lb per acre with a cover crop. For a cover crop use either grain rye (30 lbs/acre; 1 Sep to 31 Apr) or Japanese Millet (10 lbs/acre; 1 May to 31 Aug)

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Wet Meadows & Wetlands

This mix of grasses and forbs can be used for wetland mitigation where frequent flooding occurs.



PROJECT:	HOWLE AVE STORMWATER RETROFIT	CLIENT:	CITY OF CHARLESTON 2 GEORGE ST. SUITE 2100 CHARLESTON, SC 29401 PHONE: 843.724.3764	SCALE:	AS SHOWN																																																											
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