STATE	T.I.P. #	SHEET #
NC	K-4905	1 of 52

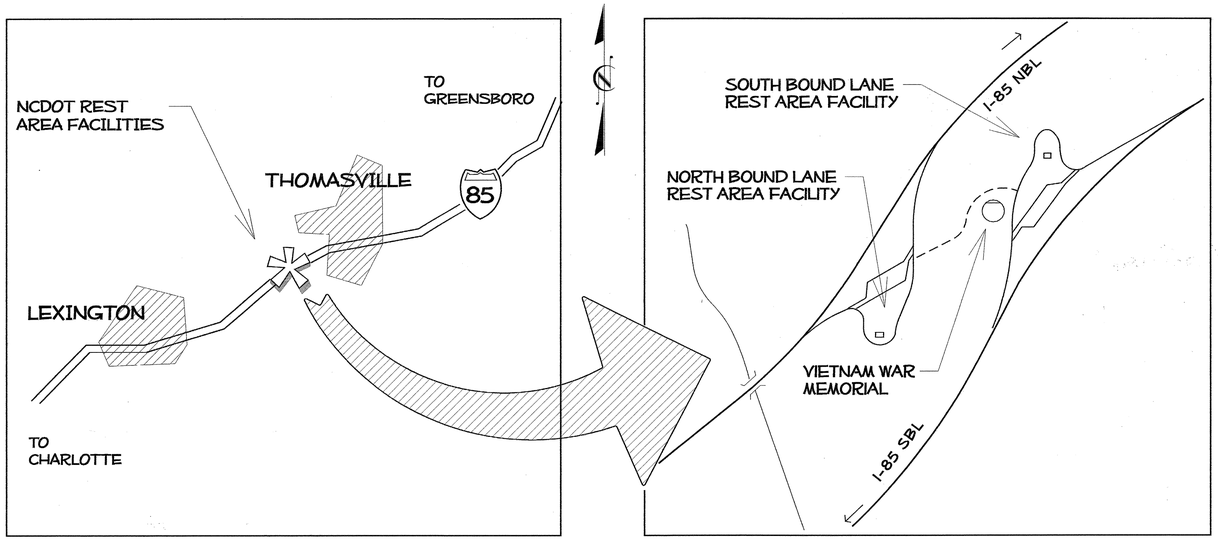
WBS #	F.A. Project #	Description
39886.1.1		P.E.
		R/W
39886.3.ST1	STM-085-3(200)100	CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

LOCATION: I-85 DAVIDSON COUNTY REST AREA PAIR SOUTH OF THOMSAVILLE, NC & NORTH OF LEXINGTON, NC.

TYPE OF WORK: CONSTRUCTION OF NEW REST AREA BLDGS., RESTORATION OF EXISTING BLDGS. AND SITE WORK



VICINITY MAPS

Contract #: C202161 - RA Davidson County /I-85 Rest Area Renovation

North Carolina Department of Transportation
Division of Highways
1 South Wilmington Street Raleigh, North Carolina

I-85
DAVIDSON COUNTY
REST AREA RENOVATIONS

Plan :

REST AREA PROJECT DEVELOPMENT	SITE / LANDSCAPE DESIGN	ARCHITECTURAL / ENGINEERING
REST AREA SECTION	LANDSCAPE DESIGN & DEVELOPMENT	ARCHITECT: NCDOT GENERAL SERVICES - FACILITIES DESIGN
ROADSIDE ENVIRONMENTAL UNIT 1557 MAIL SERVICE CENTER RALEIGH, NORTH CAROLINA 27699-1557 OFFICE (919) 733-2920 FAX (919) 733-9810	ROADSIDE ENVIRONMENTAL UNIT 1557 MAIL SERVICE CENTER RALEIGH, NORTH CAROLINA 27699-1557 OFFICE (919) 733-2920 FAX (919) 733-9810	1 S. WILMINGTON STREET RALEIGH, NC 27601 919.715.0400 MECHANICAL/ELECTRICAL/PLUMBING.: BURKE DESIGN GROUP 305-109 DURHAM DRIVE RALEIGH, NC 27603 919.618.0717

Plans Drawn By:	KOPETSKY
Scale	n/a
Date	4 / 30 / 09
Letting Date	AUG 18, 2009
2006 Standard Specifications	
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STATE	T.I.P. #	SHEET #	OF
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WBS #	F.A. Project #	Description
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39886.3.ST1	STM-085-3(200)100	CONST.

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T2 DESIGN DATA FOR VENDING BLDG.

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VA4 VENDING BLDG. DEMOLITION PLAN

VP1 VENDING BLDG. PLUMBING
VM1 VENDING BLDG. MECHANICAL
VE1 VENDING BLDG. ELECTRICAL

SITE DEVELOPMENT PLANS

LT-001 TITLE SHEET
L-001 NBL SITE PLAN
L-002 NBL DEMOLITION PLAN
LG-001 NBL GRADING PLAN
LH-001 NBL HARDSCAPE PLAN
LP-001 NBL LANDSCAPE PLAN
LU-001 NBL UTILITY PLAN
L-003 SBL SITE PLAN
L-004 SBL DEMOLITION PLAN
LG-002 SBL GRADING PLAN
LH-002 SBL HARDSCAPE PLAN
LP-002 SBL LANDSCAPE PLAN
LU-002 SBL UTILITY PLAN
LP-003 LANDSCAPE QUANTITIES

SBL & NBL COMMON DETAIL SHEETS

LD-001 RETAINING WALL DETAILS
LD-002 PLANTING DETAILS
LD-003 PICNIC SHELTER DETAIL
LD-004 CONCRETE STEPS
LD-005 HANDICAP RAMP
LD-006 FLAGPOLE / WASTE CONTAINER/ YARD HYD
LD-007 HARDSCAPE & TELEPHONE DETAILS
LD-008 DRAINAGE DETAILS

2006 ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS APPEAR IN " ROADWAY STANDARD DRAWINGS" - HIGHWAY DESIGN BRANCH - NC DEPARTMENT OF TRANSPORTATION - RALEIGH, NC DATED JULY, 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE ARE HEREBY CONSIDERED PART OF THESE PLANS:

STND #	TITLE
840. 03	FRAMES, GRATE AND HOOD
840. 14	CONCRETE DROP INLET
840. 15	BRICK DROP INLET
840 45	PRECAST DRAINAGE STRUCTURE
846. 01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848. 01	CONCRETE SIDEWALK
848. 05	WHEEL CHAIR RAMP

Contract #: C202161 - RA Davidson County / I-85 Rest Area Renovation

REST AREA PROJECT DESIGN & DEVELOPMENT

REST AREA SECTION

ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 733-2920 FAX (919) 733-9810

SITE / LANDSCAPE DESIGN

LANDSCAPE DESIGN & DEVELOPMENT

ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 733-2920 FAX (919) 733-9810

ARCHITECTURAL / ENGINEERING

ARCHITECT: NCDOT GENERAL SERVICES - FACILITIES DESIGN
1 S. WILMINGTON STREET
RALEIGH, NC 27601 919.715.0400

MECHANICAL/ELECTRICAL/PLUMBING.: BURKE DESIGN GROUP
305-109 DURHAM DRIVE
RALEIGH, NC 27603 919.618.0717

North Carolina Department of Transportation
Division of Highways
1 South Wilmington Street Raleigh, North Carolina

I-85
DAVIDSON COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By: KOPETSKY
Scale: n/a
Date: 4 / 30 / 09
Letting Date: AUG 18, 2009
2006 Standard Specifications
Sheet Description: INDEX OF SHEETS
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				R/W
39886.3.ST1	STM-085-3(200)100			CONST.

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202161

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
2549000000-E	846	40	LF	2'-6" CONCRETE CURB & GUTTER
2591000000-E	848	1,080	SY	4" CONCRETE SIDEWALK
2605000000-N	848	4	EA	CONCRETE WHEELCHAIR RAMPS
3575000000-E	SP	1,112	LF	GENERIC FENCING ITEM TEMPORARY 72" CHAIN LINK FENCE
3578000000-N	SP	4	EA	GENERIC FENCING ITEM TEMPORARY DOUBLE GATES, 72" HIGH, 8' WIDE, 16' OPENING
3651000000-E	SP	13	TON	BOULDERS
6000000000-E	1605	750	LF	TEMPORARY SILT FENCE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6084000000-E	1660	1.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6102000000-E	1664	1,418	SY	SODDING
6108000000-E	1665	0.25	TON	FERTILIZER TOPDRESSING
6645000000-N	SP	1	EA	GENERIC PLANTING ITEM LANDSCAPE PLANTING (NBL)
6645000000-N	SP	1	EA	GENERIC PLANTING ITEM LANDSCAPE PLANTING (SBL)
6655000000-E	1670	14	M/G	WATER FOR PLANTING
6665000000-E	1670	1,752	SY	POSTEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
6670000000-E	1670	1,752	SY	PREEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
6677000000-E	SP	20	TON	GENERIC PLANTING ITEM #57 WASHED STONE
6885000000-E	SP	27	SY	6" CONCRETE REINFORCED PAD
6890000000-E	SP	6	CY	CONCRETE STEPS
6895000000-E	SP	50	LF	HANDRAIL ON STEPS
6900000000-E	SP	395	CY	TOPSOIL
6970000000-N	SP	4	EA	GENERIC REST AREA ITEM 3" GATE VALVE/BOX
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM 3/4" GATE VALVE/BOX
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM 3/4" POST TYPE YARD HYDRANT
6970000000-N	SP	4	EA	GENERIC REST AREA ITEM 4" SANITARY SEWER CLEAN-OUT
6970000000-N	SP	4	EA	GENERIC REST AREA ITEM 6' PARK BENCH
6970000000-N	SP	3	EA	GENERIC REST AREA ITEM CONNECTION TO SEWER MANHOLE/ SEWER LINE
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM FLAGPOLE
6970000000-N	SP	4	EA	GENERIC REST AREA ITEM FLAGPOLE LIGHT
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM PERMANENT RELOCATION OF VENDING BUILDING
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM PERMANENT RELOCATION OF VENDING BUILDING
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM PHONE/DISPLAY SHELTER REMOVE & STOCKPILE
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM PICNIC SHELTER RELOCATION
6970000000-N	SP	5	EA	GENERIC REST AREA ITEM PICNIC TABLE REMOVAL & STOCKPILE
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM RELOCATE PAYPHONE & PEDESTAL
6970000000-N	SP	5	EA	GENERIC REST AREA ITEM RELOCATE POST TOP LIGHT & POLE ON CONC FOUNDATION
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM TEMPORARY RELOCATION OF VENDING BUILDING (ON-SITE)
6970000000-N	SP	10	EA	GENERIC REST AREA ITEM WASTE CONTAINER
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL INSTALLATION REST AREA SERVICE BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL INSTALLATION VENDING BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION REST AREA SERVICE BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION VENDING BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM HVAC INSTALLATION REST AREA SERVICE BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM HVAC INSTALLATION VENDING BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE & SITE GRADING (NBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE & SITE GRADING (SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE LIGHTING (NBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE LIGHTING (SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING INSTALLATION REST AREA SERVICE BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING INSTALLATION VENDING BUILDING (NBL/SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE DEMOLITION (NBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE DEMOLITION (SBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE STORMWATER DRAINAGE (NBL)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE STORMWATER DRAINAGE (SBL)
6980000000-E	SP	75	LF	GENERIC REST AREA ITEM 3" PVC UTILITY SLEEVE
6980000000-E	SP	360	LF	GENERIC REST AREA ITEM 3" PVC WATER LINE (SDR21)
6980000000-E	SP	65	LF	GENERIC REST AREA ITEM 3/4" PVC WATER LINE (SCH 80)
6980000000-E	SP	336	LF	GENERIC REST AREA ITEM 6" PVC (SDR-35) GRAVITY SEWER LINE
6980000000-E	SP	355	LF	GENERIC REST AREA ITEM ELECTRIC LINE INSTALL/REPAIR
6980000000-E	SP	1,180	LF	GENERIC REST AREA ITEM LANDSCAPE METAL EDGING
6980000000-E	SP	410	LF	GENERIC REST AREA ITEM PHONE LINE INSTALL/REPAIR
6980000000-E	SP	224	LF	GENERIC REST AREA ITEM SPLIT RAIL FENCE RELOCATION
6980000000-E	SP	954	LF	GENERIC REST AREA ITEM TREE PROTECTION FENCE
6982000000-E	SP	1,530	SF	GENERIC REST AREA ITEM DECORATIVE CONCRETE PAVERS
6982000000-E	SP	520	SF	GENERIC REST AREA ITEM SEGMENTED RETAINING WALL
6985000000-E	SP	248	CY	GENERIC REST AREA ITEM HARDWOOD MULCH
6985000000-E	SP	68	CY	GENERIC REST AREA ITEM PINE STRAW
6985000000-E	SP	10	CY	GENERIC REST AREA ITEM RIVER STONE

Contract #: C202161 - RA Davidson County / I-85 Rest Area Renovation

REST AREA PROJECT DESIGN & DEVELOPMENT

REST AREA SECTION

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North Carolina Department of Transportation
Division of Highways
1 South Wilmington Street Raleigh, North Carolina

I-85
DAVIDSON COUNTY
REST AREA RENOVATIONS

Plan

Plans Drawn By:
—
Scale
n/a
Date
4 / 30 / 09
Letting Date
AUG 18, 2009
2006 Standard Specifications
Sheet Description
SUMMARY OF QUAN
Sheet #
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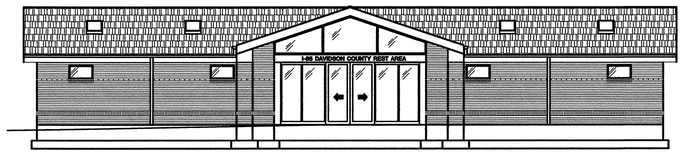
I-85 REST AREA & VENDING BUILDING

NEW REST AREA BLDG. & VENDING BLDG. REMODELING
DAVIDSON COUNTY, NORTH CAROLINA



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VA4 VENDING BLDG. DEMOLITION PLAN

VP1 VENDING BLDG. PLUMBING
VM1 VENDING BLDG. MECHANICAL
VE1 VENDING BLDG. ELECTRICAL

ABBREVIATIONS & SYMBOLS

<	ANGLE	M.O.	MASONRY OPENING
AL.	ALUMINUM	MAT.	MATERIAL
AB.	ANCHOR BOLT	MAX.	MAXIMUM
APPROX.	APPROXIMATE	MIN.	MINIMUM
ARCH.	ARCHITECTURAL	MTD.	MOUNTED
@	AT	MLDG.	MOULDING
AVG.	AVERAGE	N.T.S.	NOT TO SCALE
BB	BACK TO BACK	NO.	NUMBER
BSMT.	BASEMENT	O.C.	ON CENTER
BRG.	BEARING	OPNG.	OPENING
BM.	BENCH MARK	PNL.	PANEL
BLKG.	BLOCKING	PLAM.	PLASTIC LAMINATE
BD.	BOARD	PL.	PLATE
BLDG.	BUILDING	PLMB.	PLUMBING
CH	CEILING HEIGHT	PLYWD.	PLYWOOD
℄	CENTER LINE	LB.(#)	POUND
CC	CENTER TO CENTER	PREFAB.	PREFABRICATED
C.I.	CAST IRON	P.S.I.	POUNDS PER SQUARE INCH
COL.	COLUMN	REQ'D	REQUIRED
CONC.	CONCRETE	R.	RISER
CMU	CONCRETE MASONRY UNIT	SAN.	SANITARY
CONT.	CONTINUOUS	SEC.	SECTION
C.J.	CEILING JOIST	SHT.	SHEET
C/J	CONSTRUCTION JOINT	SHTHG.	SHEATHING
CRS	COURSES	SIM.	SIMILAR
DET.	DETAIL	SPEC.	SPECIFICATIONS
DIA.	DIAMETER	SQ.	SQUARE
DBL.	DOUBLE	SS	SERVICE SINK
DS	DOWN SPOUT	STD.	STANDARD
EA.	EACH	STL.	STEEL
EH	EYE WASH	STRG.	STORAGE
ELEC.	ELECTRICAL	S.A.C.	SUSPENDED ACOUSTICAL CEILING
ELEV.	ELEVATION	T&G	TONGUE AND GROOVE
EXIST.	EXISTING	T.O.F.	TOP OF FOOTING
EWC	ELECTRIC WATER COOLER	T.O.J.	TOP OF JOIST
E/J	EXPANSION JOINT	T.O.S.	TOP OF STEEL
EBG	EXTENDED BOTTOM GIRDER	T.O.W.	TOP OF WALL
EXT.	EXTERIOR	T.	TREAD
FFE	FINISH FLOOR ELEVATION (BLDG. REF.)	TYP.	TYPICAL
FINFL.	FINISH FLOOR	UNFIN.	UNFINISHED
F.E.	FIRE EXTINGUISHER	U.O.N.	UNLESS OTHERWISE NOTED
F.D.	FLOOR DRAIN	VERT.	VERTICAL
FTG.	FOOTING	W.M.	WELDED WIRE MESH
FRGWB	FIRE RATED GYPSUM WALLBOARD	W	WITH
GALV.	GALVANIZED	WD.	WOOD
GA.	GAUGE	F.C.	FIBER CEMENT
GL.	GLASS	102	ROOM/SPACE NUMBER
GP.	GLAZED PAVER TILE	(B)	WINDOW TYPE
GWB	GYPSUM SHEATHING	(2)	DOOR TYPE
GYP.	GYPSUM	——	CENTER LINE
HM	HOLLOW METAL	--------	HIDDEN LINE
HOR.	HORIZONTAL	—v—	BREAK LINE
H.B.	HOSE BIBB	—x—	CONSTRUCTION FENCE
INSUL.	INSULATION		
INT.	INTERIOR		
JST.	JOIST		
LAV.	LAVATORY		
M.H.	MAN HOLE		

SILT FENCE
ELEVATION MARK
DRAINAGE / SLOPE ARROW
REVISION NUMBER
EXISTING CONTOURS
EXISTING ELEVATION
NEW CONTOURS
NEW ELEVATION
EXISTING TREE
FIRE EXTINGUISHER
ELEVATION NUMBER / DRAWING SHEET NUMBER
DRAWING NUMBER / DRAWING SHEET REFERENCE NUMBER
BUILDING OR WALL SECTION NO. / DRAWING SHEET NUMBER
RIGID INSULATION
BATT INSULATION / BLOWN
DRYWALL OR PLASTER
GRAVEL
UNDISTURBED EARTH
COMPACTED FILL
CMU
CONCRETE
STEEL
ROUGH CARPENTRY
FINISH CARPENTRY

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:
BUILDING CODE SUMMARY

DRAWN BY: CLS CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 6-29-09 NORTH CAROLINA RALEIGH, N.C.

SEAL 16394 6-29-09 ENGINEER WILLIAM RATTERREE NORTH CAROLINA PROFESSIONAL

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **T1** OF 2

APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: I-85 REST AREA AND VENDING BUILDING
Address: Davidson County, @ Milepost 99, 3 miles south of Thomasville on I-85
Proposed Use: BUSINESS (REST AREA)
Owner or Authorized Agent: NCDOT GENERAL SERVICES Phone # 919-715-0400
Owned By: State of North Caroline ☐City/County ☐Private ☒State
Code Enforcement Jurisdiction: ☐City ☐County

LEAD DESIGN PROFESSIONAL: NCDOT, FACILITIES DESIGN (919)-715-0400

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	NC DOT	Victor M. Buzard, Jr. RA	4241	(919) 715-9339	vbuzard@ncdot.gov
SITE "Civil"	NC DOT	Robert N. Kopetsky RLA	1447	(919) 733-2920	bkopetsky@ncdot.gov
Electrical	BURKE DESIGN GROUP, PA	Benjamin E. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Fire Alarm					
Plumbing	BURKE DESIGN GROUP, PA	Benjamin E. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Mechanical	BURKE DESIGN GROUP, PA	Benjamin E. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Sprinkler-Standpipe					
Structural	NC DOT	W.E. Ratterree, PE	16394	(919) 715-9341	bratterree@ncdot.gov
Retaining Walls >5' High					
Other					

2006 EDITION OF NC CODE FOR: ☒New Construction ☐Addition ☐Upfit
EXISTING: ☐Reconstruction ☐Alteration ☐Repair
CONSTRUCTED ____ ORIGINAL USE ____ RENOVATED ____ CURRENT USE ____

BUILDING DATA
Construction Type: ☐I-A ☐II-A ☐III-A ☐IV ☐V-A ☐I-B ☐II-B ☐III-B ☒V-B
Mixed construction: ☒No ☐Yes Types____
Sprinklers: ☒No ☐Partial ☐Yes ☐NFPA 13 ☐NFPA 13R ☐NFPA 13D
Standpipes: ☒No ☐Yes Class ☐I ☐II ☐III ☐Wet ☐Dry
Fire District: ☒No ☐Yes Flood Hazard Area: ☒No ☐Yes
Building Height: Feet 11'-7" Number of Stories 1
Mezzanine: ☒No ☐Yes
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
1st Floor	.	2,720 sf	2,720 sf
Basement	.	.	.
TOTAL	.	2,720 sf	2,720 sf

ALLOWABLE AREA

Primary Occupancy: ☐Assembly ☐A-1 ☐A-2 ☐A-3 ☐A-4 ☐A-5
☒Business ☐Educational ☐Factory ☐F-1 Moderate ☐F-2 Low
Hazardous ☐H-1 Detonate ☐H-2 Deflagrate ☐H-3 Combust ☐H-4 Health ☐H-5 HPM
Institutional ☐I-1 ☐I-2 ☐I-3 ☐I-4
I-3 Condition ☐1 ☐2 ☐3 ☐4 ☐5
☐Mercantile Residential ☐R-1 ☐R-2 ☐R-3 ☐R-4
Storage ☐S-1 Moderate ☐S-2 Low ☐High-piled
☐Utility and Miscellaneous ☐Parking Garage ☐Open ☐Enclosed ☐Repair Garage
Secondary Occupancy: N/A
Mixed Occupancy: ☒No ☐Yes Separation: ____Hr. Exception: ____

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503[2] AREA	(C) AREA FOR OPEN SPACE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[1]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA*
1	Business (B)	2,720	9,000	N/A	–	–	–

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type V-B		Type V-B	503
Building height in feet	Feet 40'	Feet=H+20'= N/A	Feet 11'-7"	503
Building Height in Stories	Stories 2-Story	Stories+1= N/A	Stories 1-Story	503

FIRE PROTECTION REQUIREMENTS
Life Safety Plan Sheet#, if Provided ____

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/__ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses	–	0	0	–	–	–	–
Bearing walls							
Exterior							
North	30	0	0	–	–	–	–
East	30	0	0	–	–	–	–
West	30	0	0	–	–	–	–
South	30	0	0	–	–	–	–
Interior	–	0	–	–	–	–	–
Nonbearing Walls and Partitions Exterior Walls							
North	30	–	–	–	–	–	–
East	30	–	–	–	–	–	–
West	30	–	–	–	–	–	–
South	30	–	–	–	–	–	–
Interior Walls and partitions	–	0	0	–	–	–	–
Floor construction including supporting beams and joist	–	0	0	–	–	–	–
Roof construction including supporting beams and joist	–	–	–	–	–	–	–
Shaft Enclosures-Exit	–	–	–	–	–	–	–
Shaft Enclosures-Other	–	–	–	–	–	–	–
Corridor Separation	–	–	–	–	–	–	–
Occupancy Separation	–	–	–	–	–	–	–
Party/Fire Wall Separation	–	–	–	–	–	–	–
Smoke Barrier Separation	–	–	–	–	–	–	–
Tenant Separation	–	–	–	–	–	–	–
Incidental Use Separation	–	–	–	–	–	–	–

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐NO	☒YES
Exit Signs:	☐NO	☒YES
Fire Alarm:	☒NO	☐YES
Smoke Detection Systems:	☐NO	☒YES (Local)
Panic Hardware:	☒NO	☐YES

EXIT REQUIREMENTS
NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[2] NUMBER OF EXITS REQUIRED	MINIMUM[2] NUMBER OF EXITS SHOWN ON PLANS	TRAVEL DISTANCE ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	TRAVEL DISTANCE ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	ARRANGEMENT MEANS OF EGRESS[1,3] (SECTION 1014.2) REQUIRED DISTANCE BETWEEN EXIT DOORS	ARRANGEMENT MEANS OF EGRESS[1,3] (SECTION 1014.2) ACTUAL DISTANCE SHOWN ON PLANS
Business 28-occupants	1	2	200'	41'	N/A	30'
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–

1 Corridor dead ends (Section 1016.3)
2 Single exits (Table 1018.2)
3 Common Path of Travel (Section 1013.3)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1) STAIR	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1) LEVEL	EXIT WIDTH (in)[2,3,4,5,8] REQUIRED WIDTH (SECTION 1005.1) (c+b)xc STAIR	EXIT WIDTH (in)[2,3,4,5,8] REQUIRED WIDTH (SECTION 1005.1) (c+b)xc LEVEL	EXIT WIDTH (in)[2,3,4,5,8] ACTUAL WIDTH SHOWN ON PLANS STAIR	EXIT WIDTH (in)[2,3,4,5,8] ACTUAL WIDTH SHOWN ON PLANS LEVEL
Business	2,427	100	24	N/A	.2	N/A	4.9"	N/A	66"
Storage/Mech.	293	300	1	N/A	.2	N/A	.2"	N/A	33"
–	–	–	–	–	–	–	–	–	–

STRUCTURAL DESIGN

DESIGN LOADS:
Importance Factors: Wind (I_w) 1.0; Snow (I_s) 1.0; Seismic (I_E) 1.0
Live Loads: Roof 20 psf; Ext. Deck N/A psf; Mezzanine NA psf; Attic Floor 10 psf; Floor 100 psf
Snow Load: 10 psf
Wind Load: Basic Wind Speed 100 mph (ASCE-7-02); Exposure Category B; Wind Base Shears (for MWFRS) Vx = 11,400# Vy = 18,200#
SEISMIC DESIGN CATEGORY
Compliance with Section 1616.4 only? ☐YES ☐NO
SEISMIC DESIGN CATEGORY ☐B ☒C ☐D
Provide the following Seismic Design Parameters:
Seismic Use Group 1
Spectral Response Acceleration S_S 0.480 %g S_1 0.176 %g
Site Classification D ☐Field Test ☒Presumptive ☐Historical Data
Basic structural system (check one)
X Bearing Wall . Dual w/Special Moment Frame
. Building Frame . Dual w/Intermediate R/C or Special Steel
. Moment Frame . Inverted Pendulum
Seismic base shear Vx= 7,700# Vy= 7,700#
Analysis Procedure X Simplified . Equivalent Lateral Force . Modal
Architectural, Mechanical, Components anchored? YES
LATERAL DESIGN CONTROL: Earthquake . Wind X
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 2000 psf
Presumptive Bearing capacity . psf
Pile size, type, and capacity .

PLUMBING FIXTURE REQUIREMENTS

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
Business Rest Area	EXISTING	–	–	–	–	–	–	–	–
	NEW	8	16	8	8	8	N/A	1	1
	REQUIRED	1	1	0	1	1	N/A	1	1

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL# OF PARKING SPACES REQUIRED N.B.I.	TOTAL# OF PARKING SPACES REQUIRED S.B.I.	TOTAL# OF PARKING SPACES PROVIDED N.B.I.	TOTAL# OF PARKING SPACES PROVIDED S.B.I.	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE N.B.I.	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE S.B.I.	# OF ACCESSIBLE SPACES PROVIDED VAN SPACES WITH 8' ACCESS AISLE N.B.I.	# OF ACCESSIBLE SPACES PROVIDED VAN SPACES WITH 8' ACCESS AISLE S.B.I.	TOTAL # ACCESSIBLE PROVIDED N.B.I.	TOTAL # ACCESSIBLE PROVIDED S.B.I.
LANE DIRECTION	–	–	56	58	2()	2()	1()	1()	3()	3()
CARS / TRAILERS	–	–	6	8	–	–	–	–	–	–
TRUCKS	–	–	19	19	–	–	–	–	–	–
TOTAL	–	–	81	85	–	–	–	–	–	–

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT SEE ELECTRICAL SHEETS FOR ELECTRICAL SUMMARY

MECHANICAL SUMMARY
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT SEE MECHANICAL SHEETS FOR MECHANICAL SUMMARY

ENERGY SUMMARY
ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If energy cost budget method, state the annual energy cost budget vs allowable annual energy cost budget.

THERMAL ENVELOPE
Method of Compliance:
☐Prescriptive ☐Performance ☐Energy Cost Budget
Climate Zone: 6
Heating Degree days (base 65 degrees F): 3420
Cooling Degree days (base 50 degrees F): 4488
Project Type: New Construction
Vertical Glazing/Wall Area Pct.: 4%
Building Type: Office (Rest Area)

COMPONENT NAME/ DESCRIPTION	GROSS AREA	CAVITY R-VALUE	CONT. R-VALUE	PROPOSED U-FACTOR	Budget U-FACTOR
ROOF 1: Attic Roof W/ Wood Joists	2975	0.0	38.0	0.032	0.034
SKYLIGHT 1: WOOD FRAME, DOUBLE PANE CLEAR W/O CURB, SHGC 0.01	64	–	–	0.800	0.690
EXTERIOR WALL 1: WOOD STUD FRAMING 16" OC W/ F-C LAPPED SIDING	1691	0.0	19.0	0.044	0.089
WINDOW 1: WOOD FRAME, DBL. PANE W/ LOW- E, CLEAR, FIXED, SHGC 0.70, PF 1.00.	361	–	–	0.590	0.570
FLOOR 1: Unheated Slab-on-Grade	228	–	7.5	–	–

ENVELOPE PASSES: DESIGN 28% BETTER THAN CODE

I-85 REST AREA & VENDING

NEW REST AREA BLDG. & VENDING BLDG. REMODELING
DAVIDSON COUNTY, NORTH CAROLINA

APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: I-85 REST AREA & VENDING
Address: Davidson County, @ Milepost 99, 3 miles south of Thomasville on I-85
Proposed Use: STORAGE (VENDING BLDG.)
Owner or Authorized Agent: GENERAL SERVICES, NCDOT Phone # 919-715-0400
Owned By: STATE OF NORTH CAROLINA ☐City/County ☐Private ☒State
Code Enforcement Jurisdiction: ☐City ☐County

LEAD DESIGN PROFESSIONAL: VICTOR M. BUZARD Jr., R.A.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	NC DOT	VICTOR M. BUZARD	424	(919) 715-8339	vbuzard@ncdot.gov
SITE "Civil"	NC DOT	Robert M. Mogensky	1447	(919) 733-2920	bmogensky@ncdot.gov
Electrical	BURKE DESIGN GROUP, PA	Benjamin F. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Fire Alarm					
Plumbing	BURKE DESIGN GROUP, PA	Benjamin F. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Mechanical	BURKE DESIGN GROUP, PA	Benjamin F. Burke	22038	(919) 771-1916	benburke@nc.rr.com
Sprinkler-Standpipe					
Structural	NC DOT	W.E. RATTERREE	16394	(919) 715-9341	bratterree@ncdot.gov
Retaining Walls >5' High					
Other					

2006 EDITION OF NC CODE FOR: ☐New Construction ☐Addition ☐Upfit
EXISTING: ☐Reconstruction ☐Alteration ☐Repair
CONSTRUCTED ____ ORIGINAL USE ____ RENOVATED X CURRENT USE ____

BUILDING DATA
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A ☐ I-B ☐ II-B ☐ III-B ☒ V-B
Mixed construction: ☒ No ☐ Yes Types____
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes
Building Height: Feet 11'-4" Number of Stories 1
Mezzanine: ☒ No ☐ Yes
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
1st Floor	1,557sf		1,557sf
TOTAL	1,557sf		1,557sf

ALLOWABLE AREA
Primary Occupancy: ☐ Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ Business ☐ Educational Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Mercantile ☐ Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☒ S-2 Low ☐ High-piled
☐ Utility and Miscellaneous ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Secondary Occupancy: N/A
Mixed Occupancy: ☒ No ☐ Yes Separation: ____ Hr. Exception: ____

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA[4]
1	Storage	1,557	13,500	NOT USED	NOT USED	13,500	13,500

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type V-B		Type V-B	503
Building height in feet	Feet 40'	Feet=H+20'=N/A	Feet 10'-8"	503
Building Height in Stories	Stories 2	Stories+1=N/A	Stories 1	503

FIRE PROTECTION REQUIREMENTS
Life Safety Plan Sheet #, if Provided: N/A

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/___ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses	–	0	0	–	–	–	–
Bearing walls							
Exterior							
North	30	0	0	–	–	–	–
East	30	0	0	–	–	–	–
West	30	0	0	–	–	–	–
South	30	0	0	–	–	–	–
Interior	–	0	0	–	–	–	–
Nonbearing Walls and Partitions Exterior Walls							
North	30	0	0	–	–	–	–
East	30	0	0	–	–	–	–
West	30	0	0	–	–	–	–
South	30	0	0	–	–	–	–
Interior Walls and partitions	–	0	0	–	–	–	–
Floor construction including supporting beams and joist	–	0	0	–	–	–	–
Roof construction including supporting beams and joist	–	0	0	–	–	–	–
Shaft Enclosures-Exit	–	N/A	–	–	–	–	–
Shaft Enclosures-Other	–	N/A	–	–	–	–	–
Corridor Separation	–	N/A	–	–	–	–	–
Occupancy Separation	–	N/A	–	–	–	–	–
Party/Fire Wall Separation	–	N/A	–	–	–	–	–
Smoke Barrier Separation	–	N/A	–	–	–	–	–
Tenant Separation	–	N/A	–	–	–	–	–
Incidental Use Separation	–	N/A	–	–	–	–	–
Fire Barrier	–	N/A	–	–	–	–	–

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐ NO	☒ YES
Exit Signs:	☐ NO	☒ YES
Fire Alarm:	☒ NO	☐ YES
Smoke Detection Systems:	☐ NO	☒ YES
Panic Hardware:	☒ NO	☐ YES

EXIT REQUIREMENTS
NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM[1] NUMBER OF EXITS		TRAVEL DISTANCE		EGRESS (SECTION 1014.2) ARRANGEMENT MEANS OF[2,3]	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1015.1)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS
Storage 6-occupants	1	2	200'	33'	N/A	39'

1 Corridor dead ends (Section 1016.3)
2 Single exits (Table 1018.2)
3 Common Path of Travel (Section 1013.3)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(A) AREA[1] SQ. FT.	(B) AREA[1] PER OCCUPANT (TABLE 1004.1.2)	CALCULATED OCCUPANT LOAD	(C) EGRESS WIDTH PER OCCUPANT (TABLE 1005.1)		EXIT WIDTH (a),[2,3,4,5,6] REQUIRED WIDTH (SECTION 1005.1) (a=b)xc		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
VENDING	1,557	300	–	N/A	.2	N/A	1.04"	N/A	132"

STRUCTURAL DESIGN: N/A

Adjacent Rest Area provides fixtures for the 6 occupants that may occupy the bldg. temporarily.

ACCESSIBLE PARKING: SEE SHEET T1

SPECIAL APPROVALS: N/A

ENERGY SUMMARY: EXISTING BUILDING

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:
BUILDING CODE SUMMARY

DRAWN BY: RA CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

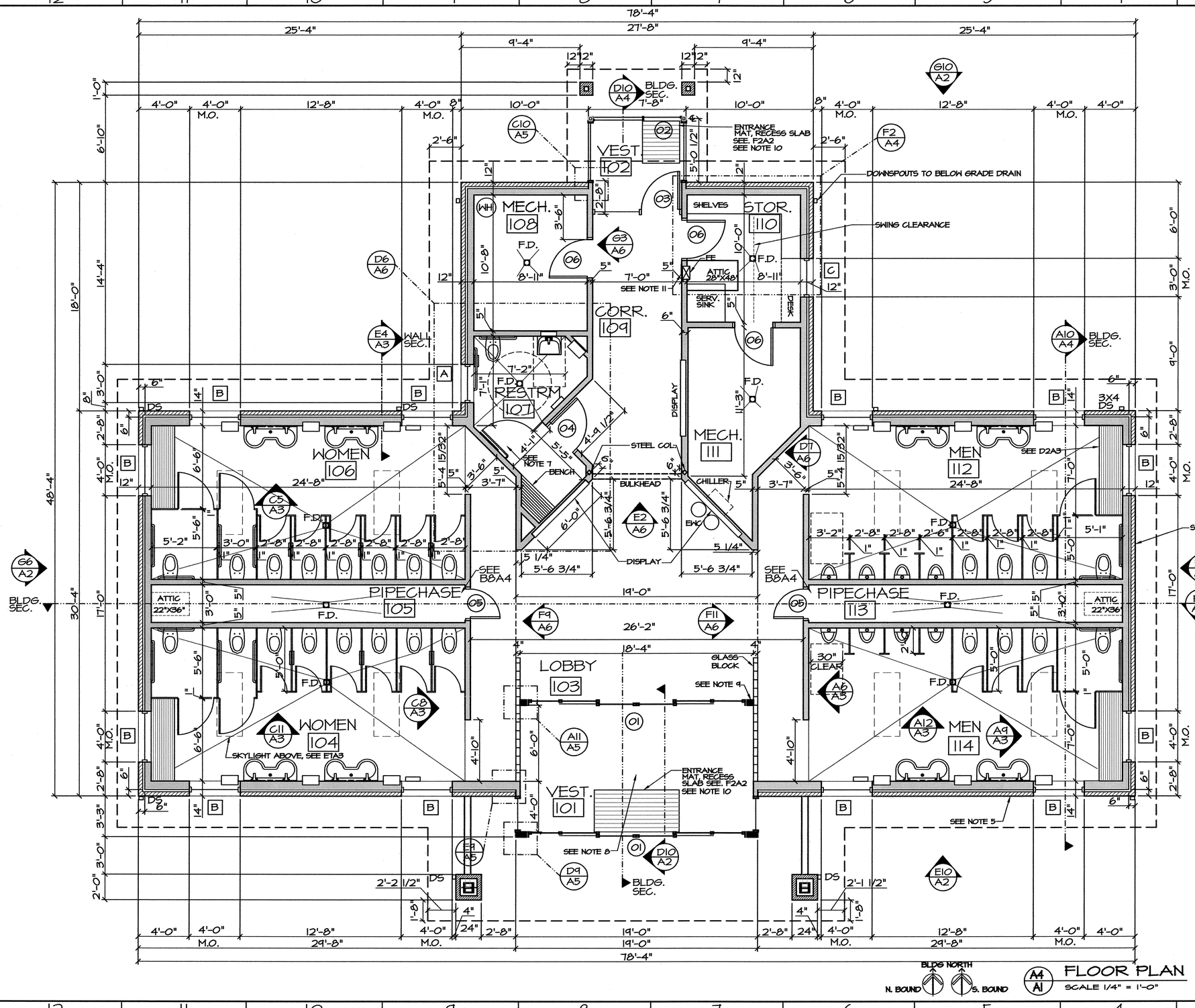
SEAL: VICTOR M. BUZARD JR. REGISTERED ARCHITECT 4241 6-15-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. T2 OF 2

S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\T2-Davidson.dwg, 6/15/2009 11:13:20 AM



A4 A1 FLOOR PLAN
SCALE 1/4" = 1'-0"

GENERAL NOTES:

1. USE THIN-SET TILE INSTALLATION AT CONCRETE FLOORS & TILE BACKER PANELS AT WOOD STUD WALLS.
2. INTERIOR ELEVATIONS FOR WOMEN 104 & MEN 114 SIMILAR TO ADJACENT ROOMS 106 & 112 RESPECTIVELY.
3. PROVIDE 5/8" DRYWALL @ ALL CEILING/ROOF JOIST.
4. ALL FINISHED FLOOR ELEVATIONS F.F.E. ARE 100'-0" FOR BLDG. REF. ELEV. ONLY AND ALL FLOOR DRAINS SHALL BE SET AT 99'-10 1/2"(99'-11 1/2" @ 107).
5. ALL EXTERIOR WOOD STUDS SHALL BE 2x6's @ 16" O.C. / EXCEPT @ LAVATORY WALLS ARE 2X8'S @ 16" O.C. PROVIDE TOILET ACCESSORY BLOCK-OUTS PER ELEVATIONS.
6. DIMENSIONS ARE NOMINAL AND ARE TO ALLOW FOR FINISHES.
7. PROVIDE MIN. 34" CLEAR OPENING TOILET PARTITION DOOR W/ PILASTERS @ INTERIOR OF REST ROOM 107. PROVIDE SOLID WOOD BLOCKING FOR ALL TOILET PARTITIONS & ACCESSORIES.
8. CENTER FLOOR ACCENT GLAZED PAVERS OFF ENTRY & PIPE CHASE DOORS.
9. PAINT SUPPORT COLUMNS AGAINST GLASS BLOCK GRAY.
10. PROVIDE ENTRANCE MAT. & ALUM. RECESS FRAME. (SEE F2A2).
11. SEE SIGN SECTIONS 10425 FOR FIRE EXTINGUISHER SIGN OF THE SPEC.
12. CAULK ALL INSIDE CORNERS AT TILE.

TILE NOTE:
SEE SPECIFICATION SECTION 09300 FOR TILE TYPE, SIZE, COLOR, LOCATION & HEIGHT.

C3 A1 DETAIL- TILE PATTERN
SCALE 1/2" = 1'-0"

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: **FLOOR PLAN**

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4248 6-15-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A1 OF

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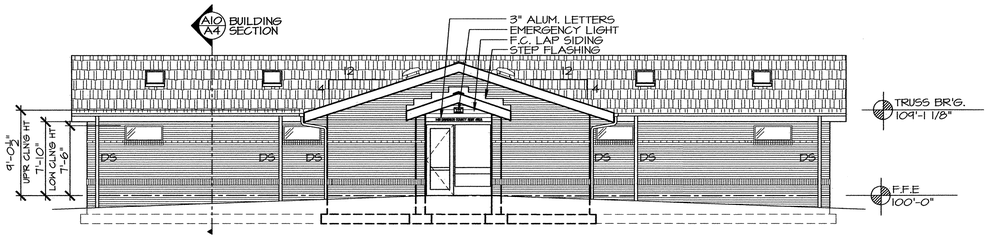
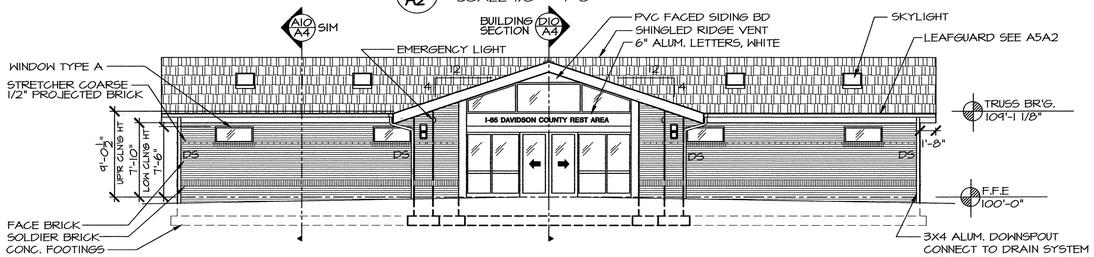
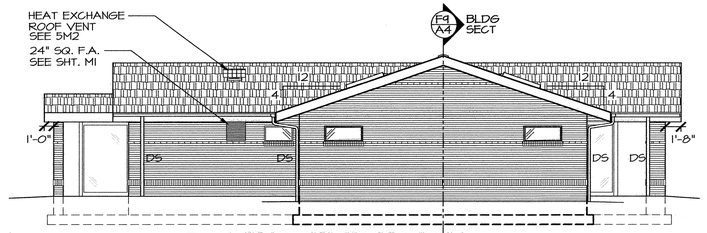


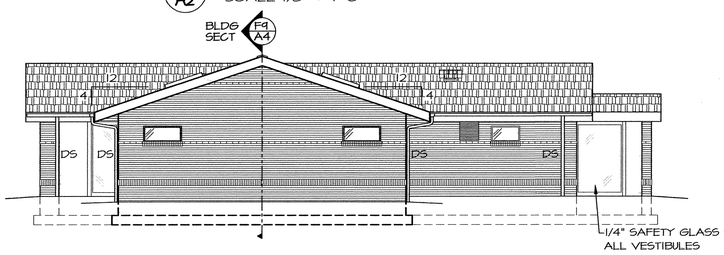
610/A2 NORTH ELEVATION
SCALE 1/8" = 1'-0"



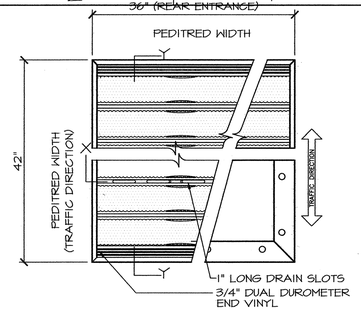
E10/A2 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



E6/A2 WEST ELEVATION
SCALE 1/8" = 1'-0"

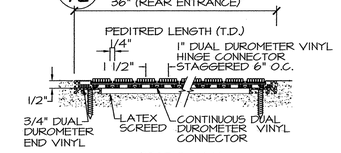


E6/A2 EAST ELEVATION
SCALE 1/8" = 1'-0"

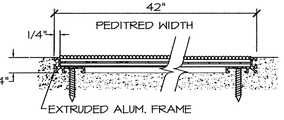


PEDITRED WITH BLOCK OUT FRAME

F2/A2 PLAN DETAIL
SCALE 1/2" = 1'-0"
36" (REAR ENTRANCE)



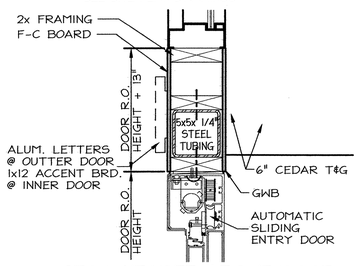
SECTION Y-Y



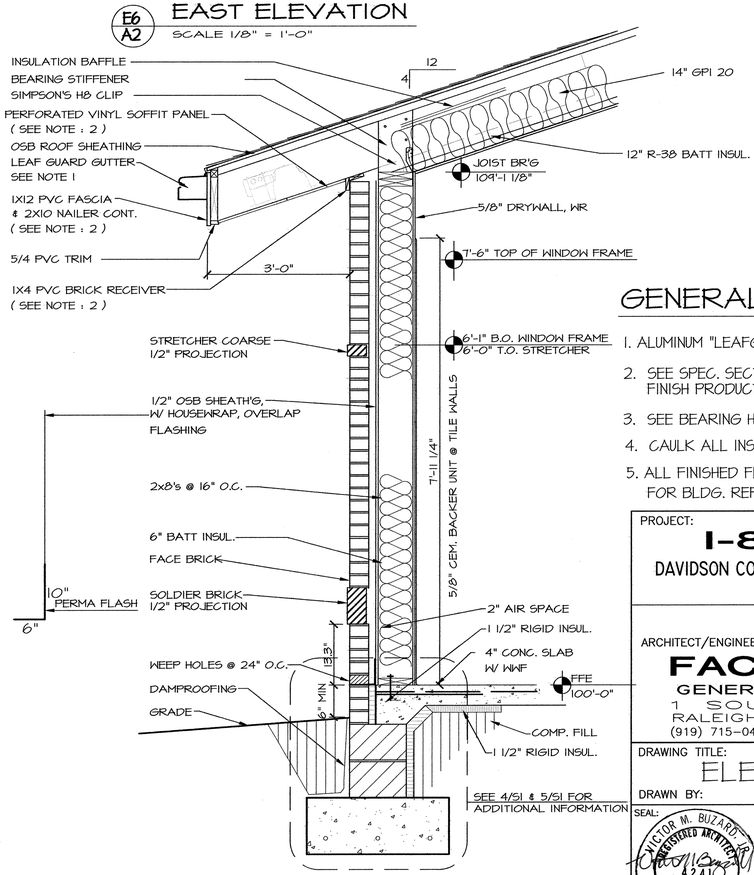
PEDITRED WITH BLOCK OUT FRAME

SECTION X-X

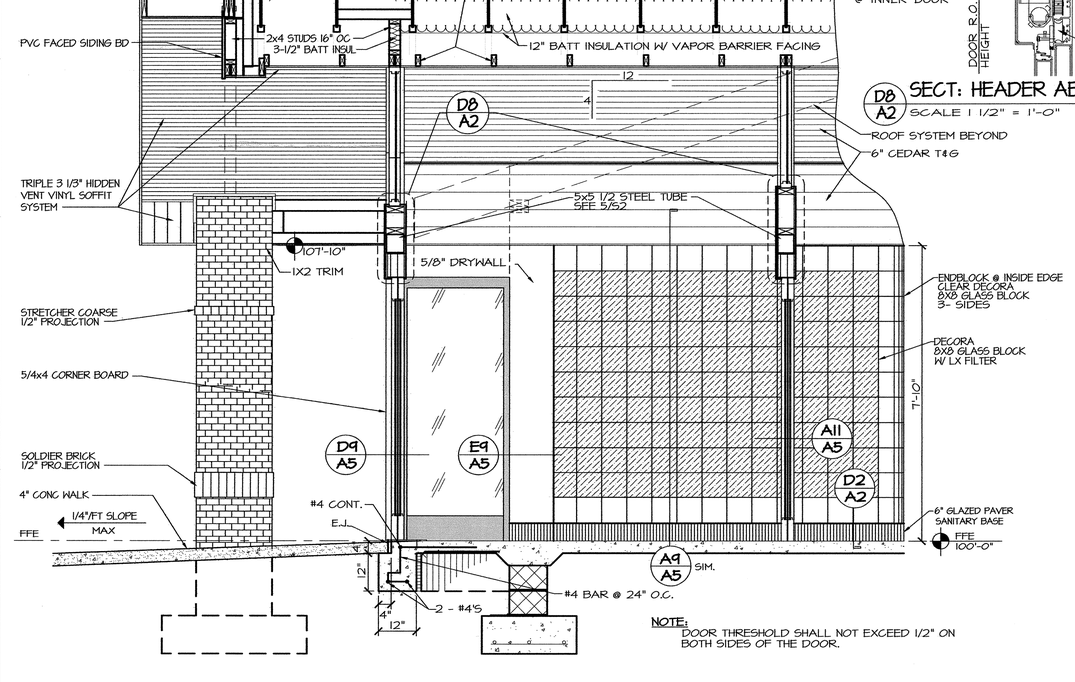
D2/A2 PEDITRED DETAIL
SCALE 1/2" = 1'-0"



D8/A2 SECT: HEADER ABOVE DOOR
SCALE 1 1/2" = 1'-0"



A5/A2 WALL SECTION
SCALE 3/4" = 1'-0"



A10/A2 SECTION- ENTRY
SCALE 1/2" = 1'-0"

GENERAL NOTES:

1. ALUMINUM "LEAFGUARD" GUTTER, W/ ANCHOR AT 24" O.C.
2. SEE SPEC. SECTION 07460 FOR EQUAL OR COMPETITIVE FINISH PRODUCT MANUFACTURING.
3. SEE BEARING HEIGHT NOTE ON SHEET S2.
4. CAULK ALL INSIDE CORNERS AT TILE.
5. ALL FINISHED FLOOR ELEVATIONS F.F.E. ARE 100'-0" FOR FOR BLDG. REF. ELEV. ONLY

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: ELEVATIONS (INT. & EXT.)

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 42410 6-15-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

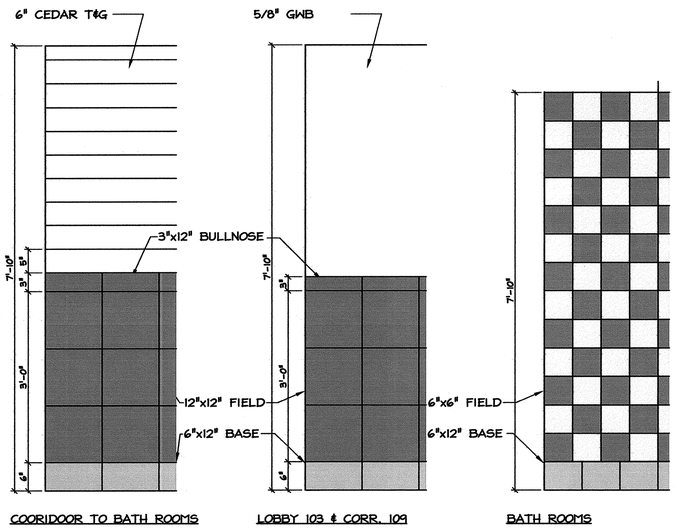
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A2 OF 6

S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\A2-Davidson-updated.dwg, 6/15/2009 11:09:52 AM

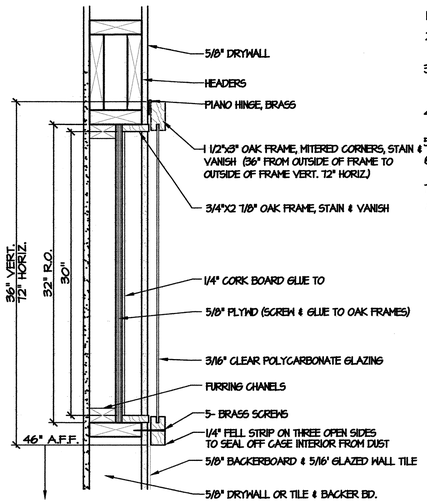
GENERAL NOTES:

1. PROVIDE 5/8" DRYWALL @ ALL CEILING/ROOF JOIST.
2. ALL EXTERIOR WOOD STUDS SHALL BE 2x6's @ 16" O.C. EXCEPT @ LAVATORIES SHALL BE 2X8'S.
3. SECURE 3 x 3 x 1/8"Δ PERIMETER FRAME (FOR CHANGING TABLE), WELD MITERED CORNERS; ANCHOR TO WALLS & SOLID PLASTIC COUNTER & TOILET PARTITION W/ S.S. SCREWS AND BOLTS. SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
4. ALUMINUM "LEAFGUARD" GUTTER, W/ ANCHOR AT 24" O.C. SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
5. PVC TRIM & FASCIA BOARDS, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
6. DO NOT OVERLAP FIXTURE ELECTRONIC CONTROLS WITH GRAB BARS.
7. CAULK ALL INSIDE CORNERS AT TILE.
8. FOR TOILET ACCESSORIES, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.

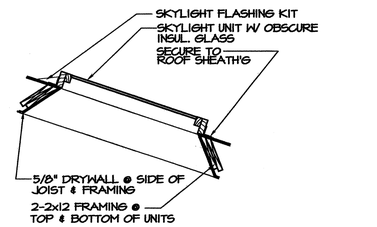


E12/A3 DETAIL- TILE PATTERN
SCALE 3/4" = 1'-0"

TILE NOTE:
1. SEE SPECIFICATION SECTION 09300 FOR TILE TYPE, SIZE, COLOR, LOCATION & HEIGHT.
2. SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.

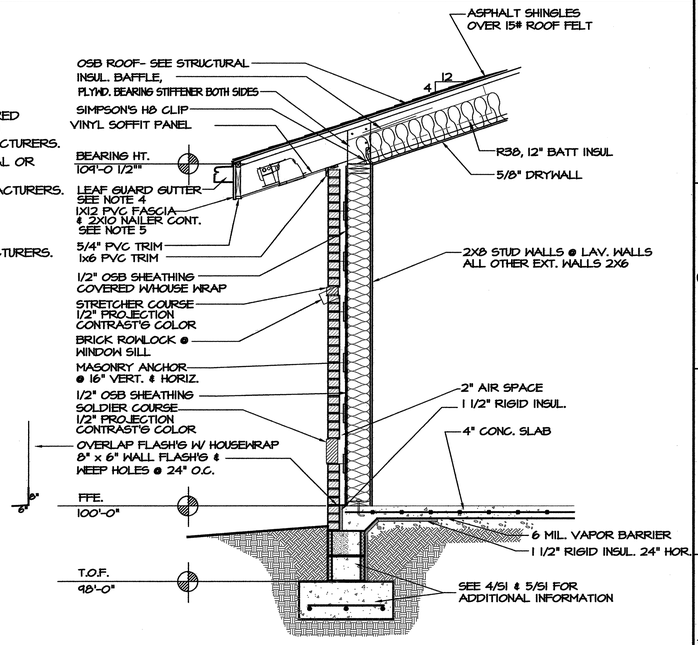


E9/A3 DETAIL- DISPLAY CASE
SCALE 1-1/2" = 1'-0"

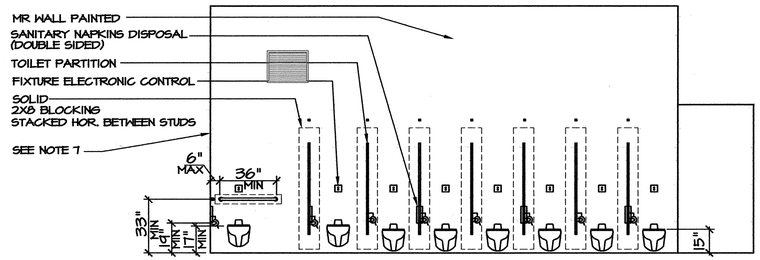


NOTE:
LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN

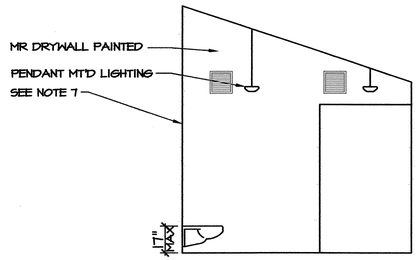
E7/A3 DETAIL- SKYLIGHT
SCALE 1/2" = 1'-0"



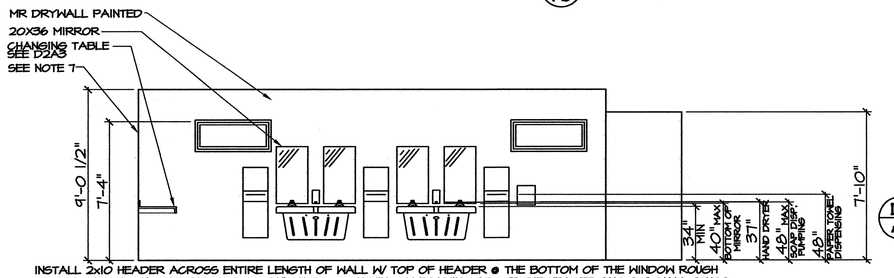
E4/A3 WALL SECTION
SCALE 1/2" = 1'-0"



C11/A3 ELEVATION-WOMEN
SCALE 1/4" = 1'-0"

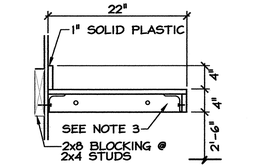


C8/A3 ELEVATION-WOMEN
SCALE 1/4" = 1'-0"

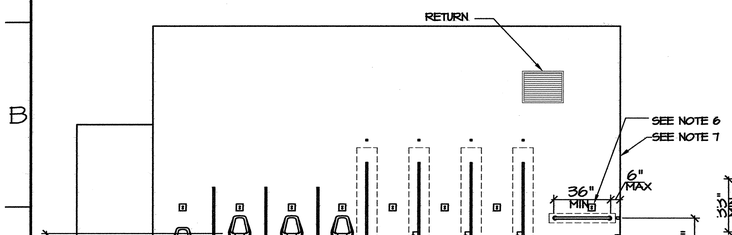


INSTALL 2x10 HEADER ACROSS ENTIRE LENGTH OF WALL W/ TOP OF HEADER @ THE BOTTOM OF THE WINDOW ROUGH OPENING HEIGHT W/ 2x8 WALL STUDS @ 16" CNTRS. & ON WINDOW FRAMING ABOVE THE HEADER AND 2x8 WALL STUDS LOCATED AS NEEDED FOR RECESSED ACCESSORIES AND LAVATORY CARRIERS BUT NO GREATER THAN 16" APART BELOW THE HEADER. ON ALL LAVATORY WALLS.

C5/A3 ELEVATION- WOMEN 106 (SEE NOTE 2 ON A1)
SCALE 1/4" = 1'-0"

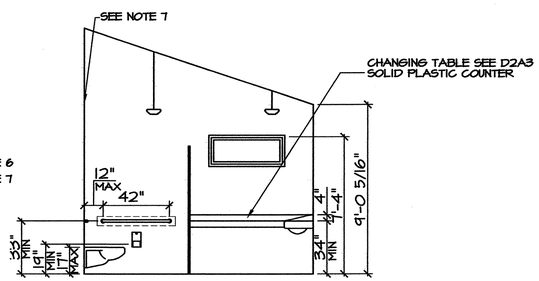


D2/A3 DETAIL- COUNTER
SCALE 1" = 1'-0"



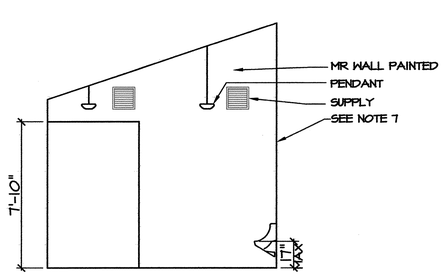
INSTALL 2x10 HEADER ACROSS ENTIRE LENGTH OF WALL ABOVE FLUSH SENSORS W/ 2x4 WALL STUDS @ 16" CNTRS. ABOVE THE HEADER AND 2x4 WALL STUDS LOCATED AS NEEDED FOR CARRIERS BUT NO GREATER THAN 16" APART BELOW THE HEADER. ON ALL WASTE FIXTURE WALLS.

A12/A3 ELEVATION-MEN
SCALE 1/4" = 1'-0"



NOTE:
BOTTOM OF TOILET PAPER DISPENSER TO BE 24" A.F.F. EXCEPT IN HANDICAPPED STALLS (19" MIN. TO CENTER LINE)

A9/A3 ELEVATION-MEN
SCALE 1/4" = 1'-0"



A6/A3 ELEVATION-MEN
SCALE 1/4" = 1'-0"

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
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DRAWING TITLE:
ELEVATIONS/ WALL SECTION

DRAWN BY: CLS CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

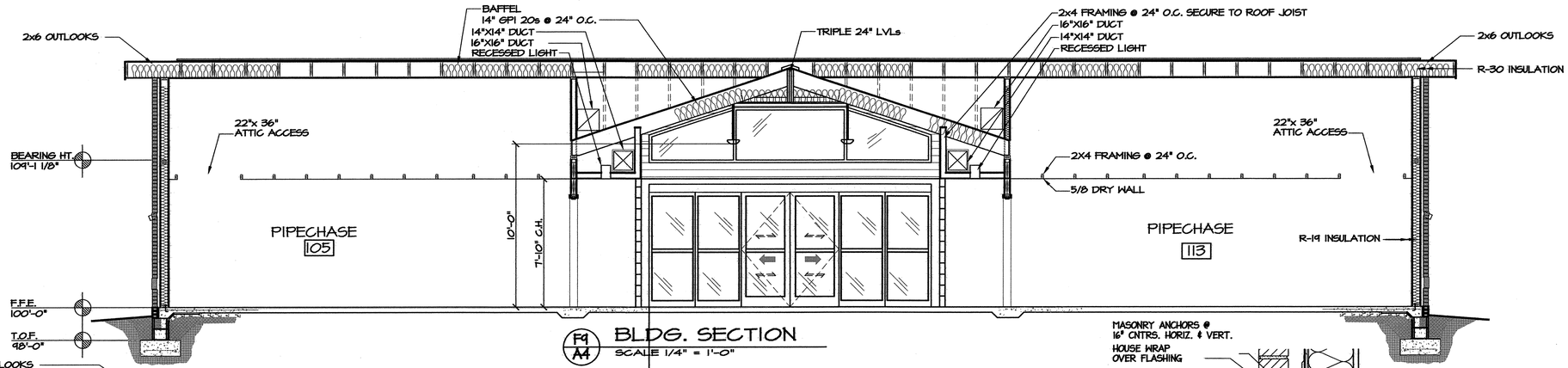
SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 6-29-09 NORTH CAROLINA RALEIGH, NC.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

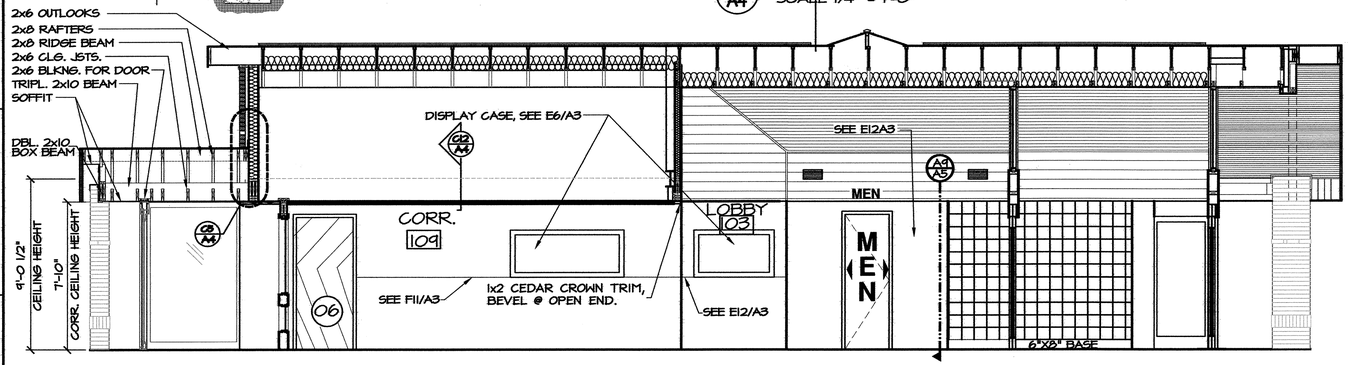
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A3 OF 6

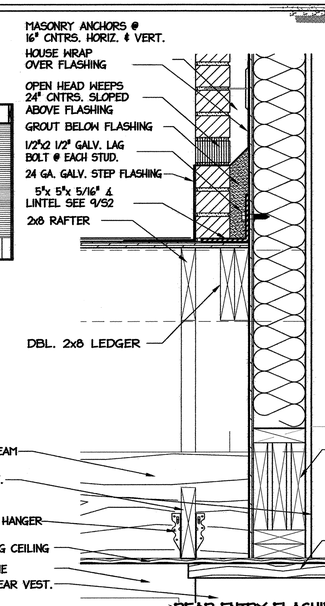
S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\A3-Davidson-updated.dwg, 6/29/2009 8:55:13 AM



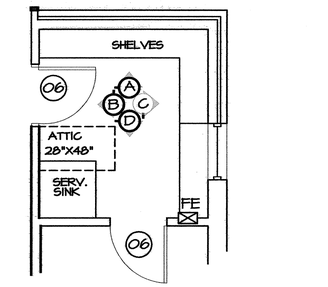
F1/A4 BLDG. SECTION
SCALE 1/4" = 1'-0"



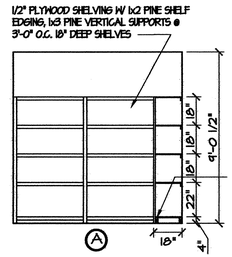
D10/A4 BLDG. SECTION
SCALE 1/4" = 1'-0"

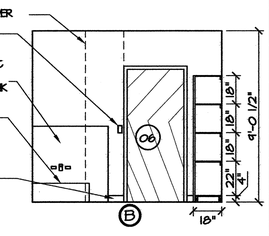


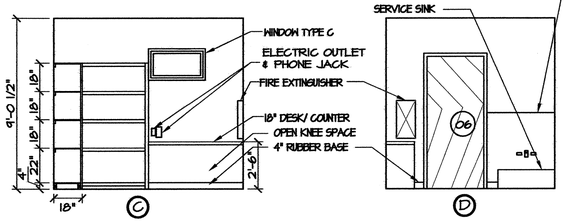
C5/A4 SECT: @ LINTEL DETAIL
SCALE 1 1/2" = 1'-0"

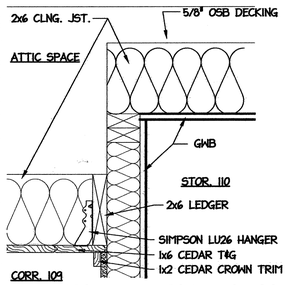


F2/A4 ELEVATION-STORAGE 110
SCALE 1/4" = 1'-0"

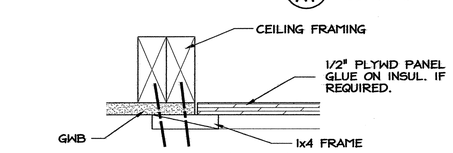




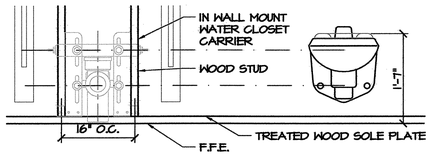




C12/A4 BLDG. SECTION
SCALE 1 1/2" = 1'-0"



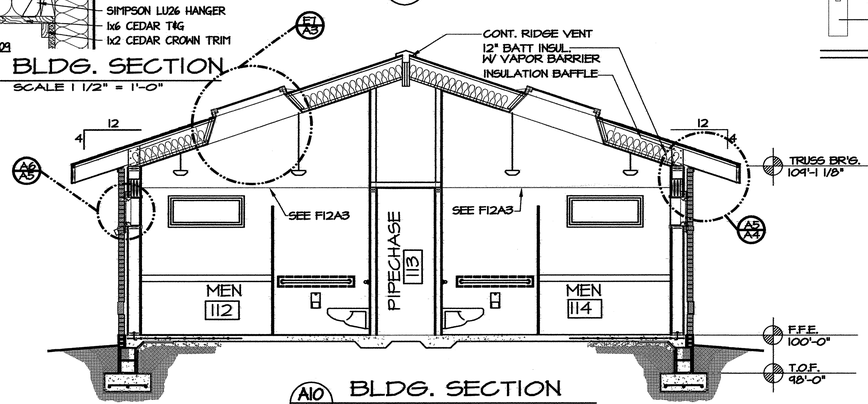
C7/A4 SECT: ATTIC ACCESS
SCALE 3" = 1'-0"



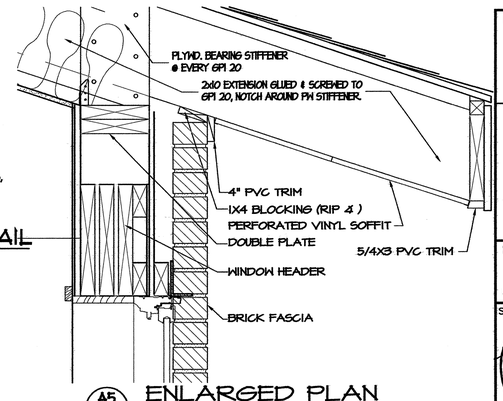
NOTES:

1). FRAMING CONTRACTOR TO COORDINATE LAYOUT OF STUDS WITH PLUMBING CONTRACTOR.
2). WATER CLOSET CARRIER IS TO BE SET FLUSH IN STUD WALL, AND IS DESIGNED FOR 16" O.C. FRAMING
3). FRAMING CONTRACTOR SHALL SET STUDS FOR CHASE WALLS, PLUMBING CONTRACTOR SHALL CONFIRM LOCATIONS

B8/A4 TYPICAL CHASE WALL WATER CLOSET CARRIER DETAIL
SCALE: 3/4" = 1'-0"



A10/A4 BLDG. SECTION
SCALE 1/4" = 1'-0"



A5/A4 ENLARGED PLAN
SCALE 1-1/2" = 1'-0"

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:
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GENERAL SERVICES DIVISION, NCDOT
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RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:
BLDG. SECTIONS

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

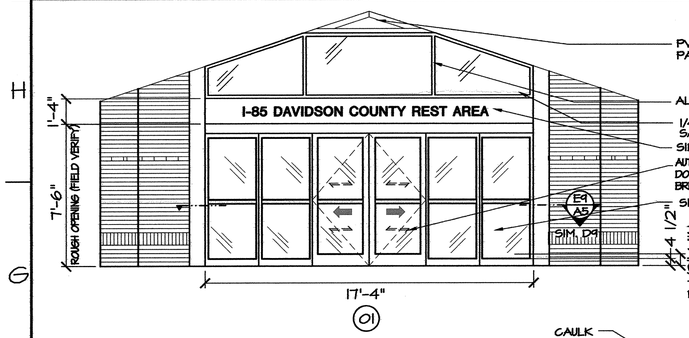
SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, 4248, 8-10-09, NORTH CAROLINA, RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A4 OF 6

S:\FDVREST AREA, WELCOME CENTERS\N-85 Davidson Co\Arch\A4-Davidson-updated.dwg, 8/10/2009 1:43:29 PM, CLS



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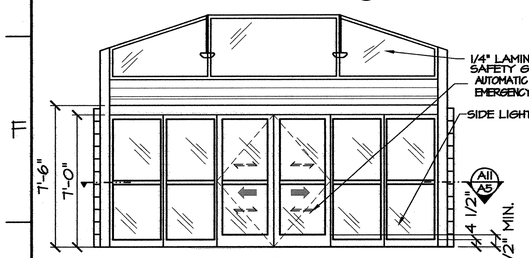

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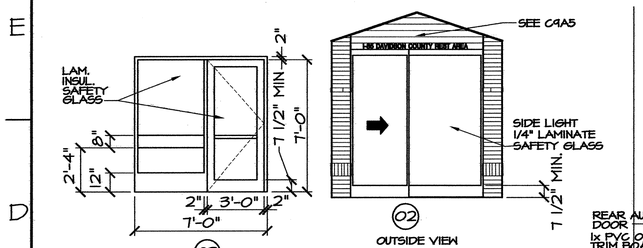
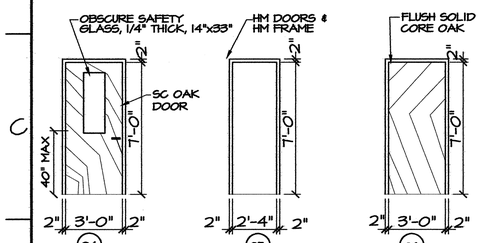


03

02

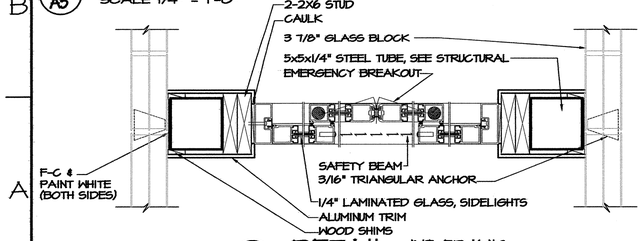
OUTSIDE VIEW



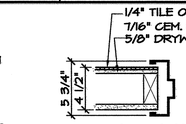
04 05 06

SEE H8A5 FOR FRAME DETAIL SEE G8A5 FOR FRAME DETAIL

B12/A5 **DOOR TYPES**
SCALE 1/4" = 1'-0"

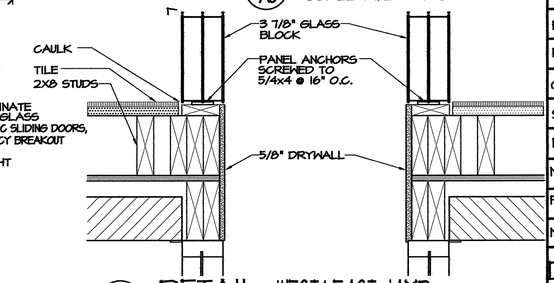


A11/A5 **DETAIL- INT. FRAM'G**
SCALE 1 1/2" = 1'-0"

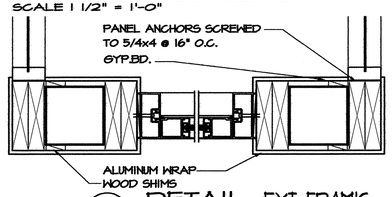


H8/A5 **DETAIL- INT. H.M.**
SCALE 1 1/2" = 1'-0"

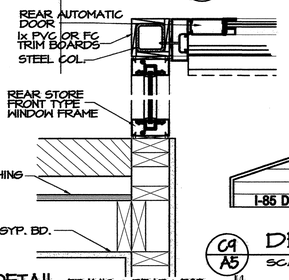
G8/A5 **DETAIL- INT. H.M.**
SCALE 1 1/2" = 1'-0"



E9/A5 **DETAIL- WEST/ EAST JAMB**
SCALE 1 1/2" = 1'-0"

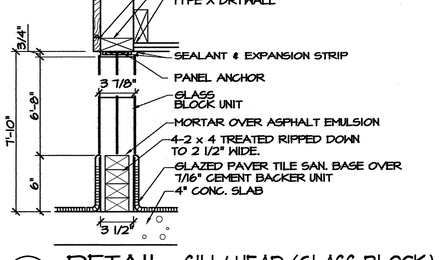


D9/A5 **DETAIL- EXT. FRAM'G**
SCALE 1 1/2" = 1'-0"

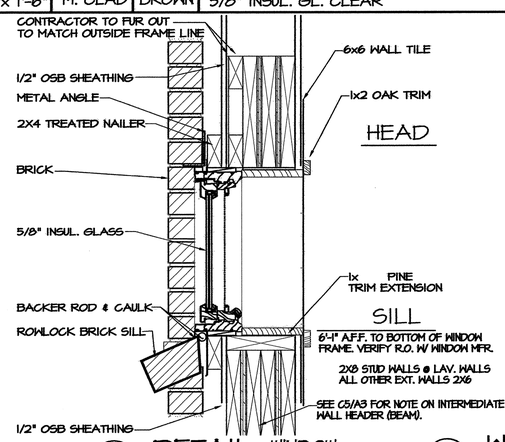


C10/A5 **DETAIL- FRAM'G @ REAR VEST.**
SCALE 1 1/2" = 1'-0"

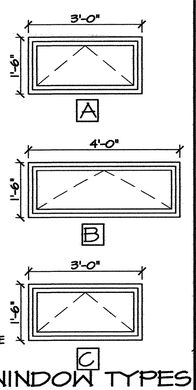
C9/A5 **DETAIL- F-C LAP SIDING**
SCALE 1/2" = 1'-0"



A9/A5 **DETAIL- SILL/ HEAD (GLASS BLOCK)**
SCALE = NTS



A6/A5 **DETAIL- WINDOW**
SCALE 1 1/2" = 1'-0"



A4/A5 **WINDOW TYPES**
SCALE 1/4" = 1'-0"

FINISH - COLOR SCHEDULE

ROOM	NO.	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING			REMARKS
		MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	HEIGHT	
VESTIBULE	101	G.P.	SEE SPEC.'S	G.P.	SEE SPEC.'S	-	SEE SPEC.'S	GLZ GB DW	SEE SPEC.'S	-	SEE SPEC.'S	GLZ GB DW	SEE SPEC.'S	T&G	SEE SPEC.'S	VARIES	1x6 CEDAR, CEILING / UPPER WALLS
VESTIBULE	102	G.P.		G.P.		-		GLZ DW		-		GLZ DW		T&G		VARIES	1x6 CEDAR, CEILING / UPPER WALLS
LOBBY	103	G.P.		G.P.		-		GT GB DW		-		GT GB DW		T&G		VARIES	1x6 CEDAR, CEILING / UPPER WALLS
WOMEN'S RESTRM	104	G.P.		G.P.		GT/DW		GT/DW		GT/DW		GT/DW		DW		VARIES	WALL TILE W/ ACCENT BAND, SEE E12A3
PIPECHASE	105	CONC.		-		OSB		OSB		OSB		OSB		DW		7'-10"	
WOMEN'S RESTRM	106	G.P.		G.P.		GT/DW		GT/DW		GT/DW		GT/DW		DW		VARIES	WALL TILE W/ ACCENT BAND, SEE E12A3
RESTROOM	107	G.P.		G.P.		GT/DW		GT/DW		GT/DW		GT/DW		DW		9'-0 1/2"	WALL TILE W/ ACCENT BAND, SEE E12A3
MECHANICAL	108	CONC.		RUBBER		DW		DW		DW		DW		DW		9'-0 1/2"	
CORRIDOR	109	G.P.		G.P.		-		GT/DW		-		GT/DW		T&G		7'-10"	1x6 CEDAR, CEILING / UPPER WALLS
STORAGE	110	VCT		RUBBER		DW		DW		DW		DW		DW		9'-0 1/2"	PAINT WOOD SHELVING
MECHANICAL	111	VCT		RUBBER		DW		DW		DW		DW		DW		9'-0 1/2"	
MEN'S RESTRM	112	G.P.		G.P.		GT/DW		GT/DW		GT/DW		GT/DW		DW		VARIES	WALL TILE W/ ACCENT BAND, SEE E12A3
PIPECHASE	113	CONC.		-		OSB		OSB		OSB		OSB		DW		7'-10"	PAINT WALLS
MEN'S RESTRM	114	G.P.	⌄	G.P.	⌄	GT/DW	⌄	GT/DW	⌄	GT/DW	⌄	GT/DW	⌄	DW	⌄	VARIES	WALL TILE W/ ACCENT BAND, SEE E12A3

DOOR - HARDWARE SCHEDULE

DOOR				FRAME		HARDWARE							REMARKS
MARK	SIZE	MAT.	COLOR	MAT.	COLOR	LOCKSET	HINGES	CLOSER	STOP	PLATE KICK	WEATHS'P/ THRESHOLD	PUSH/ PULL	
1	6'-0"X7'-0"	AL	BRONZE	AL	BRONZE	KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS W/EMERGENCY EGRESS FUNCTION
2	3'-0"x7'-0"	AL	BRONZE	AL	BRONZE	KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS W/EMERGENCY EGRESS FUNCTION
3	3'-0"x7'-0"	AL	BRONZE	AL	BRONZE		A5112	CO2022	LO2162		316A5/114/664		INSULATED DOOR, 1/4" LAM. GLASS
4	3'-0"x7'-0"x1 3/4"	SC	STAIN	H.M.	90RB 08/113	F04	A5112	CO2022	LO2162	-	3/8" MARBLE	-	OBSCURE SAFETY GLASS, 1/4" THICK, 14"x33"
5	2'-4"x7'-0"x1 3/4"	H.M.	90RR 11/257	H.M.	90RB 08/113	F17	A5112	CO2511		-	3/8" MARBLE	-	DEAD BOLT LOCKSET
6	3'-0"x7'-0"x1 3/4"	SC	STAIN	H.M.	90RB 08/113	F01	A5112	CO2022	LO2162		3/8" MARBLE		

WINDOW SCHEDULE:

WINDOW MARK:	OPENING SIZE:	FRAME: MAT.	FRAME: COLOR	REMARKS:
A	3'-0"x1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. OBSCURE
B	4'-0"x 1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. OBSCURE
C	3'-0"x 1'-6"	M. CLAD	BROWN	5/8" INSUL. GL. CLEAR

ABBREVIATIONS:

AL.	ALUMINUM
CONC.	CONCRETE, EXPOSED SLAB
DW	DRYWALL PAINTED (GLIDDEN, OR EQUAL TO DEVOS, MOORE, P&L, OR SW, SEE SPEC)
GT	GLAZED TILE / WALL (DAL TILE OR EQUAL TO AMER. OLEAN OR FLORIDA TILE, SEE SPEC.)
H.M.	HOLLOW METAL DOORS & FRAMES
SC	SOLID CORE WOOD, OAK (ICI GLIDDEN "CHERRY" OR EQUAL, P&L OR SW)
G.P.	GLAZED PAVERS / FLOOR & BASE (DAL-TILE OR EQUAL, SEE SPEC.)
F-C	FIBER-CEMENT / SIDING PANELS & TRIM CEDAR MILL EXTERIOR SIDING & TRIM
GLZ	GLAZING
GB	GLASS BLOCK

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
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DRAWING TITLE:
SCHEDULES/ DETAILS

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

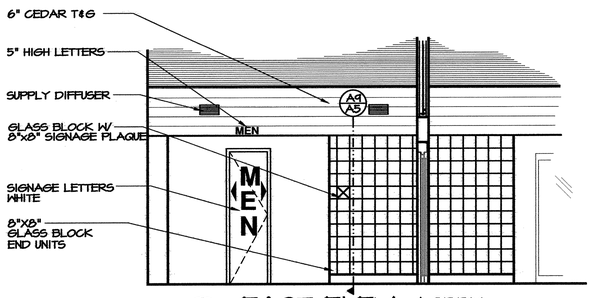
SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, 4241, 8-10-09, NORTH CAROLINA, RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

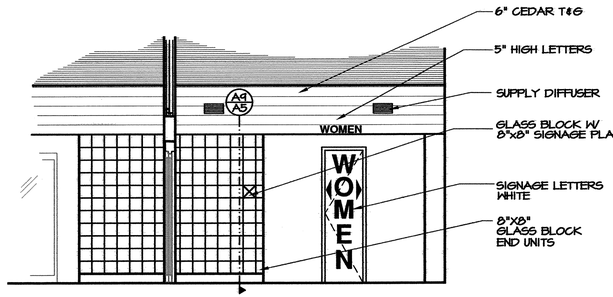
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **A5** OF 6

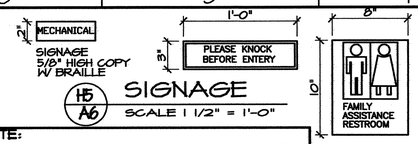
S:\PDI\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\A5-Davidson-updated.dwg, 8/10/2009 1:50:27 PM, CLS



F11 A6 EAST ELEV.- LOBBY
SCALE 1/4" = 1'-0"

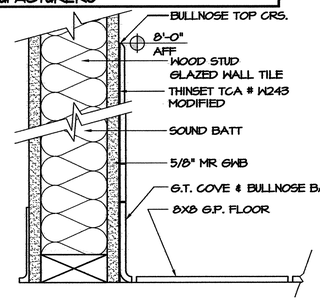


F9 A6 WEST ELEV.- LOBBY
SCALE 1/4" = 1'-0"

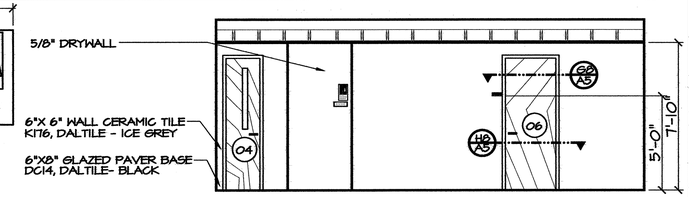


H5 A6 SIGNAGE
SCALE 1 1/2" = 1'-0"

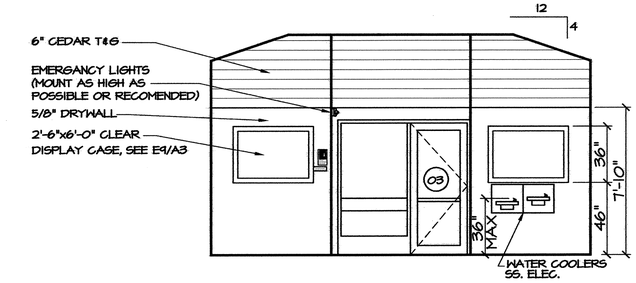
NOTE:
SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS



F5 A6 SECTION.-TILE
SCALE 3" = 1'-0"



G3 A6 WEST ELEV.- CORR 109
SCALE 1/4" = 1'-0"



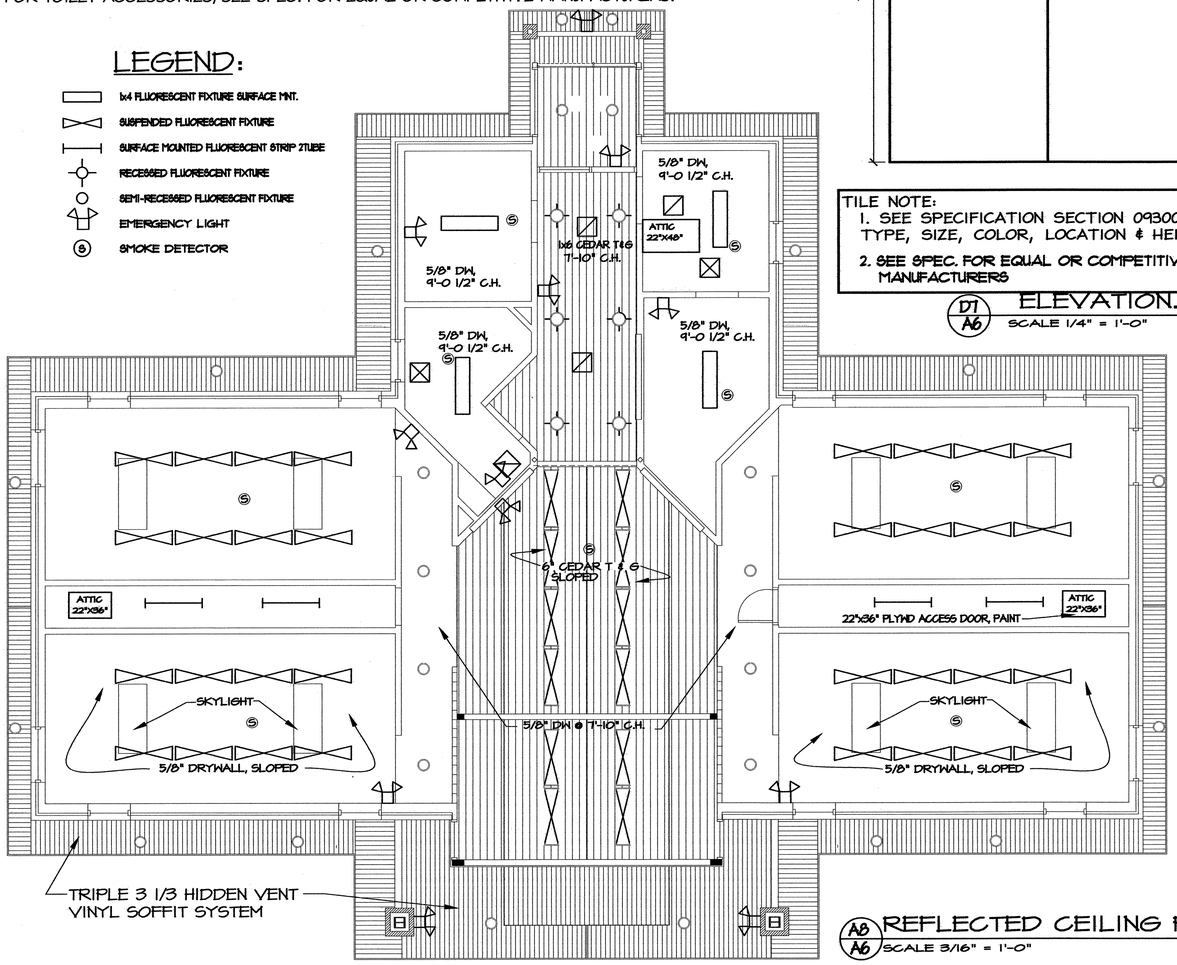
E2 A6 NORTH ELEV.- LOBBY
SCALE 1/4" = 1'-0"

GENERAL NOTES:

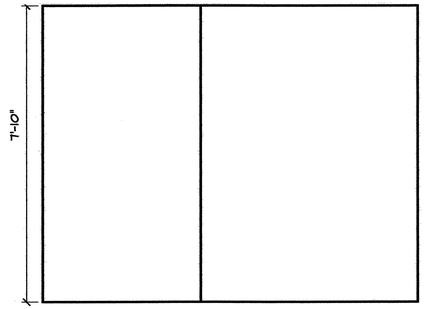
1. PROVIDE FRAMING FOR FIRE EXTINGUISHER CABINET PER MANUFACTURES RECOMMENDATIONS, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
2. SEE ALTERNATE NO. 2 FOR PVC TRIM & SOFFIT BOARDS, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
3. LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
4. FOR TOILET ACCESSORIES, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.

LEGEND:

- 1x4 FLUORESCENT FIXTURE SURFACE MNT.
- SUSPENDED FLUORESCENT FIXTURE
- SURFACE MOUNTED FLUORESCENT STRIP 2TUBE
- RECESSED FLUORESCENT FIXTURE
- SEMI-RECESSED FLUORESCENT FIXTURE
- EMERGENCY LIGHT
- (S) SMOKE DETECTOR

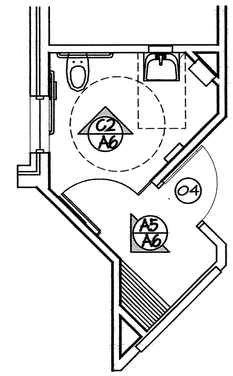


A8 A6 REFLECTED CEILING PLAN
SCALE 3/16" = 1'-0"

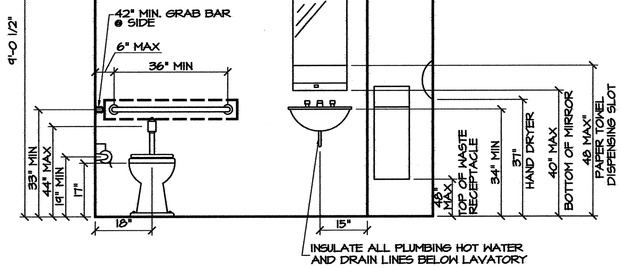


TILE NOTE:
1. SEE SPECIFICATION SECTION 09300 FOR TILE TYPE, SIZE, COLOR, LOCATION & HEIGHT.
2. SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS

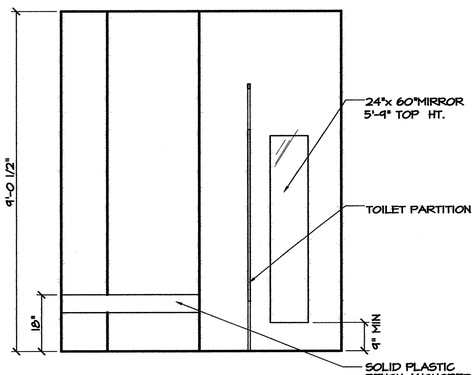
D1 A6 ELEVATION.
SCALE 1/4" = 1'-0"



D6 A6 ENLARGED PLAN- UNISEX
SCALE 1/4" = 1'-0"



C2 A6 NORTH ELEV.- UNISEX
SCALE 1/2" = 1'-0"



A5 A6 SOUTHWEST ELEV.
SCALE 1/2" = 1'-0"

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
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DRAWING TITLE:
REFLECTED CEILING PLAN & DETAILS

DRAWN BY: CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

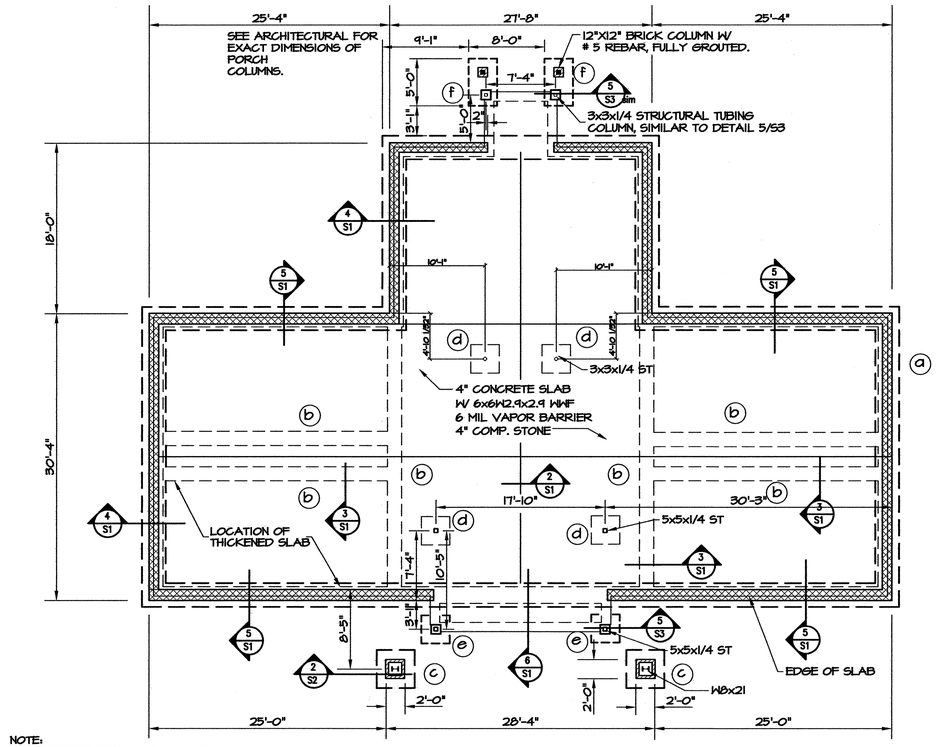
SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, 4241, 6-10-09, NORTH CAROLINA, RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A6 OF 6

S:\EV\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Archi\A6-Davidson-updated.dwg, 9/10/2009 1:09:38 PM, CLS



NOTE:
ANY STEPPED FOOTING SHALL MAINTAIN TOP OF FOOTING @ 2' BELOW GRADE.
REINFORCING SHALL BE INCREASED IN THIS AREA PER 4/S1 AND 5/S1.

NOTE: SEE ARCHITECTURAL FOR FLOOR DRAIN LACATIONS AND SLOPE OF RESTROOM FLOORS.

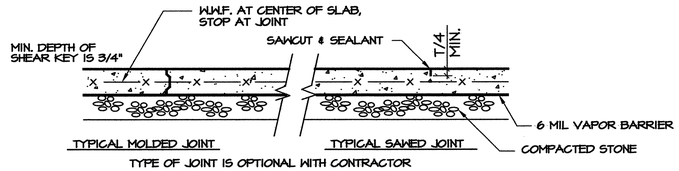
1/S1 FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

FOOTING SCHEDULE

MARK	SIZE	REINFORCING
ⓐ	2'-6" x 12" CONT'	3 -#5'S CONT. W/ #4 TIES 24" O.C.
ⓑ	18" x 12" CONT' LUG FOOTING	6 -#4'S CONT. W/ #4 TIES 12" O.C.
ⓒ	4'-0" x 4'-0" x 1'-0"	4 -#5'S EACH WAY, TOP & BOTTOM
ⓓ	3'-0" x 3'-0" x 1'-0" LUG FOOTING	3 -#4'S EACH WAY
ⓔ	3'-0" x 3'-0" x 1'-0" FOOTING	3 -#4'S EACH WAY, TOP & BOTTOM
ⓕ	3'-0" x 5'-0" x 1'-0" FOOTING	6 -#4'S SHORT WAY, TOP & BOTTOM 3 -#4'S LONG WAY, TOP & BOTTOM

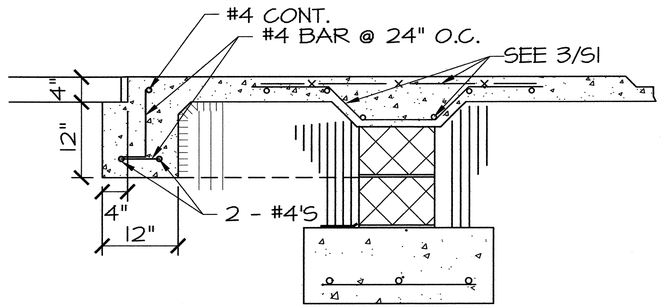
NOTE: ALL FOOTINGS ARE ⓐ U.O.N.



TYPE OF JOINT IS OPTIONAL WITH CONTRACTOR
"T" INDICATES THICKNESS OF SLAB.

2/S1 TYP. CONTROL JOINT

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



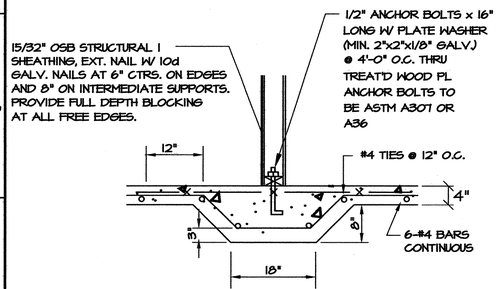
6/S1 THICKENED SLAB @ ENTRY

SCALE: 1" = 1'-0"

NOTES:

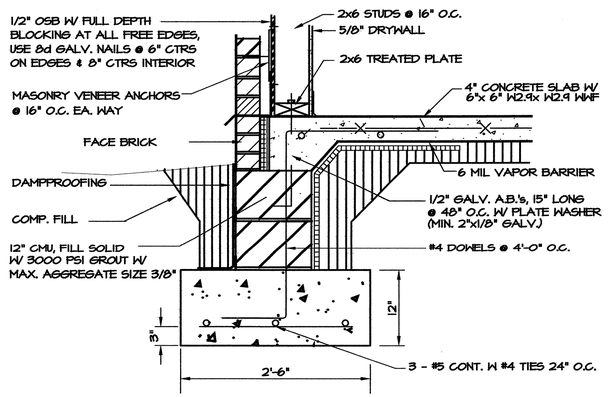
1. DESIGN SOIL BEARING CAPACITY = 2000 PSF (PRESUMPTIVE)
2. DESIGN FLOOR SLAB LIVE LOAD = 100 PSF
3. DESIGN ROOF LIVE LOAD = 20 PSF
4. DESIGN GROUND SNOW LOAD, Pg = 10 PSF
5. DESIGN WIND VELOCITY = 90 MPH, WIND EXPOSURE CAT. B.
6. COMPRESSIVE STRENGTH OF CONCRETE f'c IN FLOOR SLAB SHALL BE MIN.. OF 3000 PSI AT 28 DAYS.
7. CONTRACTOR SHALL VERIFY THAT ALL UNDER SLAB PIPING IS IN PLACE PRIOR TO POURING SLAB.
8. DO NOT SCALE FROM DRAWINGS. USE GIVEN DIMENSIONS FOR EXACT LOCATIONS. (SEE ARCHITECTURAL DIMENSIONS UON)
9. FOOTINGS SHALL BE CENTERED ON CORRESPONDING MASONRY WALLS.
10. COMPRESSIVE STRENGTH OF CONCRETE f'c IN FOOTINGS SHALL BE MIN.. OF 3000 PSI AT 28 DAYS.
11. FINISH FLOOR REFERENCE (ELEVATION) OF SLAB SHALL BE 100.0' U.O.N.
12. ALL REINFORCING STEEL SHALL BE GRADE 60.
13. TOP OF FOOTING SHALL BE 2'-0 BELOW F.F.E. U.O.N.
14. STEEL "W" SHAPES, ANGLE & PLATES SHALL BE ASTM A36. STRUCTURAL STEEL TUBING SHALL BE ASTM A 500, GRADE B. STEEL ANCHOR BOLTS SHALL BE ASTM A36 OR A307.

NOTE: ALL HARDWARE AND/OR FASTENERS THAT COME IN CONTACT WITH ANY TREATED LUMBER WILL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.



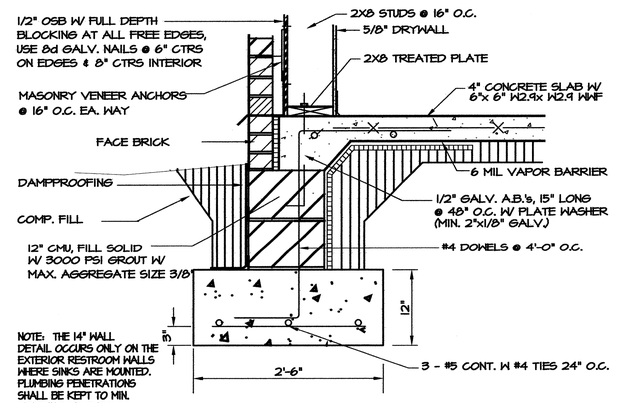
3/S1 DETAIL- INTERIOR FOOTING

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



4/S1 TYP. WALL DETAIL

SCALE: 1" = 1'-0"



NOTE: THE 14" WALL DETAIL OCCURS ONLY ON THE EXTERIOR RESTROOM WALLS WHERE SINKS ARE MOUNTED. PLUMBING PENETRATIONS SHALL BE KEPT TO MIN. SIZES IN 2X8 STUDS.

5/S1 14" WALL DETAIL

SCALE: 1" = 1'-0"

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN

GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
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DRAWING TITLE:

FOUNDATION PLAN & SECTIONS

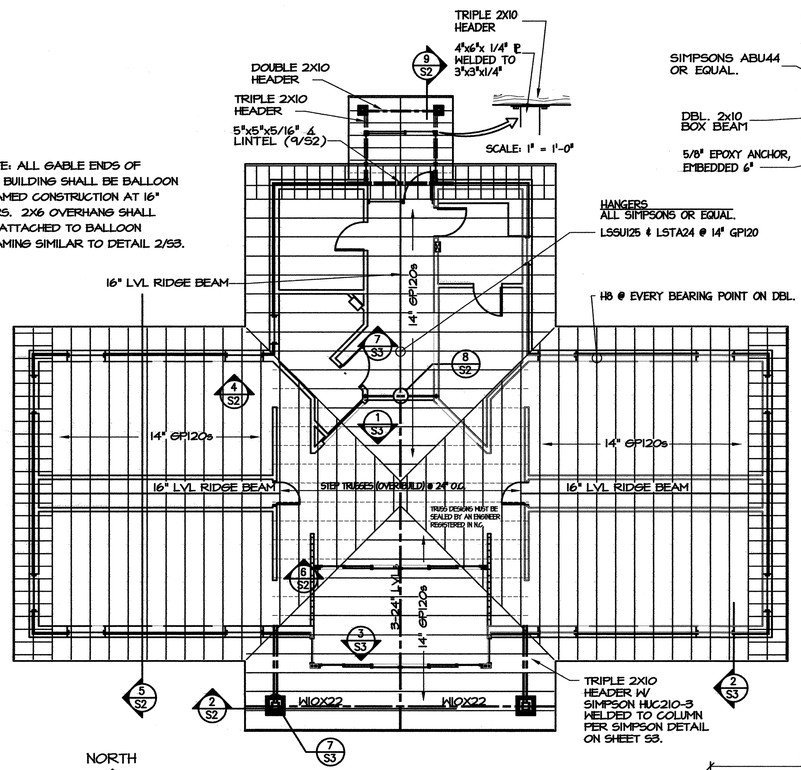
DRAWN BY: WER / CLS CHECKED BY: W.E. RATTERREE ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18384 WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

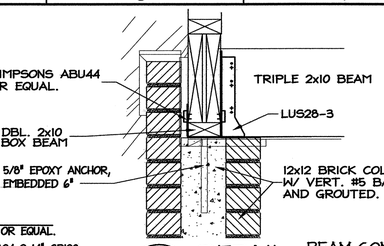
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **S1**



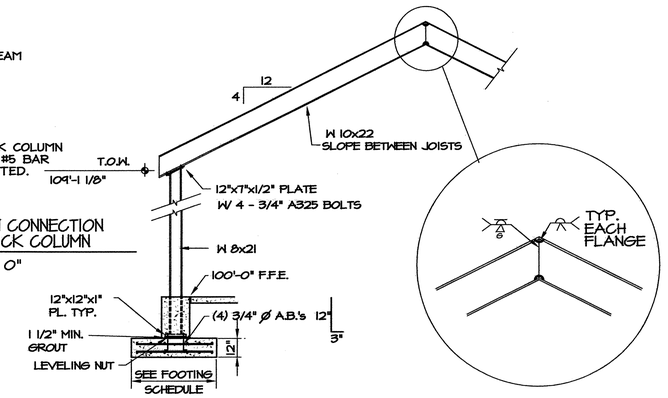
1 / S2 ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



9 / S2 DETAIL- BEAM CONNECTION @ BRICK COLUMN

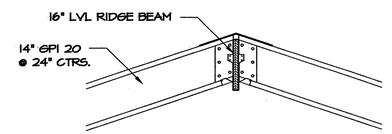
SCALE: 1 1/2" = 1'- 0"



2 / S2 DETAIL- COLUMN & BEAM

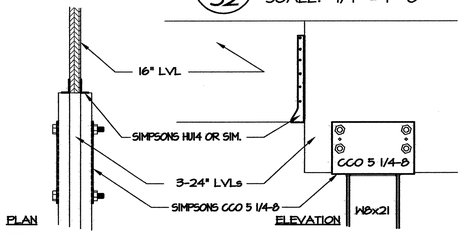
SCALE: 1/4" = 1'- 0"

NOTE: 9'-1 1/8" BEARING HEIGHT IS BASED ON A 104 5/8" STUD LENGTH, IF STANDARD STUDS ARE SHIPPED WITH A FRACTIONAL VARIATION, IT WILL BE THE GC's RESPONSIBILITY TO MAKE THE MINOR BEARING HEIGHT ADJUSTMENTS AND INFORM THE STEEL FABRICATOR AND ANY OTHER TRADE THIS MINOR ADJUSTMENT MAY INVOLVE.



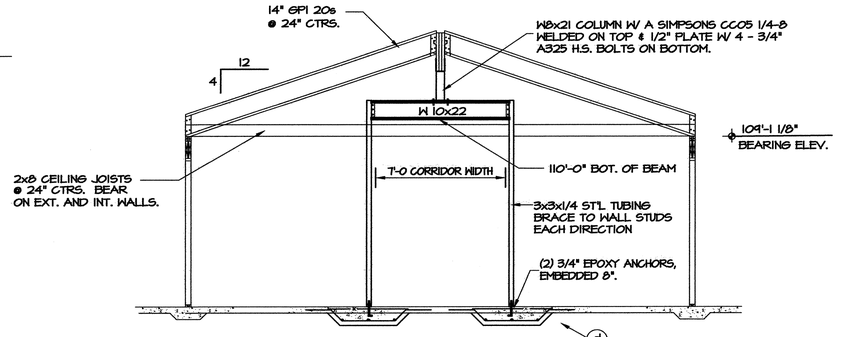
7 / S2 DETAIL- ROOF RIDGE OVER CORRIDOR

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



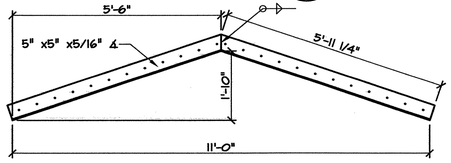
8 / S2 DETAIL- ROOF RIDGE CONNECTION

SCALE: 1" = 1'- 0"



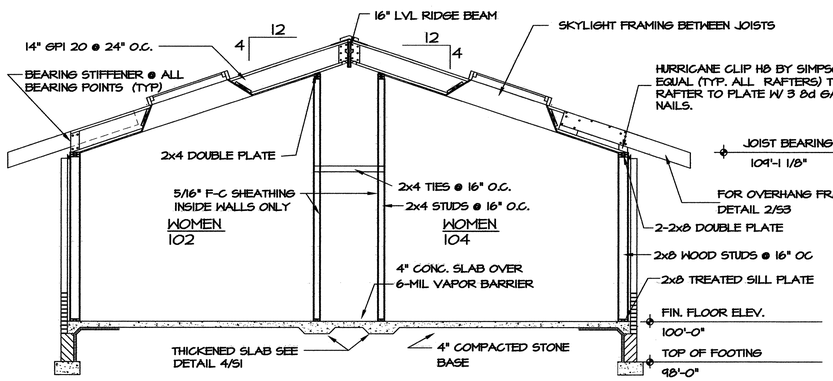
4 / S2 DETAIL- CORRIDOR COLUMN

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



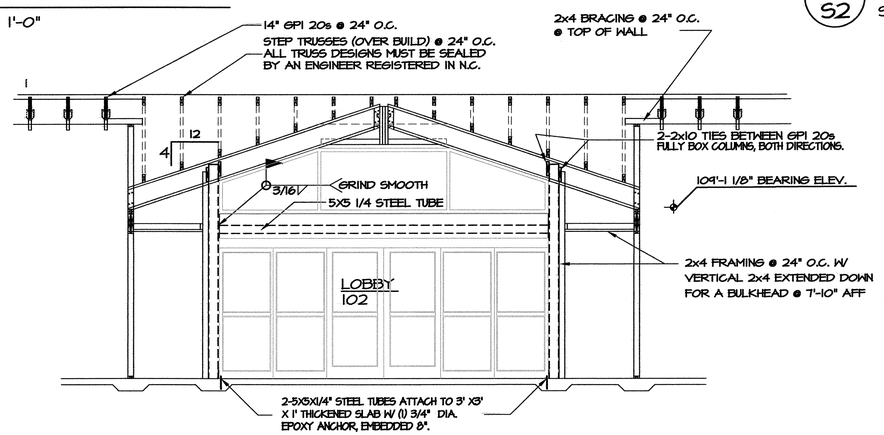
9 / S2 REAR ENTRY LINTEL ANGLE

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



5 / S2 BLDG. SECTION

SCALE 1/4" = 1'-0"



6 / S2 TYP. AIRLOCK SECTION

SCALE 1/4" = 1'-0"

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

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DRAWING TITLE:

ROOF FRAMING PLAN & SECTIONS

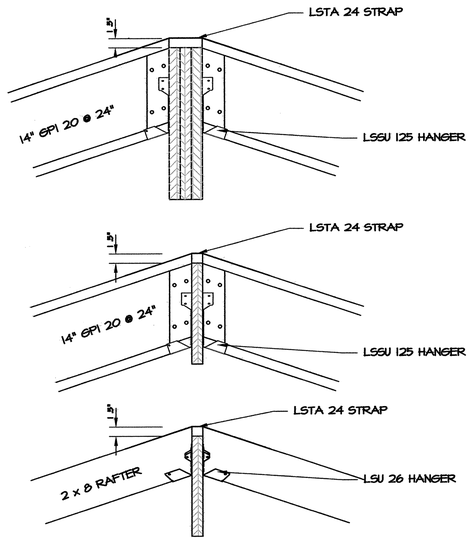
DRAWN BY: WER / CLS CHECKED BY: W.E. RATTERREE ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16394 WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

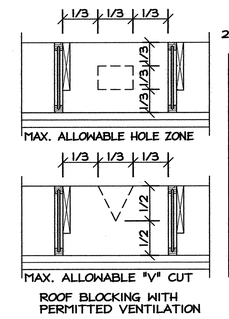
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **S2**



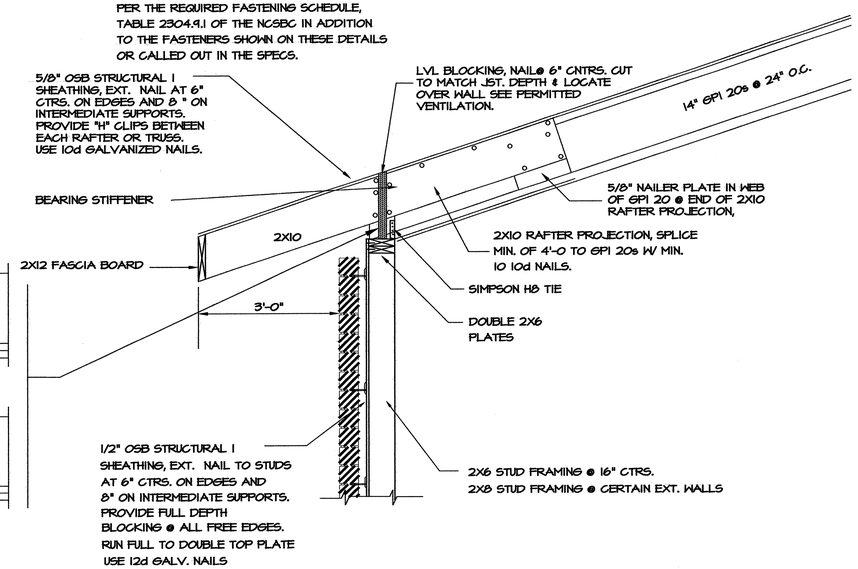
1/S3 RIDGE CONN., LVL BEAMS

SCALE: 1" = 1'-0"



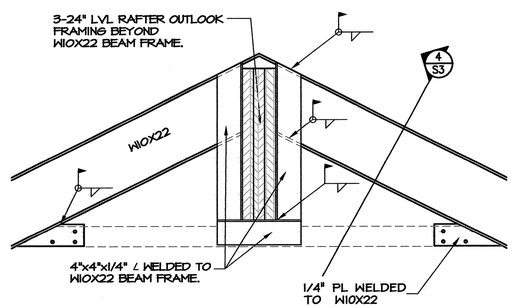
ROOF BLOCKING WITH PERMITTED VENTILATION

NOTE: SPLICES OF TOP AND BOTTOM PLATES SHALL BE SPACED A MAX. OF 3' APART. ALL FRAMING MEMBERS SHALL BE FASTENED PER THE REQUIRED FASTENING SCHEDULE, TABLE 2304.9.1 OF THE NCSBC IN ADDITION TO THE FASTENERS SHOWN ON THESE DETAILS OR CALLED OUT IN THE SPECS.



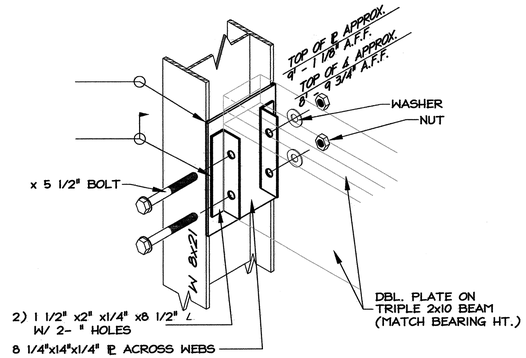
2/S3 DETAIL: TYP. EAVE SECT.

SCALE 3/4" = 1'-0"



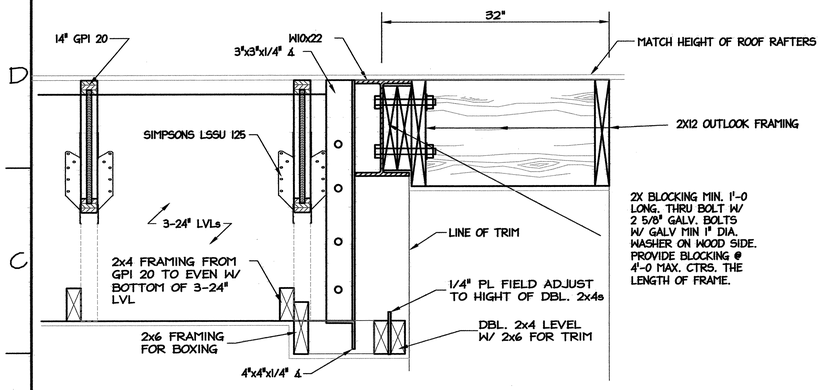
3/S3 DETAIL: TYP. EAVE SECT.

SCALE 1" = 1'-0"



7/S3 MOUNTING BRACKET @ DETAIL- FRONT COLUMN

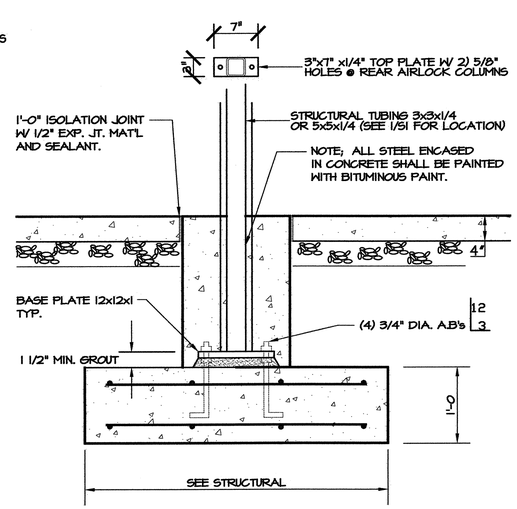
SCALE: 1 1/2" = 1'-0"



2X BLOCKING MIN. 1'-0 LONG. THRU BOLT W/ 2 5/8" GALV. BOLTS W/ GALV MIN 1" DIA. WASHER ON WOOD SIDE. PROVIDE BLOCKING @ 4'-0 MAX. CTRS. THE LENGTH OF FRAME.

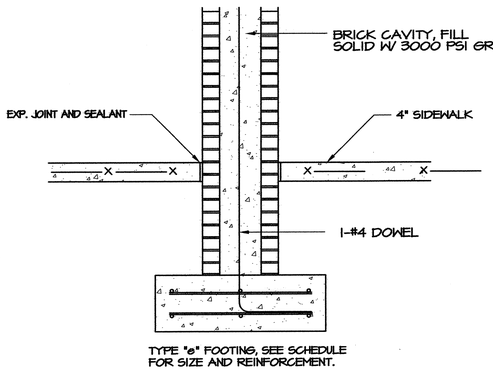
4/S3 DETAIL: TYP. EAVE SECT.

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



5/S3 DETAIL: EXT. AIRLOCK COLUMN

SCALE 1" = 1'-0"



TYPE "e" FOOTING, SEE SCHEDULE FOR SIZE AND REINFORCEMENT.

6/S3 DETAIL- COLUMN FOOTING

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

NOTE: ALL HARDWARE AND/OR FASTENERS THAT COME IN CONTACT WITH ANY TREATED LUMBER WILL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

MASONRY WALL LINTEL SCHEDULE

OPENINGS	LINTEL		BEARING
0'-0" TO 1'-4"	1 P-3/8 x 3 1/2	(GALV'D.) *	8"
1'-4" TO 4'-0"	1 L-3 1/2 x 3 1/2 x 5/16	(GALV'D.) *	8"
4'-0" TO 6'-8"	1 L-4 x 3 1/2 x 5/16	(GALV'D.) *	8"
6'-8" TO 8'-0"	1 L-5 x 3 1/2 x 5/16	(GALV'D.) *	8"

HEADER SCHEDULE / WOOD FRAMING

FRAMING	OPENING SIZE	HEADER SIZE
2X4	TO 10'-0"	2 2x12's W/ 1 1/2" PLYWD ℄
2X6	TO 10'-0"	3 2x12's W/ 2 1/2" PLYWD ℄'S
2X8	TO 10'-0"	4 2x10's W/ 2 5/8" PLYWD ℄'S

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN

GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:

DETAILS & SECTIONS

DRAWN BY: WER / CLS CHECKED BY: W.E. RATTERREE ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16394 WILLIAM RATTERREE 10-15-09

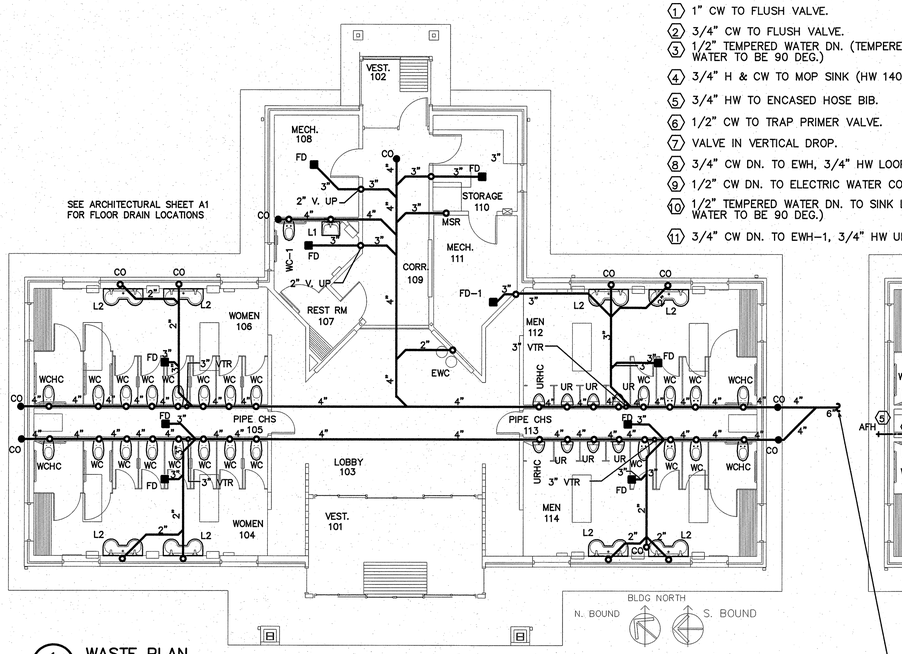
TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL-AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **S3**

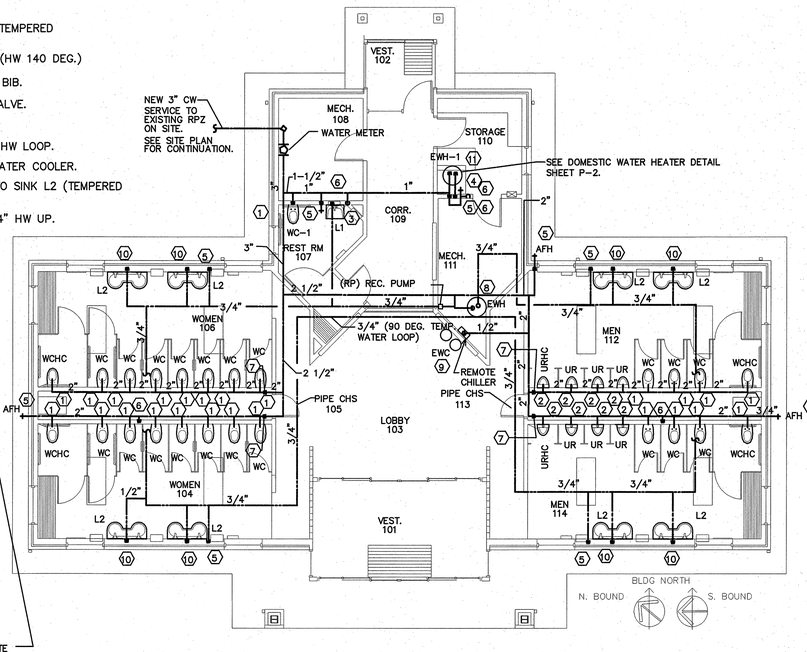
PLUMBING KEY NOTES – WATER

1. 1" CW TO FLUSH VALVE.
2. 3/4" CW TO FLUSH VALVE.
3. 1/2" TEMPERED WATER DN. (TEMPERED WATER TO BE 90 DEG.)
4. 3/4" H & CW TO MOP SINK (HW 140 DEG.)
5. 3/4" HW TO ENCASED HOSE BIB.
6. 1/2" CW TO TRAP PRIMER VALVE.
7. VALVE IN VERTICAL DROP.
8. 3/4" CW DN. TO EWH, 3/4" HW LOOP.
9. 1/2" CW DN. TO ELECTRIC WATER COOLER.
10. 1/2" TEMPERED WATER DN. TO SINK L2 (TEMPERED WATER TO BE 90 DEG.)
11. 3/4" CW DN. TO EWH–1, 3/4" HW UP.



1 P1 WASTE PLAN
SCALE: 1/8"=1'-0"

CONNECT TO EXISTING MANHOLE, SEE SITE UTILITIES DRAWING FOR EXACT LOCATION.



2 P1 WATER PLAN
SCALE: 1/8"=1'-0"

NOTE:
MAINTAIN MAXIMUM CLEARANCE POSSIBLE IN MAINTENANCE PIPE CHASES. LOCATE CARRIERS IN WALL AND RUN ALL PIPING TIGHT TO WALLS.

THE HVAC DUCTWORK MUST BE INSTALLED FIRST THROUGH THE ROOF SYSTEM PRIOR TO THE INSTALLATION OF ANY PIPING.

GENERAL NOTES – PLUMBING

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
5. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE–REQUIRED AND MANUFACTURER – REQUESTED SERVICE CLEARANCES.
6. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
7. ALL HANDICAP FIXTURES AND INSTALLATION OF HANDICAP FIXTURES SHALL CONFORM TO ADA REQUIREMENTS.
8. AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.
9. PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.
10. PROVIDE CONCRETE RING FOR ALL EXTERIOR CLEAN–OUTS.
11. REVIEW SITE PLAN FOR UTILITIES AND ORIENTATION PRIOR TO START OF WORK.

PLUMBING LOAD SUMMARY	
WASTE FIXTURE UNITS =	206
WATER FIXTURE UNITS =	348
TOTAL DEMAND G.P.M. =	117

WASTE AND VENT LEGEND:

- COLD WATER PIPE
- HOT WATER PIPE
- NEW HOT RETURN
- BALL VALVE
- HOSE BIBB
- WATER HYDRANT
- NEW VENT
- NEW WASTE
- C.O. CLEAN OUT–PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS
- W.C.O. WALL CLEAN OUT
- FLOOR DRAIN
- VTR VENT THROUGH ROOF
- TPC TRAP PRIMER CONNECTION
- CONNECT TO EXISTING
- (1) KEY NOTE NUMBER

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3505-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com

PROJECT:
I–85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715–0400 FAX (919) 715–0399

DRAWING TITLE: NORTHBOUND PLUMBING PLAN

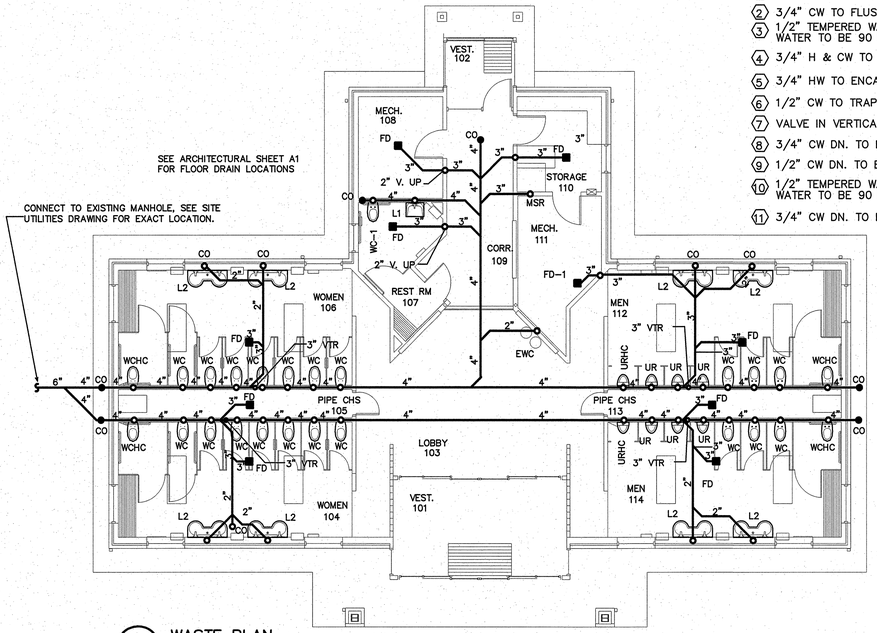
DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE 8/10/09

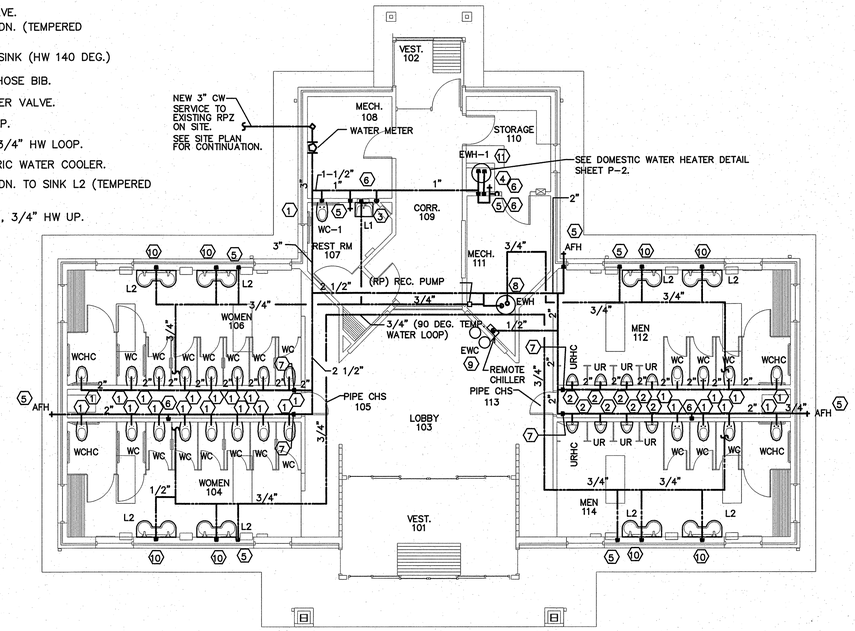
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4905	39886.3.ST1	C202161	STM–085–3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. P1 OF 6



1 P2 WASTE PLAN
SCALE: 1/8"=1'-0"



2 P2 WATER PLAN
SCALE: 1/8"=1'-0"

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- CONNECT TO EXISTING
- (1) KEY NOTE NUMBER

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Raleigh, North Carolina 27603
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email: benburke@nc.rr.com

PROJECT:
I–85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: SOUTHBOUND PLUMBING PLAN

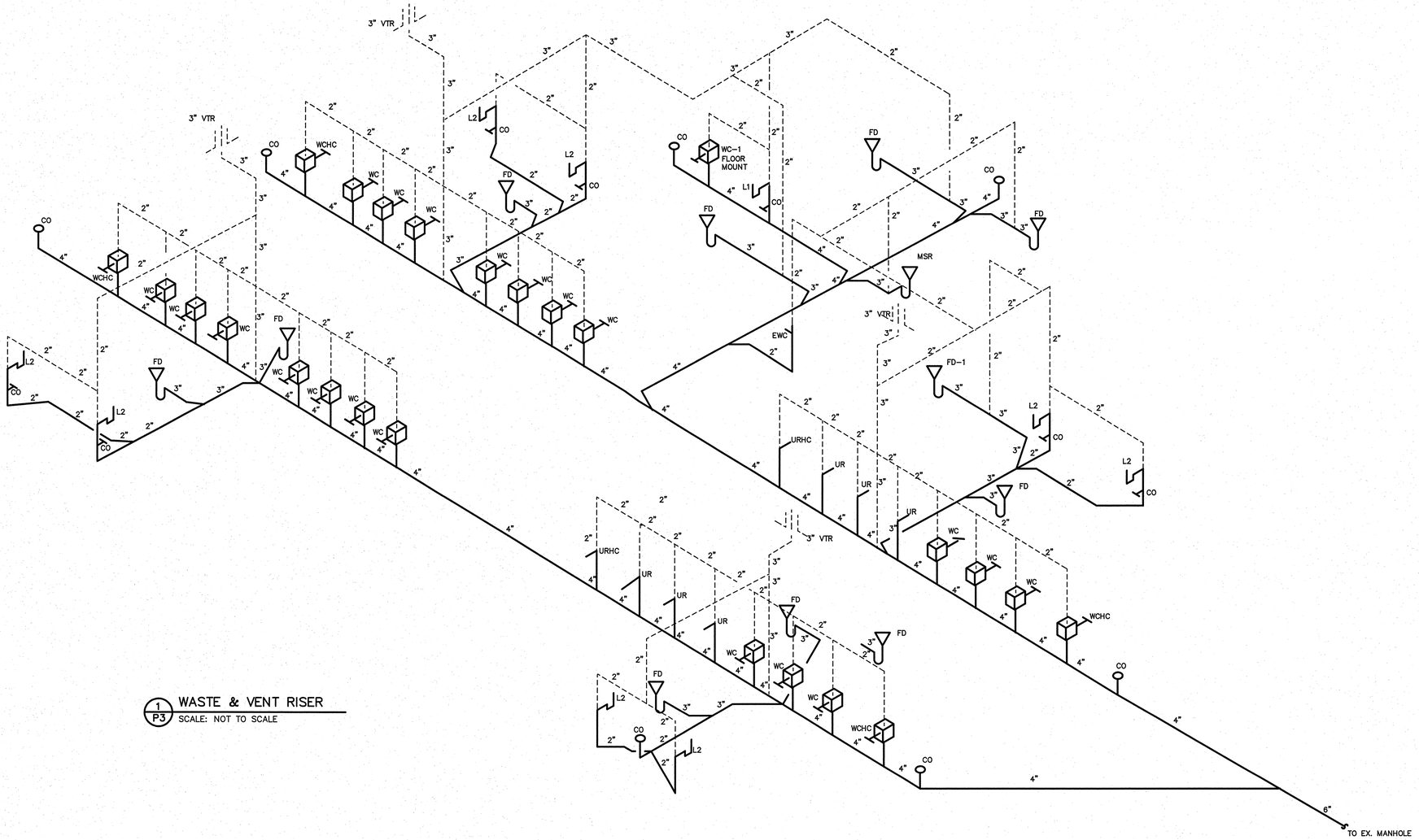
DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE 8/10/09

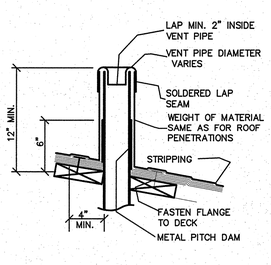
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

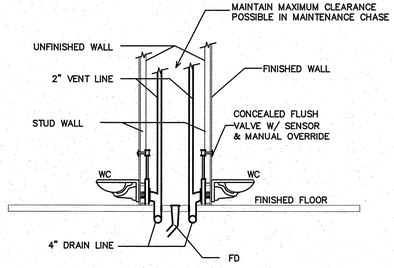
SHEET NO. P2 OF 6



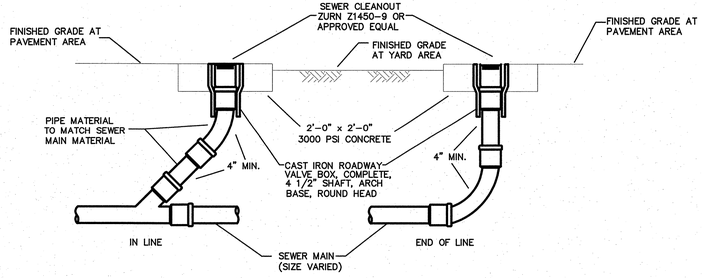
1 P3 WASTE & VENT RISER
SCALE: NOT TO SCALE



2 P3 VTR DETAIL
SCALE: NOT TO SCALE



3 P3 WATER CLOSET DETAIL
SCALE: NOT TO SCALE



4 P3 GRAVITY SEWER CLEANOUT
SCALE: NOT TO SCALE

ENGINEER
BURKE DESIGN GROUP, PA
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3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE:
NORTHBOUND PLUMBING WASTE RISER

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
5/5/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
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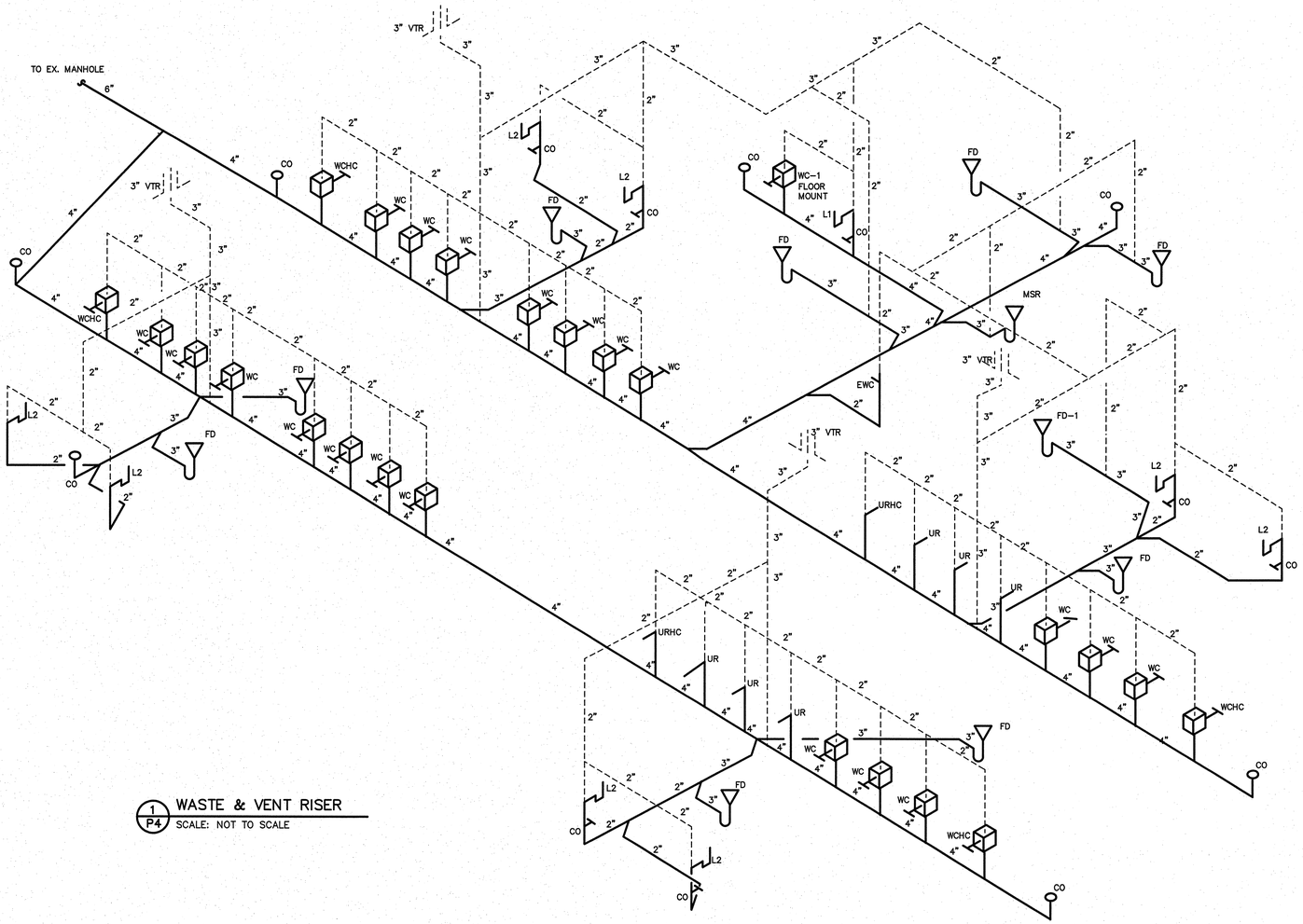
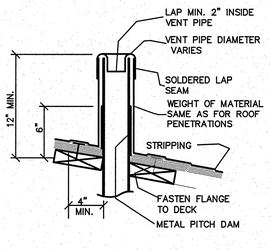
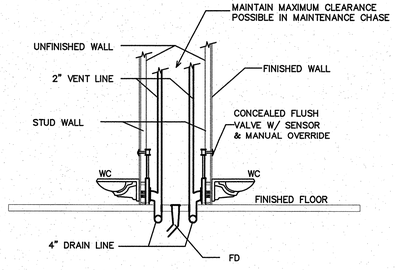
SHEET NO.
P3
OF 5



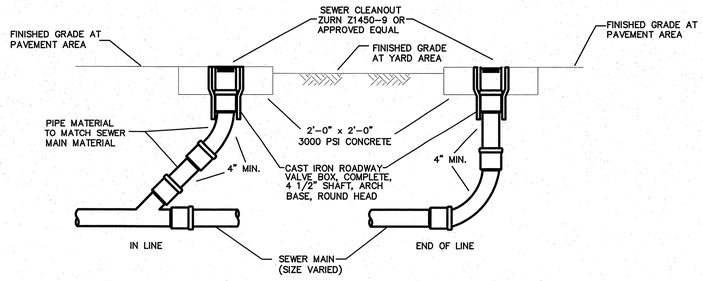
1 P4 WASTE & VENT RISER
SCALE: NOT TO SCALE



2 P4 VTR DETAIL
SCALE: NOT TO SCALE



3 P4 WATER CLOSET DETAIL
SCALE: NOT TO SCALE



4 P4 GRAVITY SEWER CLEANOUT
SCALE: NOT TO SCALE

ENGINEER
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DRAWING TITLE:
SOUTHBOUND PLUMBING WASTE RISER

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL:

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL-AID NO.
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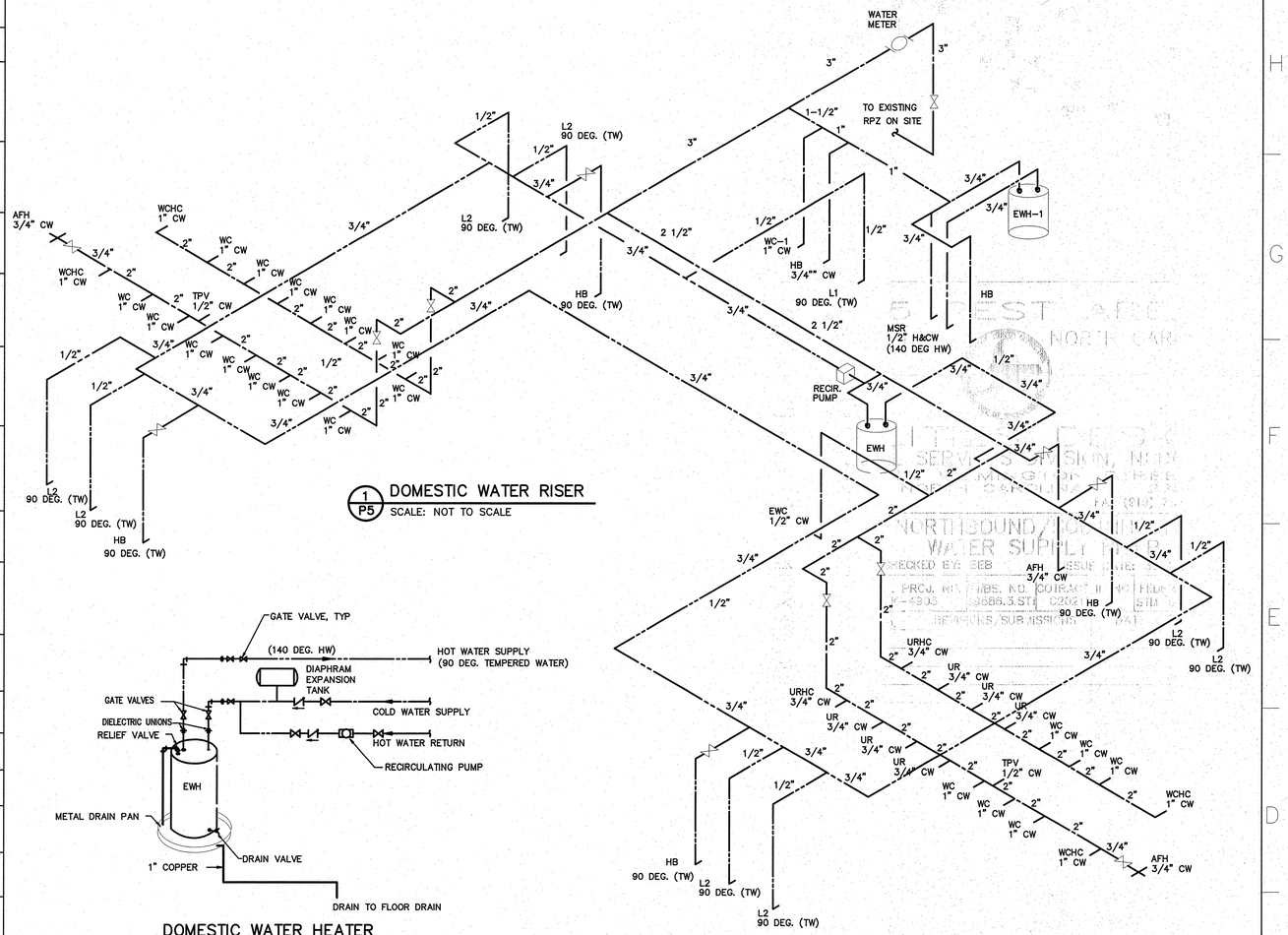
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO.
P4
OF 5

6/15/07

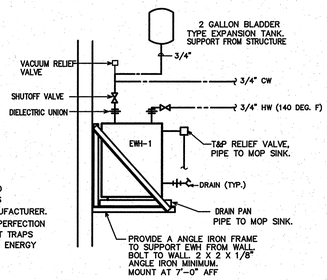
PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ALTERNATE MANUFACTURER/MODEL	ALTERNATE MANUFACTURER/MODEL
WC WCHC	WATER CLOSET AMERICAN STANDARD "AFWALL FLOWISE 1.28 GPF" #3353.128, ELONGATED BOWL, VITREOUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT SEAT, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE, EQUAL TO SLOAN REGAL OPTIMA MODEL 152-1.6ES-S W/ INDIVIDUAL TRANSFORMER AND ELEC BOX POSITIONING KIT. PROVIDE JR SMITH MODEL 0533F COMPACT FIXTURE SUPPORT. ADA COMPLIANT.	ZURN #Z5617 WITH ZURN #ZEMS6252PEV FLUSH VALVE.	KOHLER KINGSTON #K-4329. TOTO #TET2GN31 FLUSH VALVE.
WC-1	WATER CLOSET (ADA) AMERICAN STANDARD "MADERA FLOWISE 1.28 GPF" #3461.128, ELONGATED BOWL, VITREOUS CHINA, AND 1 1/2" TOP SPUD. PROVIDE OPEN FRONT SEAT, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE SLOAN #8111-1.28 (BATTERY POWERED). ADA COMPLIANT.	ZURN #Z5665 WITH ZURN #ZTS6200EV FLUSH VALVE.	TOTO #CT705EL WITH TOTO #TET1LN32 FLUSH VALVE.
UR URHC	URINAL AMERICAN STANDARD "WASHBROOK FLOWISE 0.5 GPF" #6515.005, VITREOUS CHINA, 3/4" BACK SPUD, AND SENSOR W/ MANUAL OVERRIDE FLUSH VALVE SLOAN #195-0.5-ES-S-OR (AC POWERED). ADA COMPLIANT.	ZURN #Z5799 WITH INTEGRATED FLUSH VALVE.	TOTO #UT447EV WITH TOTO #TEU2LN11 FLUSH VALVE.
L1	LAVATORY (ACCESSIBLE, WALL HUNG) AMERICAN STANDARD "LUCERNE" # 0355.012 WHITE WITH CONCEALED ARM CARRIER AND DRAIN ASSEMBLY (7723.018). ADA COMPLIANT. FURNISH WITH SLOAN OPTIMA PLUS #EBF-187 BATTERY SENSOR FAUCET. COORDINATE TRIM AND SINK FAUCET DRILLING FOR 4" SPACING.	KOHLER GREENWICH #K-2032 WITH AMERICAN STANDARD BATTERY SENSOR FAUCET #6055.205.	ELJER MURRAY II #051-0244 WITH ZURN BATTERY SENSOR FAUCET #Z6915.
L2	2- STATION LAVATORY (ACCESSIBLE) BRADLEY MODEL #EXD-2N, TERREON ACRYLIC MODIFIED POLYESTER RESIN DOUBLE MODULE SINK SYSTEM (CHARCOAL GRAY), 50" x 21" WALL HUNG LAVATORY. ADA COMPLIANT WITH WALL HANGER SUPPORT FRAME. FURNISH WITH ZURN #Z6915 BATTERY SENSOR FAUCETS. COORDINATE TRIM AND SINK FAUCET DRILLING FOR 4" SPACING.	SLOAN SLOANSTONE #ELS-42000 WITH SLOAN BATTERY SENSOR FAUCETS #EBF-187.	ACORN MERIDIAN #3792-1-SO-BAT WITH INTEGRATED BATTERY SENSOR FAUCETS.
MSR	MOP SINK ACORN NO. TDF36-SSC, 36"X36"X12" TERRAZZO SERVICE BASIN WITH 6" DROP FRONT AND STAINLESS STEEL CAPS ON CURBS. FAUCET: ACORN MODEL KFC CHROME PLATED SERVICE FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT. HOSE & HOSE BRACKET: ACORN MODEL KH36 LONG FLEXIBLE 5/8" RUBBER HOSE, CLOTH REINFORCED.	FLORESTONE MOP SINK #92 WITH SPEAKMAN #MR-371 FAUCET, HOSE AND MOP HANGER.	CRANE MOP SINK #TSB-3002 WITH #830-AA FAUCET, #832-AA HOSE, #1453-BB STRAINER, #889-CC MOP HANGER, #E-77-AA BUMPER GUARD, AND STAINLESS STEEL SPLASH GUARD.
EWC	ELECTRIC WATER COOLER HAWS # H1011.8, DUAL SST DRINKING FOUNTAIN W/ #4 FINISH, WALL HUNG, WITH REMOTE CHILLER, 120V/1PH/60HZ, 564W, FLA=4.7, USE HAWS HCR8 CHILLER.	HALSEY TAYLOR #0VL-II SEBPFR FOUNTAIN WITH HALSEY TAYLOR #SJ8-Q REMOTE CHILLER.	ELKAY #EDFP217C FOUNTAIN WITH ELKAY #ECH8 REMOTE CHILLER.
RP	CIRCULATING PUMP BELL & GOSSET, SERIES NBF-22 IN-LINE CIRCULATOR PUMP, 1/12 HP, 115 VAC, FLA=0.8 1 Ph., 3/4" CONN., WITH A MAXIMUM OF 22 GPM AND 15' TDH. PUMP TO BE ALL BRONZE CONSTRUCTION, COORDINATE WITH ELEC. CONTRACTOR FOR POWER FEED. PROVIDE DISCONNECT SWITCH.	TACO MODEL #110.	ARMSTRONG MODEL #S-25.
MTR	WATER METER NEPTUNE, 2", MODEL T-10. METER INDICATION SHALL BE WITH BOTTOM OF GAUGE TOWARD FLOOR.	PARK ENVIRONMENTAL EQUIP. 2" TURBINE.	HERSEY HORIZON 2" TURBINE.
TPV	TRAP PRIMER VALVE PPP INC. MODEL# PR-500, 1/2" INLET, 1/2" OUTLET	JOSAM #88300.	WATTS #A200.
WS	WATER CLOSET SUPPORTS JR SMITH MODEL# 0542F, VERTICAL HUB AND SPIGOT.	ZURN #1204	JOSAM STD. 4" HUB AND SPIGOT, 2" VENT.
US	URINAL SUPPORTS SMITH MODEL# 0637	ZURN #1221.	JOSAM #17550.
HB	HOSE BIBB ZURN Z-1330-C, 3/4" WALL HYDRANT WITH VANDAL RESISTANT VACUUM BREAKER. ENCASED WITH KEY LOCK.	WATTS #HY-330.	JAY R. SMITH #5509QT.
EWH	ELECTRIC WATER HEATER STATE WATER # P6-52-20RT-2, 50 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.	AO SMITH #DEL-50. AMTROL ST-5-C EXPANSION TANK.	BRADFORD WHITE #LD-50S3-3. AO SMITH PMC-2 EXPANSION TANK.
EWH-1	ELECTRIC WATER HEATER A.O. SMITH MODEL ELJC-10, 10 GALLON, 1,500 WATT, 3/4" INLET AND OUTLET, 120V, 1 PH. MOUNT ON WALL. MODEL# ETC-2X EXPANSION TANK.	RHEEM #81VP10S. AMTROL ST-5-C EXPANSION TANK.	BRADFORD WHITE #M-1-10U6SS. AO SMITH PMC-2 EXPANSION TANK.
FD	FLOOR DRAIN ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER. TRAP PRIMER CONNECTION REQUIRED ONLY FOR FLOOR DRAINS IN CHASES, MECH & STORAGE.	JOSAM #30000A.	JAY R. SMITH #2005-A.
FD-1	FLOOR DRAIN ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER, WITH TRAP PRIMER CONNECTION	JOSAM #30000E1.	JAY R. SMITH #2005-F37.
AFH	ANTI-FREEZE HOSEBIBB ZURN Z-1320-C, 3/4" NON FREEZE WALL HYDRANT WITH VANDAL RESISTANT VACUUM BREAKER. ENCASED WITH KEY LOCK.	JAY R. SMITH #5509QT.	WATTS HY-725.



1 P5 DOMESTIC WATER RISER
SCALE: NOT TO SCALE

2 P5 DOMESTIC WATER HEATER PIPING SCHEMATIC
SCALE: NOT TO SCALE



PROVIDE HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING OF THE WATER HEATERS UNLESS PROVIDED BY WATER HEATER MANUFACTURER. PROVIDE "HUSH HEAT TRAP FITTINGS" BY PERFECTION CORPORATION OR APPROVED EQUAL. HEAT TRAPS ARE REQUIRED PER SECTION 804.4 OF THE ENERGY CODE.

NOTE:
WATER HEATERS, PIPING, AND PIPING APPURTENANCES PROVIDED BY P.C. WATER HEATER SUPPORTS BY P.C.

3 P5 DOMESTIC WATER HEATER PIPING SCHEMATIC
SCALE: NOT TO SCALE

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DRAWING TITLE: NORTHBOUND/SOUTHBOUND WATER SUPPLY RISER

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. P5 OF 6

HVAC SCHEDULE

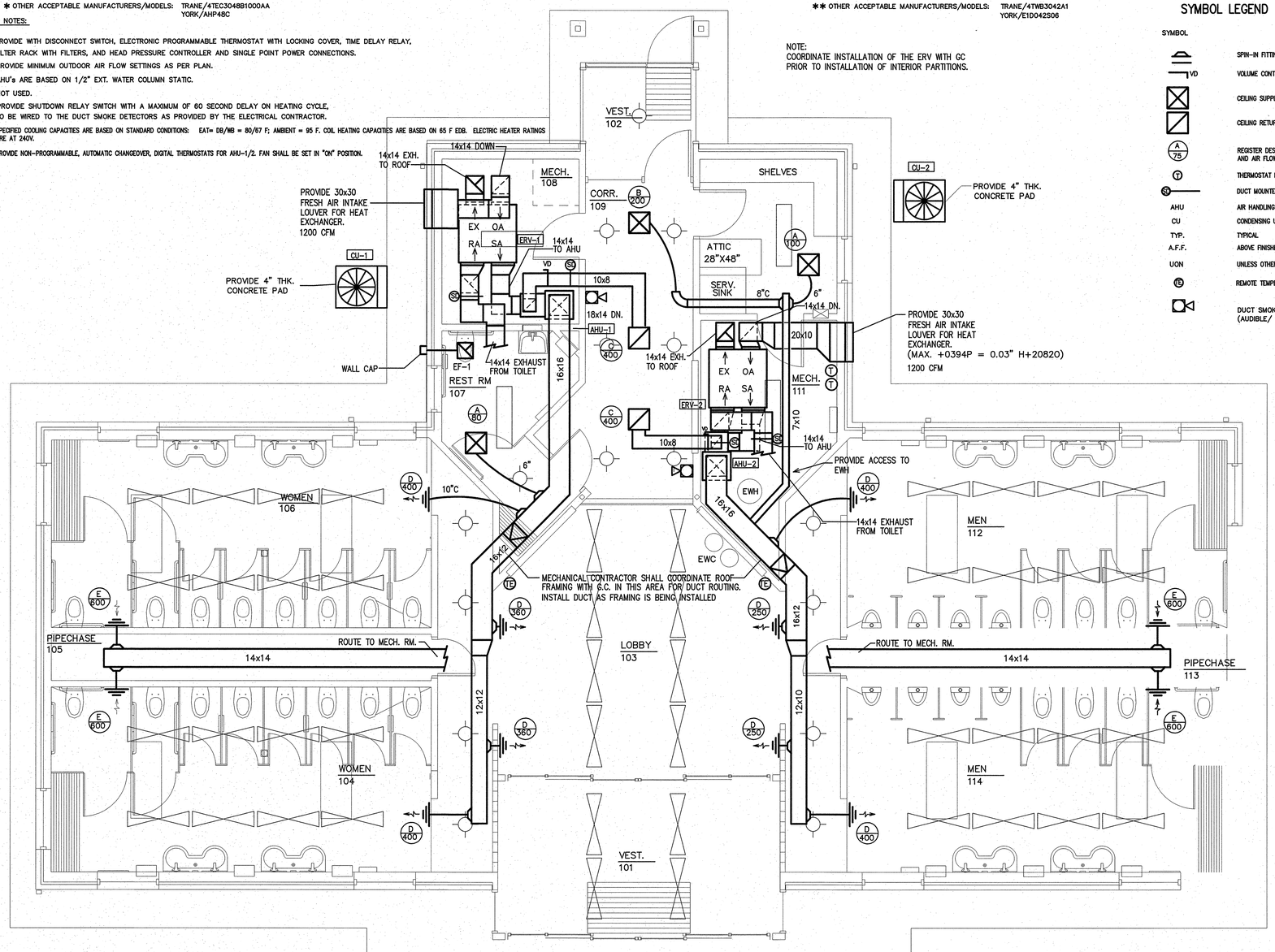
EQUIP. NUMBER	INDOOR UNIT											OUTDOOR UNIT				NOTES
	MODEL NO. (BASIS OF DESIGN)	FAN			COOLING CAPACITY		COIL HEATING CAPACITY	ELECTRICAL HEATING		VOLTAGE	MCA	FUSE/ CB MAX	MODEL NO. (BASIS OF DESIGN)	POWER	MCA	FUSE/ CB MAX	
		CFM	HP	POWER	MIN TOTAL	MIN SENS.		MODEL #	CAPACITY								
AHU-1/CU-1	CARRIER FX4BNF048010AAAA ✱	1600@1/2"WC	3/4	208/230-1	44.2 MBH	34.7 MBH	26/43 MBH @ 17/47F	KFCEH0901N10	34 MBH (10 KW)	208/230-1	58.5	60 (TD)	CARRIER 25HBA342A0030 ✱✱	208/230-1	26.0	40 A (TD)	1,2,3,4,5,6,7
AHU-2/CU-2	CARRIER FX4BNF048010AAAA ✱	1600@1/2"WC	3/4	208/230-1	44.2 MBH	34.7 MBH	26/43 MBH @ 17/47F	KFCEH0901N10	34 MBH (10 KW)	208/230-1	58.5	60 (TD)	CARRIER 25HBA342A0030 ✱✱	208/230-1	26.0	40 A (TD)	1,2,3,4,5,6,7

✱ OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TEC3048B1000AA
YORK/AHP48C

✱✱ OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TWB3042A1
YORK/E1D042S06

SCHEDULE NOTES:

1. PROVIDE WITH DISCONNECT SWITCH, ELECTRONIC PROGRAMMABLE THERMOSTAT WITH LOCKING COVER, TIME DELAY RELAY, FILTER RACK WITH FILTERS, AND HEAD PRESSURE CONTROLLER AND SINGLE POINT POWER CONNECTIONS.
2. PROVIDE MINIMUM OUTDOOR AIR FLOW SETTINGS AS PER PLAN.
3. AHU's ARE BASED ON 1/2" EXT. WATER COLUMN STATIC.
4. NOT USED.
5. PROVIDE SHUTDOWN RELAY SWITCH WITH A MAXIMUM OF 60 SECOND DELAY ON HEATING CYCLE, TO BE WIRED TO THE DUCT SMOKE DETECTORS AS PROVIDED BY THE ELECTRICAL CONTRACTOR.
6. SPECIFIED COOLING CAPACITIES ARE BASED ON STANDARD CONDITIONS: EAT= DB/WB = 80/67 F; AMBIENT = 95 F. COIL HEATING CAPACITIES ARE BASED ON 65 F EDB. ELECTRIC HEATER RATINGS ARE AT 240V.
7. PROVIDE NON-PROGRAMMABLE, AUTOMATIC CHANGEOVER, DIGITAL THERMOSTATS FOR AHU-1/2. FAN SHALL BE SET IN "ON" POSITION.



1 / M1 MECHANICAL PLAN
SCALE: 1/4" = 1' -0"

SYMBOL LEGEND - MECHANICAL

SYMBOL	DESCRIPTION
	SPIN-IN FITTING
VD	VOLUME CONTROL DAMPER
	CEILING SUPPLY
	CEILING RETURN
A / 75	REGISTER DESIGNATION AND AIR FLOW RATE
T	THERMOSTAT LOCATION
SD	DUCT MOUNTED SMOKE DETECTOR
AHU	AIR HANDLING UNIT
CU	CONDENSING UNIT
TYP.	TYPICAL
A.F.F.	ABOVE FINISHED FLOOR
UON	UNLESS OTHERWISE NOTED
TE	REMOTE TEMPERATURE SENSOR
	DUCT SMOKE DETECTOR ALARM (AUDIBLE/ VISIBLE)

REGISTER SCHEDULE

MARK	MANUFACTURER MODEL NO.	FACE SIZE	NECK SIZE	MATERIAL	SERVICE	NOTES
A	PRICE - ASCD CARNES - SFAB METALAIRE - 5800 AL	12x12	6"C	ALUM	SUPPLY	1,2
B	PRICE - ASCD CARNES - SFAB METALAIRE - 5800 AL	12x12	8"C	ALUM	SUPPLY	1,2
C	PRICE - 630 CARNES - RAAAH METALAIRE - RHE-1	18x18	-	ALUM	RETURN	1
D	PRICE - 610 DAL CARNES - RNDAH METALAIRE - H4000A-AF-1 OBDA	12x8	-	ALUM	SUPPLY	1,2
E	PRICE - 630 DAL CARNES - RNAAH METALAIRE - RHE-1 OBDA	16x12	-	ALUM	EXHAUST	1,2
G	LOREN COOK CO. "GR" CARNES - "GE" GREENHECK - "FGR"	24x28	12 X 12	ALUM	EXHAUST CAP	3

1. COLOR TO BE OFF-WHITE; PROVIDE BORDER FOR GYP. CEILING.
2. PROVIDE VOLUME DAMPER ACCESSIBLE FROM DIFFUSER FACE.
3. PROVIDE WITH BIRD SCREEN. MATCH COLOR TO TRIM (SEE ARCHITECTURAL).

GENERAL NOTES - MECHANICAL

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY INSPECTION SHALL BE COORDINATED WITH THE DESIGNER BY THE MECHANICAL CONTRACTOR (MC) WITH A 48 HRS NOTICED.
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
4. THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES. EQUIPMENT SHALL BE INSTALLED IN THE GENERAL LOCATION SHOWN IN ROOMS AND ALONG DESIGNATED WALLS.
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
6. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN
7. THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND CEILING OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND CEILING LOCATIONS.
8. INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AT ALL UNITS. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
9. INSTALL TURNING VANES IN SUPPLY, RETURN, AND EXHAUST DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN DUCTS AS SHOWN OR REQ'D FOR SYSTEM BALANCING.
10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
11. ALL THERMOSTATS, WIRING AND CONDUIT ARE TO BE FURNISHED BY THE MC. MOUNT ALL THERMOSTATS 48" ABOVE THE FINISHED FLOOR.
12. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
13. COORDINATE DIFFUSER AND CEILING EXHAUST GRILLE LOCATIONS WITH LIGHTS AND GRID. COORDINATE MOUNTING FRAME WITH CEILING TYPE.
14. THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR APPROVAL PRIOR TO CONSTRUCTION.
15. THE M.C. IS RESPONSIBLE FOR PATCHING, SEALING, SLEEVING AND FIRE CAULKING ALL PENETRATIONS WHERE HIS EQUIPMENT IS INSTALLED TO MEET CODE. SEAL REQUIRED PENETRATIONS WITH 3M FIRE/SMOKE STOP MATERIAL OR EQUAL PRODUCT. SEE ARCH. PLANS FOR WALL/CEILING RATINGS.
16. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 8'-0". PROVIDE SHEET METAL ELBOWS AT ALL 90 DEGREE BENDS.
17. MECHANICAL CONTRACTOR SHALL DRILL ALL OPENINGS REQUIRED FOR DUCT/PIPING. COORDINATE ALL LOCATIONS WITH GENERAL CONTRACTOR. MECHANICAL CONTRACTOR TO PROVIDE DIMENSIONAL LAYOUT WITHIN SEVEN DAYS OF START OF PROJECT. PROVIDE DUCT COLLARS AT ALL PENETRATIONS.
18. DUCT DETECTOR SHALL BE EQUAL TO SYSTEM SENSOR MODEL DH100ACDCI WITH REMOTE ALARM INDICATING DEVICE EQUAL TO SYSTEM SENSOR MODEL SSK451 WITH PS12/24LENSW ADD ON STROBE. INTERCONNECT ALL DUCT DETECTORS FOR COMMON ALARM.

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

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DRAWING TITLE: NORTHBOUND/SOUTHBOUND MECHANICAL PLAN

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

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SEAL: NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE 4/16/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

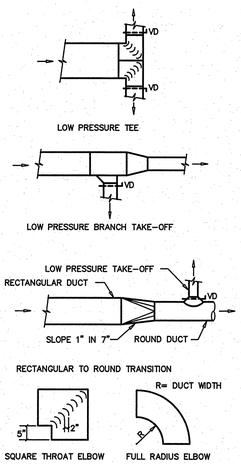
SHEET NO. M1 OF 3

ENERGY RECOVERY UNIT SCHEDULE

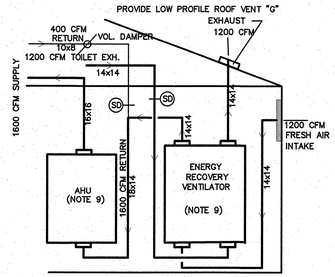
EQUIP. NUMBER	MODEL NO.	FANS / MOTORS: FLOW	STATIC PRESSURE (EXTERNAL)	FAN MOTORS FAN MOTORS	FLA (FOR UNIT SINGLE POINT)	VOLTS/ PHASE/ HZ	MCA	FUSE/CB MAX	THERMAL PERFORMANCE: ENERGY RECOVERY (THERMAL) CAPACITY: COOLING CAPACITY (MBH / TON) TOTAL	HEATING CAPACITY (MBH) TOTAL	INLET / OUTLET CONDITIONS: OUTSIDE AIR TEMP(F) & HUMIDITY (DB) / (WB OR RH) SUMMER	OUTSIDE AIR TEMP(F) & HUMIDITY (DB) / (WB OR RH) WINTER	ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH) SUMMER	ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH) WINTER	NOTES:
ERV-1 & 2	MICROMETL EVDGCCC890000A	1200 CFM	0.75IN H_2O	(2) FOR FANS (1) FOR WHEEL	8.2 A	208-230V 1 PH 60 HZ	10.25 A	15 A	33.3/2.8	64.15	92F / 75F	18F / 17	75F / 50%	68F / 50%	ALL

NOTES:

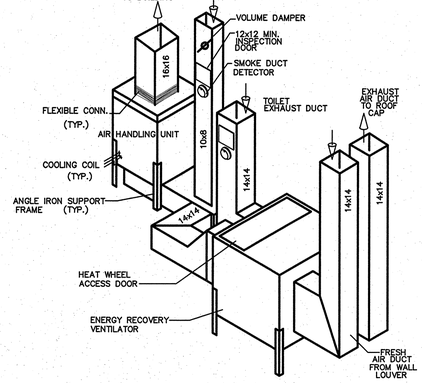
1. FLOW & LOADS BASED ON ARI-1060 PERFORMANCE & CERTIFIED CORE.
2. SHUT DOWN ALL FANS ON DUCT SMOKE DETECTOR ALARM CONDITION.
3. VENTILATION TYPE: ERV WHEEL, HEAT & HUMIDITY TRANSFER.
4. INCLUDE INTEGRAL DISPOSABLE FILTERS (OUTSIDE AND ROOM AIR) WITH MERV8 OR BETTER RATING.
5. INCLUDE SINGLE POINT ELECTRICAL POWER CONNECTION.
6. HOUSING SHALL BE GALVANIZED, .20 GAUGE (OR THICKER) STEEL WITH LAPPED CORNERS.
7. OR EQUALS BY SEMCO, OR THYBAR.
8. SERVICE ACCESS DOORS SHALL BE GASKETED & PROVIDE ACCESS FOR MAINTENANCE OF ALL COMPONENTS.
9. INCLUDE INSULATION ON ALL CASE WALLS & DOORS.
10. INCLUDE THERMALLY PROTECTED MOTORS WITH STARTERS.
11. UL LISTED 1995
12. PROVIDE WITH FUSED DISCONNECT SWITCH.



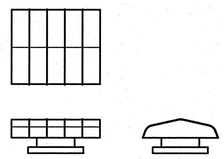
1 / M2 DUCT CONSTRUCTION DETAILS
SCALE: NOT TO SCALE



2 / M2 HVAC DIAGRAM
SCALE: NOT TO SCALE



3 / M2 HVAC EQUIP. DETAIL
SCALE: NOT TO SCALE



4 / M2 ROOF TOP VENT CAP "G"
SCALE: NOT TO SCALE

GENERAL NOTES:

1. PROVIDE 3/4" CONDENSATE P-TRAP ON CONDENSATE DRAIN LINE AND PIPE TO FLOOR DRAIN. USE COPPER PIPING AT FLOOR LEVEL.
2. PROVIDE EMERGENCY SHUT-OFF KEY SWITCH PER ADA & MOUNT 48"AFF.
3. ROUTE REFRIGERANT LINES TO CONDENSER ABOVE CEILING AND TURN DOWN IN EXTERIOR WALL.
4. PROVIDE SERVICE CLEARANCES AROUND UNIT AS PER MANU-FACTURERS RECOMMENDATIONS.
5. SUPPORT AIR HANDLING UNITS ON 3x3x1/4" ANGLE IRON FRAME. PRIME AND PAINT BLACK ALL CARBON STEEL TO PREVENT RUSTING. SUPPORTING AHU OR HEAT RECOVERY UNIT WITH DUCT IS UNACCEPTABLE. NO UL LABELS MAY BE OBSCURED BY OR COVERED WITH SUPPORT FRAME.
6. PROVIDE PARTICULATE FILTER WITH CHANGEOUT ACCESS IN THE RETURN PLENUM JUST PRIOR ENTERING EACH AHU.
7. MC TO PROVIDE SMOKE DUCT DETECTORS LOCATED ON EXHAUST AND RETURN DUCTS. EACH AIR HANDLER AND ENERGY RECOVERY UNIT SHALL SHUT DOWN UPON SMOKE DETECTION. PROVIDE A MIN 12x12 ACCESS OPENING EASILY ACCESIBLE FOR INSPECTION. VISIBLE/AUDIBLE ALARM SHALL ACTIVATE IN LOBBY AREA ON ALARM.
8. THIS DETAIL IS SCHEMATIC AND ACTUAL CONFIGURATION SHALL VARY IN FIELD AS NECESSARY TO INSTALL SUPPLIED EQUIPMENT AND DUCT.
9. SEE VENDOR INFORMATION FOR ACTUAL SIZE & LOCATION OF CONNECTIONS AND THE ACTUAL SIZE OF ALL EQUIPMENT.
10. IF A SUBSTITUTE ERV IS SUBMITTED, THE CONTRACTOR MUST SUBMIT A FULL SHOP DRAWING INCLUDING ERV SPECIFICATIONS, DUCT LAYOUTS AND ROUTING WITH SERVICE CLEARANCES NOTED. FULL MAINTENANCE ACCESS MUST BE MAINTAINED.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:

PRESCRIPTIVE ☒ ENERGY COST BUDGET ☐

THERMAL ZONE	7A
EXTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	16D F
SUMMER DRY BULB	92D F (75D F WB)
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	72 DF
SUMMER DRY BULB	75 DF
RELATIVE HUMIDITY	50%
BUILDING HEATING LOAD (50%)	133 MBH
BUILDING COOLING LOAD (50%)	127 MBH
MECHANICAL SPACE CONDITIONING SYSTEM	
SPLIT SYSTEM	

AHU-1/CU-1 AND AHU-2/CU-2 (2 COMPLETE SYSTEMS)

DESCRIPTION OF UNIT	SPLIT HEAT PUMP W/ ENERGY RECOVERY VENTILATOR
HEATING EFFICIENCY	COP = 3.4@47DF, 8.4 HSPF (6.8 CODE MIN.)
COOLING EFFICIENCY	SEER = 13.0
HEAT OUTPUT OF EACH AHU/CU	47 MBH + 10 KW ELEC
COOLING OUTPUT OF EACH AHU/CU	3 1/2 TON

LIST EQUIPMENT EFFICIENCIES

COP AND SEER ARE LISTED ABOVE

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)

MOTORS USED IN THIS PROJECT ARE INCLUDED IN THE EFFICIENCY RATING OF THE UNITS

MOTOR HORSEPOWERS ARE ON EQUIPMENT SCHEDULE

EXHAUST FAN SCHEDULE

DESIG.	MANUFACTURER (BASIS OF DESIGN)	MODEL NO. (BASIS OF DESIGN)	TYPE	CFM	TSP IN H_2O	SONES	RPM	HP	VOLTAGE	SERVES	CONTROL	REMARKS
EF 1	GREENHECK *	SP-B90-QD *	CEILING MOUNTED	75	0.25	1.9	700	50 WATTS	120/1	UNISEX BATHROOM	1A	1,2,3

* OTHER ACCEPTABLE MANUFACTURERS/MODELS: CARNES/VCDD10C ACME/VQ80

REMARKS:

1. CONTROLS SHALL BE AS FOLLOWS:
   A. FAN TO BE CONTROLLED BY WALL MOUNTED SWITCH.
2. PROVIDE N.E.C. RATED U.L. APPROVED STARTER/DISCONNECT.
3. PROVIDE WITH BIRD SCREEN (1/4" MIN. MESH) AND GRAVITY BACKDRAFT DAMPER.

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PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
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DRAWING TITLE: NORTHBOUND/SOUTHBOUND MECHANICAL NOTES & DETAILS

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE 8/10/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. M2 OF 3

ELECTRICAL GENERAL NOTES

WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).

MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY A TESTING AGENCY APPROVED BY THE AUTHORITY HAVING JURISDICTION, WHERE SUCH LISTING EXISTS.

20 AMP, 120 VOLT CIRCUITS LONGER THAN 100 FEET IN TOTAL CONDUIT LENGTH SHALL BE #10 AWG MINIMUM.

CONDUCTORS ARE SIZED PER THE COPPER, 75° CELSIUS TABLES IN THE NEC.

CONDUITS ARE SIZED PER THE THWN/THHN INSULATION TABLES IN THE NEC.

INSTALL CIRCUIT BREAKERS AND FUSES ON ALL EQUIPMENT BASED ON THE ACTUAL NAMEPLATE DATA ON THE EQUIPMENT OR ON THE NEC REQUIREMENTS IF THERE IS NO NAMEPLATE DATA. FUSES SHALL BE TIME-DELAY, DUAL-ELEMENT TYPE, CLASS RK-5, UON.

INSTALL A NEC SIZED GROUND WIRE IN ALL RACEWAYS, UNLESS OTHERWISE NOTED. GROUNDING CONDUCTORS ARE NOT REQUIRED IN TELEDATA CONDUITS.

INDICATE CIRCUITS IN PANELS, SERVING EMERGENCY AND EXIT LIGHTS.

REVIEW ARCHITECTURAL DRAWINGS AND ELEVATIONS TO LOCATE RECEPTACLES, SWITCHES, & FIRE ALARM DEVICES, MUST COMPLY WITH NEC & NFPA.

ITEMS USED AS SERVICE ENTRANCE EQUIPMENT SHALL BE LISTED AND LABELED FOR THAT PURPOSE.

BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 0.90.

MINIMUM WIRE SIZE SHALL BE #12 AWG, UON.

EC SHALL REVIEW THE ELECTRICAL REQUIREMENTS FOR ALL EQUIPMENT PROVIDED BY OTHERS WITH RESPECT TO MINIMUM CIRCUIT AMPACITY, MAXIMUM OVERCURRENT PROTECTION, VOLTAGE, & PHASE PRIOR TO INSTALLING HIS WORK. ANY DISCREPANCIES WITH THE ELECTRICAL DESIGN SHALL B COORDINATED WITH THE ELECTRICAL ENGINEER.

ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE. PROVIDE NEMA 3R WHERE LOCATED OUTSIDE & WHERE OTHERWISE NOTED.

PROVIDE A MINIMUM OF 10% EXTRA FUSES FOR EACH SIZE & CLASS, WITH A MINIMUM OF AT LEAST ONE SET OF EACH.

PROVIDE HAND-OFF-AUTO SWITCHES FOR ALL LIGHTING CONTACTORS.

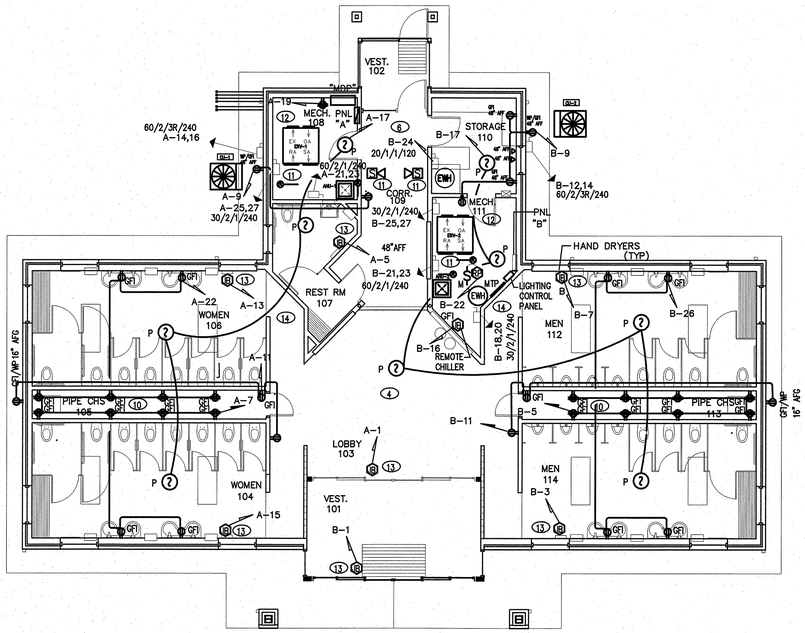
PROVIDE MAGNETIC TRACER RIBBON FOR ALL UNDER GROUND UTILITIES BURIED 12" BELOW FINISH GRADE.

RUN #6 CU GROUND TO PHONE/DATA FROM BUILDING SERVICE GROUNDING POINT. PROVIDE 8' OF CONDUCTOR AT TELEPHONE BOARD.

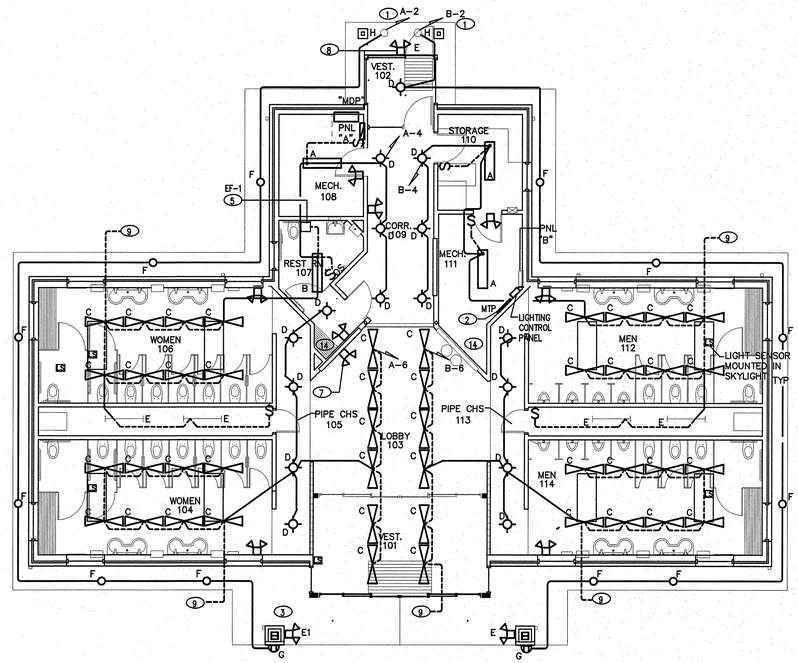
COORDINATE LOCATION OF SMOKE DETECTORS WITH THE MECHANICAL CONTRACTOR. POSITION ALL SMOKE DETECTORS MIN. 3 FT. FROM SUPPLY DIFFUSERS & RETURN GRILLES.

AIC RATINGS SHOWN ON THE PANEL SCHEDULES ARE BASED ON FULLY RATED PANELS & CIRCUIT BREAKERS.

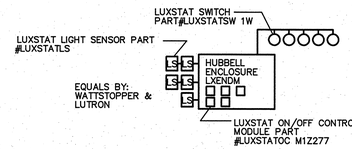
WHERE PHOTOCELLS ARE SHOWN ON THE DRAWING, THE EC SHALL PROVIDE RELAYS AND/OR LIGHTING CONTACTORS AS REQUIRED. THE MAXIMUM WATTS SWITCHED DIRECTLY THROUGH A PHOTOCELL SHALL BE 2000 FOR INCANDESCENT FIXTURES AND 1000 FOR HID AND FLUORESCENT FIXTURES.



2 E1 POWER PLAN—NEW BUILDING
SCALE: 1/8"=1'-0"



1 E1 LIGHTING PLAN—NEW BUILDING
SCALE: 1/8"=1'-0"



3 E1 DAYLIGHTING CONTROL SYSTEM
SCALE: NOTTO SCALE

ELECTRICAL SYMBOL LEGEND

- EMERGENCY LIGHTING, WALL MTD. – BATTERY POWERED, UON. CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.
- COMMUNICATIONS OUTLET. 16" AFF TO BOTTOM, UON (CAT6) DUAL PORT, WIRE BACK TO MTP
- 30/3/1/240 DISCONNECT SWITCH – HEAVY DUTY, FUSIBLE (INCLUDE FUSES), UON. CURRENT RATING/POLES/NEMA RATING/VOLTAGE
- MDP MAIN DISTRIBUTION PANEL
- MTP MAIN TELEPHONE PANEL 4'x8'x3/4" PLYWOOD BACKBOARD (FIRE PROOF)
- PNL PANEL BOARD (PANEL)
- JUNCTION BOX SIZE PER NEC
- DUPLEX RECEPTACLE, NEMA 5-20R. 16" AFF TO BOTTOM, UON.
- QUAD (DOUBLE DUPLEX) RECEPTACLE, NEMA 5-20R. 16" TO BOTTOM, UON.
- GFI DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER.
- WP DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER (GFCI) WITH WEATHERPROOF COVER
- EWC DUPLEX RECEPTACLE, NEMA 5-20R, FOR ELECTRIC WATER COOLER. COORDINATE RECEPTACLE LOCATION WITH EWC SO THAT RECEPTACLE IS MOUNTED INSIDE EWC IF CORD AND PLUG PERMIT.
- SURFACE MOUNT FLUORESCENT FIXTURE
- SUSPENDED FLUORESCENT FIXTURE
- STRIP FLUORESCENT FIXTURE
- RECESSED FLUORESCENT FIXTURE (TYPE C)
- SEMI-RECESSED FLUORESCENT FIXTURE (TYPE G)
- SEMI-RECESSED FLUORESCENT EXTERIOR FIXTURE (TYPE GE)
- S SINGLE-POLE WALL SWITCH. 48" TO TOP, UON.
- S_3 THREE WAY WALL SWITCH. 48" TO TOP, UON.
- S_M SINGLE-POLE MOTOR RATED SWITCH. A "2" SUBSCRIPT INDICATES A 2-POLE SWITCH.
- S_{OS} OCCUPANCY SENSOR, MOTION AND INFRARED DETECTION ADJUSTABLE DURATION.
- HOMERUN – 120V, 1-POLE, 2-#12, 1-#12G, 1/2"C, UON (MINIMUM REQUIREMENTS MUST MEET NEC.)
- HOMERUN – 240V, CIRCUIT WIRES AS INDICATED (MINIMUM REQUIREMENTS MUST MEET NEC.)
- ------- SWITCHED CIRCUIT
- ——— UNSWITCHED CIRCUIT
- P (2) SMOKE DETECTOR (120V)
- MTP MAIN TELEPHONE PANEL
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- HD ELECT. HAND DRYER (BY GC, POWER BY EC)
- UON UNLESS OTHERWISE NOTED
- EWC ELECT. WATER COOLER
- UG UNDERGROUND
- EXIST EXISTING
- HOA HAND-OFF-AUTOMATIC SWITCH

FIXTURE SCHEDULE

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	TURRENT INDUSTRIAL	COLUMBIA CSR4-232-*-EU-CSRWG4	HOLOPHANE HSM SERIES LEGION 2600 SERIES	120 V	2-32W T8	WITH WIRE GUARD & REFLECTOR	64
B	1x4 SURFACE MOUNT	COLUMBIA SM14-232-FSA12-EU	HOLOPHANE LS SERIES LEGION 41 SERIES		2-32W T8	MODULAR BOX FIXTURE	64
C	SUSPENDED FLUORESCENT	ALERA ALS-2T8*/*-CM*-LD-EU-MW	LITECONTROL LCS4 SERIES DAYOLITE AD3510-DI SERIES		2-32W T8	"	64
D	6" RECESSED CAN	PRESCOLITE CFR6126EB-ST372A1	KIRLIN RR80602 SERIES KURT VERSEN P632 SERIES		1-26W CF	" (1)	26
E	4' STRIP	COLUMBIA CS4-132-EU-CSWG4	PROGRESS P7267 SERIES LEGION 350 SERIES		2-32W T8	"	64
F	8"- 2 LAMP RECESSED CAN W/LENS	PRESCOLITE CFR826UEB-ST492A	KIRLIN RR80907 KURT VERSEN P642 SERIES		2-26W CF	" (1)	52
G	WALL SCONCE	LUMINAIRE SPC818***-2PLC26-***-OP-BRZ-WET	RAVEN SERIES AMERICANA SERIES		2-26W CF	" (1)	52
H	6" RECESSED CAN W/LENS	PRESCOLITE CFR6126EB-ST372A1 (W/LENS)	KIRLIN RR80602 SERIES KURT VERSEN P632 SERIES		1-26W CF	" (1)	26

NOTES:
1. FIXTURES & BALLAST MUST BE REMOVABLE FROM INACCESSIBLE CEILING.

	EMERGENCY LIGHT	EU-MR-3R	LUNA SERIES NEMA SERIES	120 V		"	
E	EMERGENCY LIGHT EXTERIOR	DUAL LITE PGZ-HTR	MULE MAKO-3-CW HIGH LITES PLURALUX SERIES			"	
	NOT USED	"	"			"	
P (2)	SMOKE DETECTOR	KIDDE MODEL 1235E	EST ADEM CO			CEILING MNT. NFPA 72 IONIZATION TYPE, LOCAL ALARMS, 120V	<5

LIGHT FIXTURE NOTES

(1) ALL COMPACT FLUORESCENT FIXTURES SHALL HAVE INTERCHANGEABLE 26 WATT LAMPS.

ELECTRICAL NOTES

(1) SWITCH WITH PHOTO CELL.
(2) 4'X4'X3/4" FIRE RATED TELEPHONE BOARD
(3) WIRE EXTERIOR EMERGENCY FIXTURE TO EXTERIOR LIGHTING CIRCUIT, TYP.
(4) COORDINATE LOCATION OF SMOKE DETECTORS WITH MECHANICAL PLANS SO POSITION IS 3' FROM SUPPLY DIFFUSERS AND GRILLES.
(5) LOCATE DISCONNECT SWITCH AT FAN FOR SERVICE IF NOT PROVIDED WITH FAN
(6) EQUIPMENT SHOWN OUT OF POSITION FOR PLAN CLARITY.
(7) CENTER FIXTURE ON OAK BOARD BAND.
(8) SEE ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING LOCATION.
(9) TO DAYLIGHTING CONTROL PANEL
(10) PROVIDE POWER TO FLUSH VALVE SENSORS. TRANSFORMERS BY PC. PROVIDE 4X4 J-BOX FOR THE SENSOR INSTALLATION. COORDINATE ALL WORK W/ PC TO ALLOW A COMPLETE OPERABLE INSTALLATION. PROVIDE ALL WIRING.
(11) DUCT SMOKE DETECTOR AND REMOTE AUDIBLE AND VISUAL ALARM PROVIDED BY THE MECHANICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
(12) COORDINATE LOCATION OF DISCONNECTS AND RECEPTACLES WITH EQUIPMENT SERVED. DO NOT MOUNT ON EQUIPMENT ACCESS PANELS. LOCATE IN ACCESSIBLE POSITIONS.
(13) VERIFY POWER CONNECTION REQUIREMENTS AND LOCATION WITH EQUIPMENT SERVED PRIOR TO ROUGH-IN
(14) THE HVAC DUCTWORK MUST BE INSTALLED FIRST THROUGH THE ROOF SYSTEM PRIOR TO THE INSTALLATION OF ANY CONDUITS.

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DRAWING TITLE: NORTHBOUND/SOUTHBOUND ELECTRICAL PLANS & DETAILS

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4906	39886.3.ST1	C202162	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E1 OF 2

Davidson E2

NEW PANEL–'MDP'

MAKE: CUTLER HAMMER
TYPE: CH LOAD CENTER
RATING: 120/240 1 PHASE 3 WIRE
MOUNTING: SURFACE
MINIMUM AIC: 22,000 AMPS
MLO MAIN CIRCUIT BREAKER (FRAME) ___
EQUIPMENT GROUND BUS ____ ☒YES ☐NO
SERVICE ENTRY RATED ____ ☒YES ☐NO

LOAD SERVICE	WATTS PER PHASE A	WATTS PER PHASE B	FR SIZE	CKT BRKR	CKT NO	NEUTRAL A B	CKT NO	CKT BRKR	FR SIZE	WATTS PER PHASE A	WATTS PER PHASE B	LOAD SERVICE
PANEL 'A'	19456		225A	225A	1		2	225A	225A	13826		PANEL 'B'
120/240V 1PH		18078			3		4				16628	120/240V 1PH
3" SPACE	---				5		6			---		SPACE
SPACE		---			7		8				---	SPACE
3" SPACE	---				9		10			---		SPACE
SPACE		---			11		12				---	SPACE
NOTES	19456	18078	SUB-TOTALS 'B'		400A	BUS	SUB-TOTALS 'A'			13826	16628	
					400A	LUGS	SUB-TOTALS 'B'			19456	18078	TOTAL CONNECTED LOAD
					400A	S/N	GRAND TOTAL			33282	34706	
					VERIFY	FEED	AMPS/PHASE			277A	289A	277A 289A

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	NEC DEM FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②	125%	4100	4100	8200
GENERAL USE RECEPT.	≤10KVA@100%	1080	1440	2520
	>10KVA@50%	---	---	---
MOTORS AND EQUIPMENT (LARGEST)	125%	2985	2985	5970
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	7618	7218	14836
WATER HEATERS	125%	2813	4688	7501
KITCHEN EQUIPMENT ③	100%	---	---	---
FIX. ELEC. SPACE HEAT.④	100%	10000	10000	20000
SHOW WINDOW LIGHTS ⑤	100%	---	---	---
SIGN	125%	---	---	---
MISC	100%	4400	6200	10600
PHASE (TOTAL VA)		32996	36631	69627
TOTAL AMPS		275A	305A	VOLT AMPS / VOLTS = 290A TOTAL AMPS

Davidson E2

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
AHU–1	58.5A	60A	240V	1	3–#6, 1–#10 GND IN 1" CONDUIT
CU–1	26.0A	40A	240V	1	3–#8, 1–#10 GND IN 3/4" CONDUIT
AHU–2	58.5A	60A	240V	1	3–#6, 1–#10 GND IN 1" CONDUIT
CU–2	26.0A	40A	240V	1	3–#8, 1–#10 GND IN 3/4" CONDUIT
ERV–1	10.25A	15A	240V	1	3–#12, 1–#12 GND IN 1/2" CONDUIT
ERV–2	10.25A	15A	240V	1	3–#12, 1–#12 GND IN 1/2" CONDUIT
EWH	(4500W)	30A	240V	1	2–#10, 1–#10 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

Davidson E2

NEW PANEL–'A'

MAKE: CUTLER HAMMER
TYPE: CH LOAD CENTER
RATING: 120/240 1 PHASE 3 WIRE
MOUNTING: SURFACE
MINIMUM AIC: 22,000 AMPS
MLO MAIN CIRCUIT BREAKER (FRAME) ___
EQUIPMENT GROUND BUS ____ ☐YES ☒NO
SERVICE ENTRY RATED ____ ☐YES ☒NO

	LOAD SERVICE	WATTS PER PHASE A	WATTS PER PHASE B	FR SIZE	CKT BRKR	CKT NO	NEUTRAL A B	CKT NO	CKT BRKR	FR SIZE	WATTS PER PHASE A	WATTS PER PHASE B	LOAD SERVICE
	AUTO SLIDING DOOR-GFI (FRONT INNER)	600		70A	20A	1		2	20A	70A	542		LTS – SOFFIT
	SPARE		---		20A	3		4	20A			1170	LTS
	HAND DRYER	1500			20A	5		6	20A		1546		LTS
	FLUSH VALVE CONTROLS		600		20A	7		8				---	SPACE
	REC	360			25A	9		10			---		SPACE
	REC		540		20A	11		12				---	SPACE
	HAND DRYER	1500			20A	13		14	40A		3120		CU–1
H	HAND DRYER		1500		20A	15		16				3120	240V 1PH
L	SMOKE DETECTORS	100			20A	17		18	40A		3120		CU–2
H	REC – MTP		360		20A	19		20				3120	240V 1PH
H	AHU–1	6084			60A	21		22	20A		720		TOILET REC
	240V 1PH		6084			23		24	20A			---	SPARE
H	ERV–1	984			15A	25		26			---		SPACE
	240V 1PH		984			27		28				---	SPACE
	SPARE	---			20A	29		30			---		SPACE
	SPARE		---		20A	31		32				---	SPACE
	SPARE	---			20A	33		34			---		SPACE
	SPACE		---			35		36				---	SPACE
	SPACE	---				37		38			---		SPACE
	SPACE		---			39		40				---	SPACE
	SPACE	---				41		42			---		SPACE
	NOTES	11128	10668	SUB-TOTALS 'B'		225A	BUS	SUB-TOTALS 'A'			8328	7410	
L	BREAKER LOCK					225A	LUGS	SUB-TOTALS 'B'			11128	10668	TOTAL CONNECTED LOAD
H	HACR TYPE BREAKER					225A	S/N	GRAND TOTAL			19456	18078	
						VERIFY	FEED	AMPS/PHASE			162A	151A	162A 151A

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	NEC DEM FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②	125%	2050	2050	4100
GENERAL USE RECEPT.	≤10KVA@100%	360	900	1260
	>10KVA@50%	---	---	---
MOTORS AND EQUIPMENT (LARGEST)	125%	2985	2985	5970
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	4638	5238	9876
WATER HEATERS	125%	---	---	---
KITCHEN EQUIPMENT ③	100%	---	---	---
FIX. ELEC. SPACE HEAT.④	100%	5000	5000	10000
SHOW WINDOW LIGHTS ⑤	100%	---	---	---
SIGN	125%	---	---	---
MISC	100%	3700	2100	5800
PHASE (TOTAL VA)		18733	18273	37006
TOTAL AMPS		156A	152A	VOLT AMPS / VOLTS = 154A TOTAL AMPS

Davidson E2

NEW PANEL–'B'

MAKE: CUTLER HAMMER
TYPE: CH LOAD CENTER
RATING: 120/240 1 PHASE 3 WIRE
MOUNTING: SURFACE
MINIMUM AIC: 22,000 AMPS
MLO MAIN CIRCUIT BREAKER (FRAME) ___
EQUIPMENT GROUND BUS ____ ☒YES ☐NO
SERVICE ENTRY RATED ____ ☐YES ☒NO

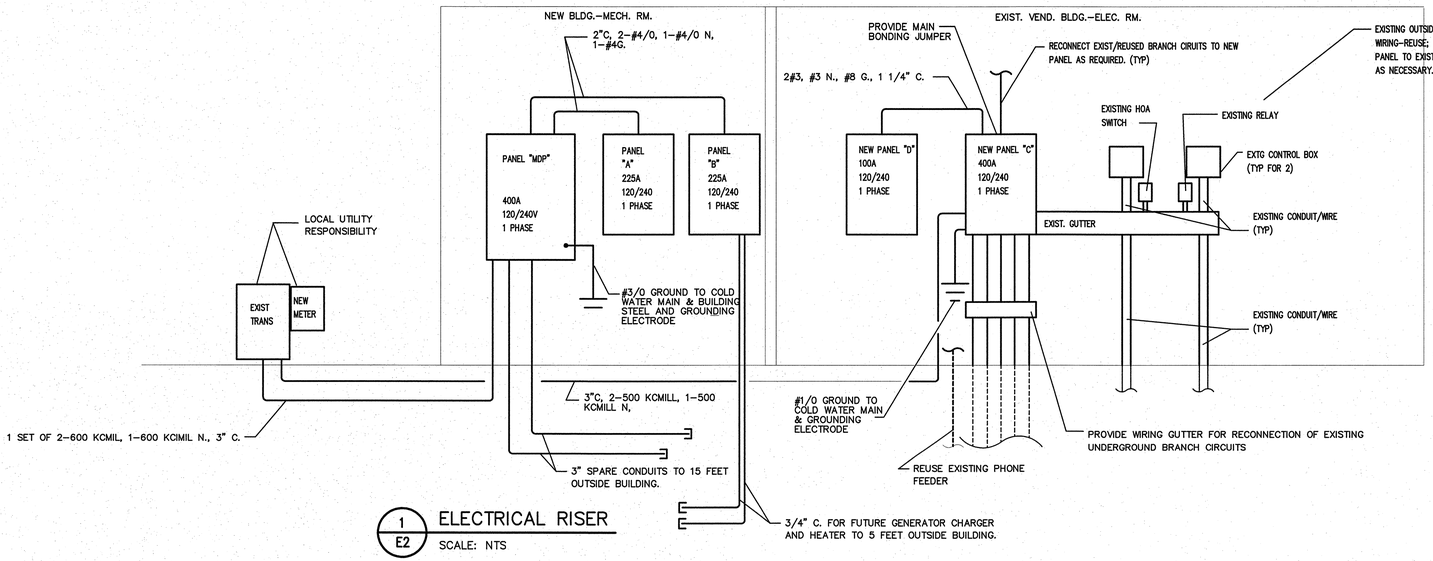
	LOAD SERVICE	WATTS PER PHASE A	WATTS PER PHASE B	FR SIZE	CKT BRKR	CKT NO	NEUTRAL A B	CKT NO	CKT BRKR	FR SIZE	WATTS PER PHASE A	WATTS PER PHASE B	LOAD SERVICE
	AUTO SLIDING DOOR-GFI (FRONT OUTER)	600		70A	20A	1		2	20A	70A	542		LTS – SOFFIT
	HAND DRYER		1500		20A	3		4	20A			1170	LTS
	FLUSH VALVE CONTROLS	700			20A	5		6	20A		1546		LTS
	HAND DRYER		1500		20A	7		8	20A			500	TELEPHONE EQUIPMENT
	REC	720			20A	9		10			---		SPACE
	REC		540		20A	11		12				---	SPACE
	SPACE	---				13		14			---		SPACE
	SPACE		---			15		16	20A			600	EWC
L	SMOKE DETECTORS	100			20A	17		18	30A		2250		EWH
	SPACE		---			19		20				2250	240V 1PH
H	AHU–2	6084			60A	21		22	20A		300		RECIRCULATION PUMP
	240V 1PH		6084			23		24	20A			1500	EWH–1
H	ERV–2	984			15A	25		26	20A		720		TOILET REC
	240V 1PH		984			27		28	20A			---	SPARE
	SPACE	---				29		30	20A		---		SPACE
	SPACE		---			31		32				---	SPACE
	SPACE	---				33		34			---		SPACE
	SPACE		---			35		36				---	SPACE
	SPACE	---				37		38			---		SPACE
	SPACE		---			39		40				---	SPACE
	SPACE	---				41		42			---		SPACE
	NOTES	9188	10608	SUB-TOTALS 'B'		225A	BUS	SUB-TOTALS 'A'			4638	6020	
L	BREAKER LOCK					225A	LUGS	SUB-TOTALS 'B'			9188	10608	TOTAL CONNECTED LOAD
H	HACR TYPE BREAKER					225A	S/N	GRAND TOTAL			13826	16628	
						VERIFY	FEED	AMPS/PHASE			115A	139A	115A 139A

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

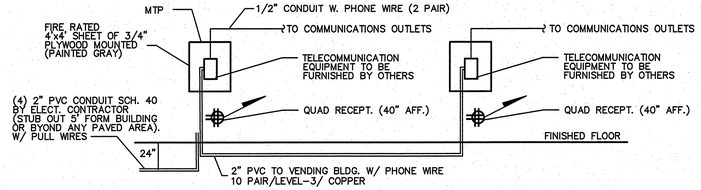
DIVERSIFIED LOAD SUMMARY

LOAD TYPE	NEC DEM FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②	125%	2050	2050	4100
GENERAL USE RECEPT.	≤10KVA@100%	720	540	1260
	>10KVA@50%	---	---	---
MOTORS AND EQUIPMENT (LARGEST)	125%	1245	1245	2490
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	1984	984	2968
WATER HEATERS	125%	2813	4688	7501
KITCHEN EQUIPMENT ③	100%	---	---	---
FIX. ELEC. SPACE HEAT.④	100%	5000	5000	10000
SHOW WINDOW LIGHTS ⑤	100%	---	---	---
SIGN	125%	---	---	---
MISC	100%	700	4100	4800
PHASE (TOTAL VA)		14512	18607	33119
TOTAL AMPS		121A	155A	VOLT AMPS / VOLTS = 138A TOTAL AMPS



1 / E2 ELECTRICAL RISER
SCALE: NTS

NOTES:
① ALL UNDER GROUND CONDUITS INSTALLED BY THE EC SHALL B ENCASED IN MINIMUM 3" CONCRETE. PROVIDE MAGNETIC TRACER RIBBON 12" BLOW GRADE.



2 / E2 TELEPHONE RISER
SCALE: NTS

PROJECT:
I–85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715–0400 FAX (919) 715–0399

DRAWING TITLE: NORTHBOUND/SOUTHBOUND ELECTRICAL PANELS & RISERS
DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE 5/5/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL–AID NO.
K–4905	39886.3.ST1	C202161	STM–085–3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E2 OF 2

ENGINEER
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Raleigh, North Carolina 27603
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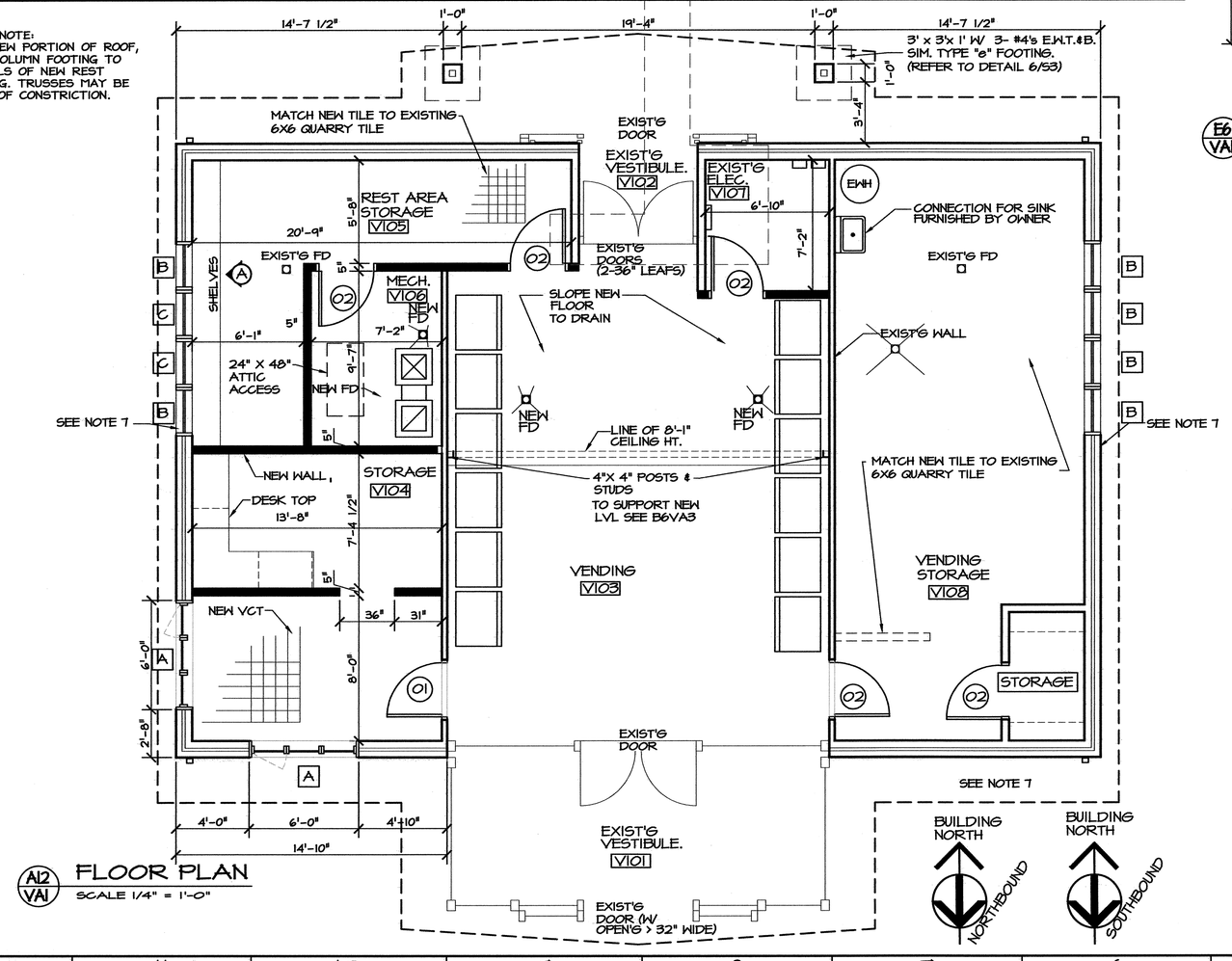
FINISH - COLOR SCHEDULE

ROOM	NO.	FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING			REMARKS
		MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	MAT.	COLOR	HEIGHT	
			SEE SPEC'S		SEE SPEC'S		SEE SPEC'S		SEE SPEC'S		SEE SPEC'S		SEE SPEC'S		SEE SPEC'S		
EXIST'G VISTIBULE	V101	EXIST'G QT		EXIST'G QT												VARIES	GLASS ENTRY WAY
EXIST'G VISTIBULE	V102	EXIST'G QT		EXIST'G QT		FC		FC		FC		FC				8'-1"	GLASS ENTRY WAY
VENDING	V103	CONC.		IX3 F.C.		FC		FC		FC		FC		PLY		VARIES	MATCH EXIST'G PLYWOOD CLG'S SEE NOTE 8
STORAGE	V104	VCT		RUB.		DW		DW		DW		DW		DW*		9'-4"	SEE NOTE 2/ * SEE NOTE 5
RESTROOM STOR.	V105	EXIST'G 6X6 TILE		IX3 F.C.		DW		DW		DW		DW		DW*		9'-4"	" " " "
MECH.	V106	NEW CONC.		-		DW		DW		DW		DW		DW*		9'-4"	" " " "
ELEC.	V107	EXIST'G CONC.		-		-		-		DW		-		-		9'-4"	PAINT ALL EXIST'G DRYWALLS
VENDING STORAGE	V108	EXIST'G 6X6 TILE	⌄	IX3 F.C.	⌄	DW	⌄	DW	⌄	DW	⌄	DW	⌄	DW*	⌄	9'-4"	SEE NOTE 2/ * SEE NOTE 5

DOOR - HARDWARE SCHEDULE

DOOR				FRAME		HARDWARE							REMARKS
MARK	SIZE	MAT.	COLOR	MAT.	COLOR	LOCKSET	HINGES	CLOSER	STOP	PLATE KICK	WEATHS'P/ THRESHOLD		
1	3'-0"x7'-0"x1 3/4"	H.M.	10BB 13/250	H.M.	10BB 13/250	F04	A5112	C02511	L02162	-			ONE WAY REFLECTIVE GLASS
2	3'-0"x7'-0"x1 3/4"	H.M.	10BB 13/250	H.M.	10BB 13/250	F04	A5112	C02511	L02162	-			

STRUCTURAL NOTE:
CONSTRUCT NEW PORTION OF ROOF, COLUMNS, & COLUMN FOOTING TO MATCH DETAILS OF NEW REST AREA BUILDING. TRUSSES MAY BE USED FOR ROOF CONSTRICTION.



A12/VA1 FLOOR PLAN
SCALE 1/4" = 1'-0"

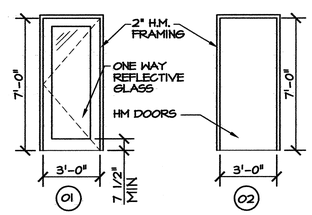
GENERAL NOTES:

1. REMOVE BRICK & STUD WALL & INSTALL NEW WINDOW, WINDOW SILL. (SEE DEMO PLAN VA4).
2. FUR-OUT EXISTING STUD/ TILE WALLS W/ IX3 FURRING STRIPS @ 16" O.C. INSTALL NEW 5/8" DW, PAINT. PROVIDE IX3 F.C. BASE @ ROOMS V103, V105, V108. PROVIDE RUBBER BASE @ ROOM 104.
3. NEW STUD WALL W/ F-C PANELING ON BOTH SIDES W/ INSUL., PAINT. (SEE NOTE 2 FOR FINISHING).
4. NEW WOOD SHELVING SEE VA1.
5. ALL CEILINGS SHALL BE OVERLAID W/ 1-LAYER OF 5/8" DRYWALL.
6. FLOOR AT RM. V104 - REMOVE TILE, POUR CONC.TOPPING FLUSH W/ OLD CERAMIC TILE. PROVIDE NEW VCT.
7. REPAIR ALL DAMAGED EXISTING SOFFIT & FASCIA AND REPAINT. REPLACE ALL WINDOWS AND PAINT.
8. FUR-OUT EXISTING STUD/ TILE WALLS W/ IX3 FURRING STRIPS @ 16" O.C. INSTALL NEW F-C PANELING SIERRA-8, PAINT. PROVIDE IX3 BASE & IX3 CEILING TRIM @ ROOM V103 CEILING SHALL BE REPLACED W/ 1- LAYER OF 1/2" PLYWOOD.

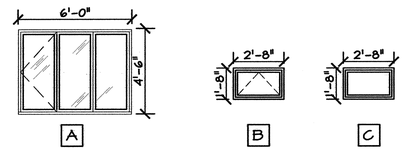
WALL LEGEND:

EXIST'G WALLS TO REMAIN

NEW 2X4 FRAMED WALL W/ 5/8" GYP.



E6/VA1 DOOR TYPES- (MARK)
SCALE 1/4" = 1'-0"

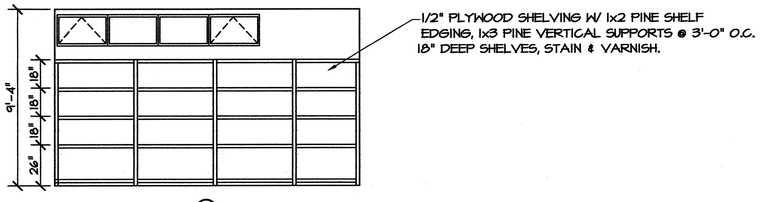


WINDOW SCHEDULE:

A METAL CLAD FIXED / OPERABLE WINDOW, BROWN FINISH. INSULATED GLASS SOLAR COOL GLARE

B METAL CLAD OPERABLE WINDOW, BROWN FINISH. INSULATED GLASS SOLAR COOL GLARE, MATCH EXIST. SIZE.

C METAL CLAD FIXED WINDOW, BROWN FINISH. INSULATED GLASS SOLAR COOL GLARE, MATCH EXIST. SIZE.



C5/VA1 ELEVATION-STORAGE V105
SCALE 1/4" = 1'-0"

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
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(919) 715-0400 FAX (919) 715-0399

DRAWING TITLE: **FLOOR PLAN & SCHEDULE**

DRAWN BY: VT, CLS CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4210 RALEIGH, N.C.

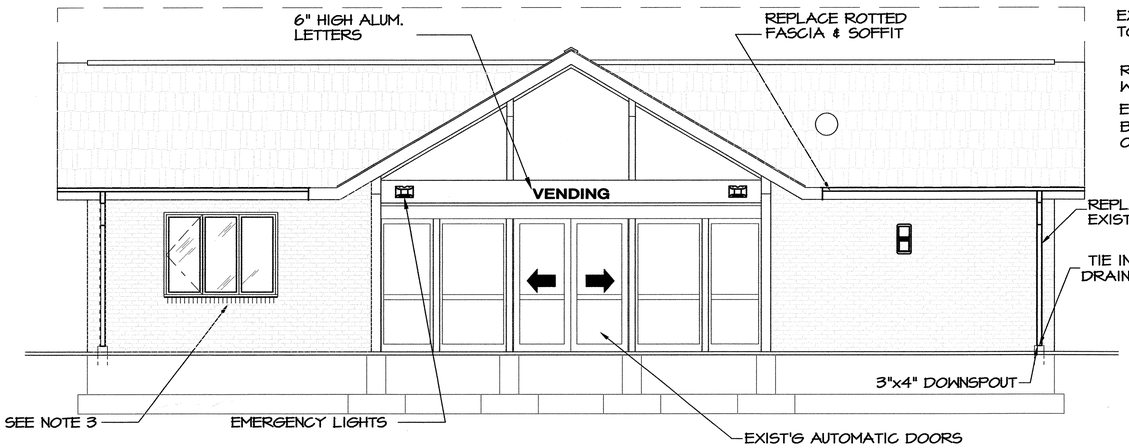
SEAL 16394 ENGINEER WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

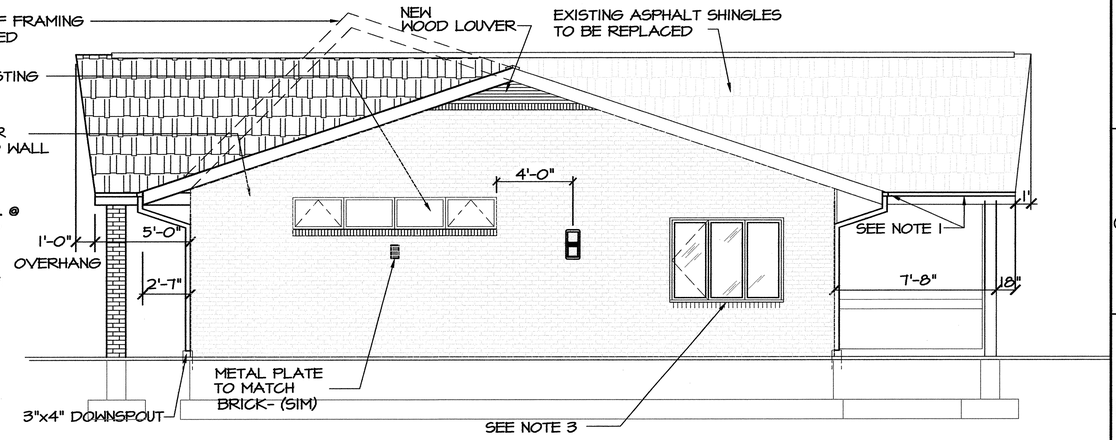
SHEET NO. VA1 OF 4

S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\VA1-Davidson-updated.dwg, 6/29/2009 12:11:53 PM



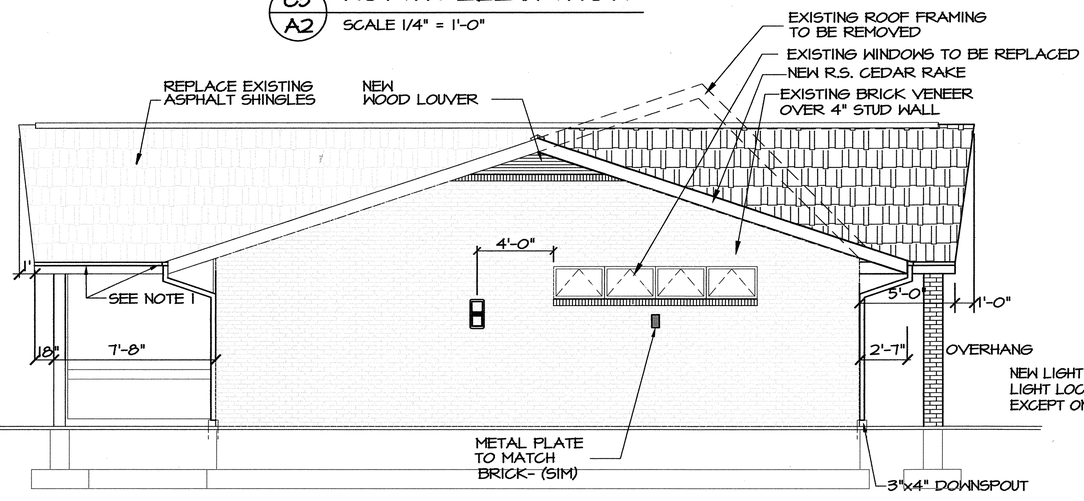
C5 / A2 NORTH ELEVATION

SCALE 1/4" = 1'-0"



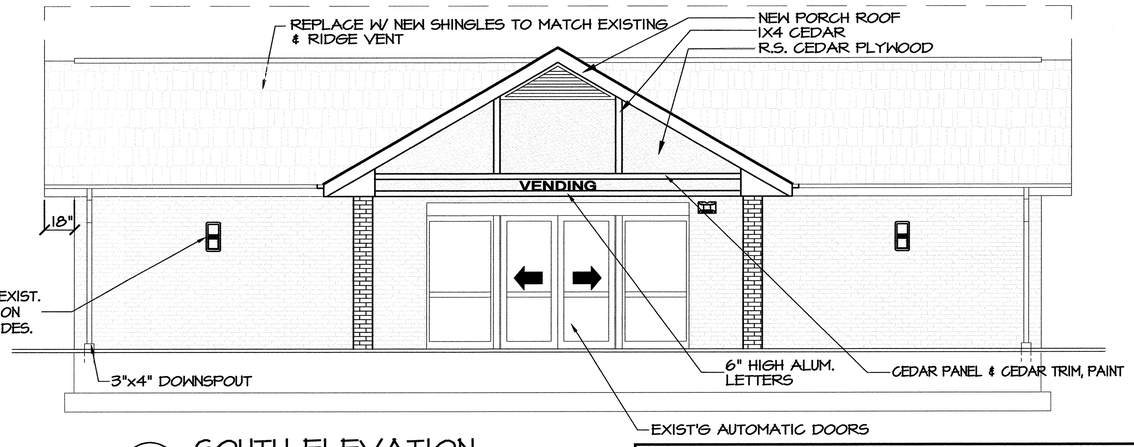
C10 / A2 EAST ELEVATION

SCALE 1/4" = 1'-0"



F5 / A2 WEST ELEVATION

SCALE 1/4" = 1'-0"



F10 / A2 SOUTH ELEVATION

SCALE 1/4" = 1'-0"

GENERAL NOTES:

1. REPLACE EXISTING GUTTERS W/ NEW LEAFGUARD GUTTERS.
2. EXISTING SHINGLES TO BE REPLACED
3. NEW WINDOW W/ LINTEL (L 3 1/2 X 3 1/2 X 3/8"), TOOTH-IN BRICK JAMBS & NEW BRICK ROLOCK SILL.

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

FACILITIES DESIGN

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DRAWING TITLE: **ELEVATIONS**

DRAWN BY: CLS CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD JR. REGISTERED ARCHITECT 4241 5-8-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL– AID NO.
K–4905	39886.3.ST1	C202161	STM–085–3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **VA2** OF 4

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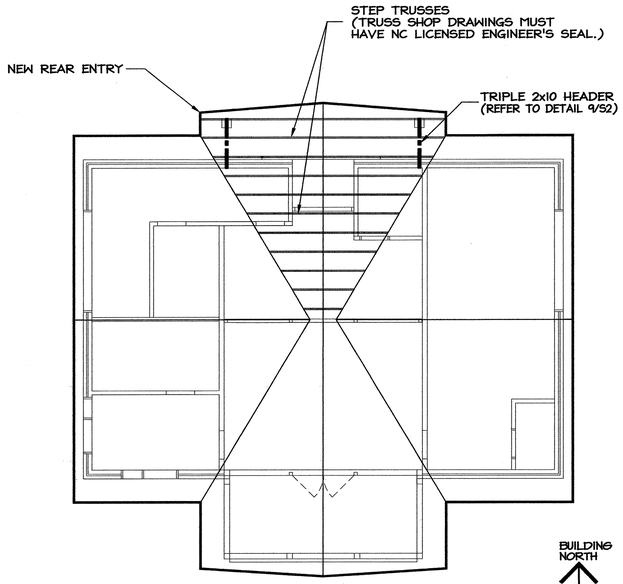


E10 / VA3 TRUSS OVER BUILD PLAN

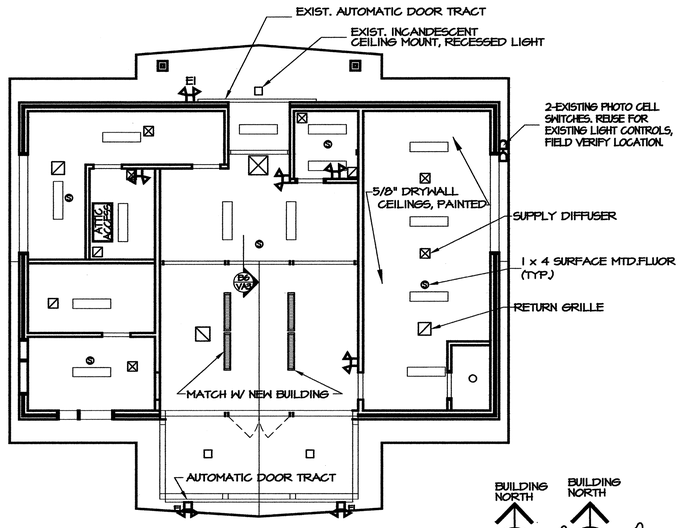
SCALE 1/8" = 1'-0"

BUILDING NORTH — NORTHBOUND

BUILDING NORTH — SOUTHBOUND

LEGEND:

- 1X4 FLUORESCENT
- 8'x3" FLUORESCENT
- RECESSED FLUORESCENT
- BLDG. EXTERIOR LIGHTS FLUORESCENT SOFFIT
- CEILING MOUNT, RECESSED LIGHT INCANDESCENT
- EMERGENCY LIGHT INTERIOR
- EMERGENCY LIGHT EXTERIOR
- SMOKE DETECTOR
- SUPPLY DIFFUSER
- RETURN GRILLE

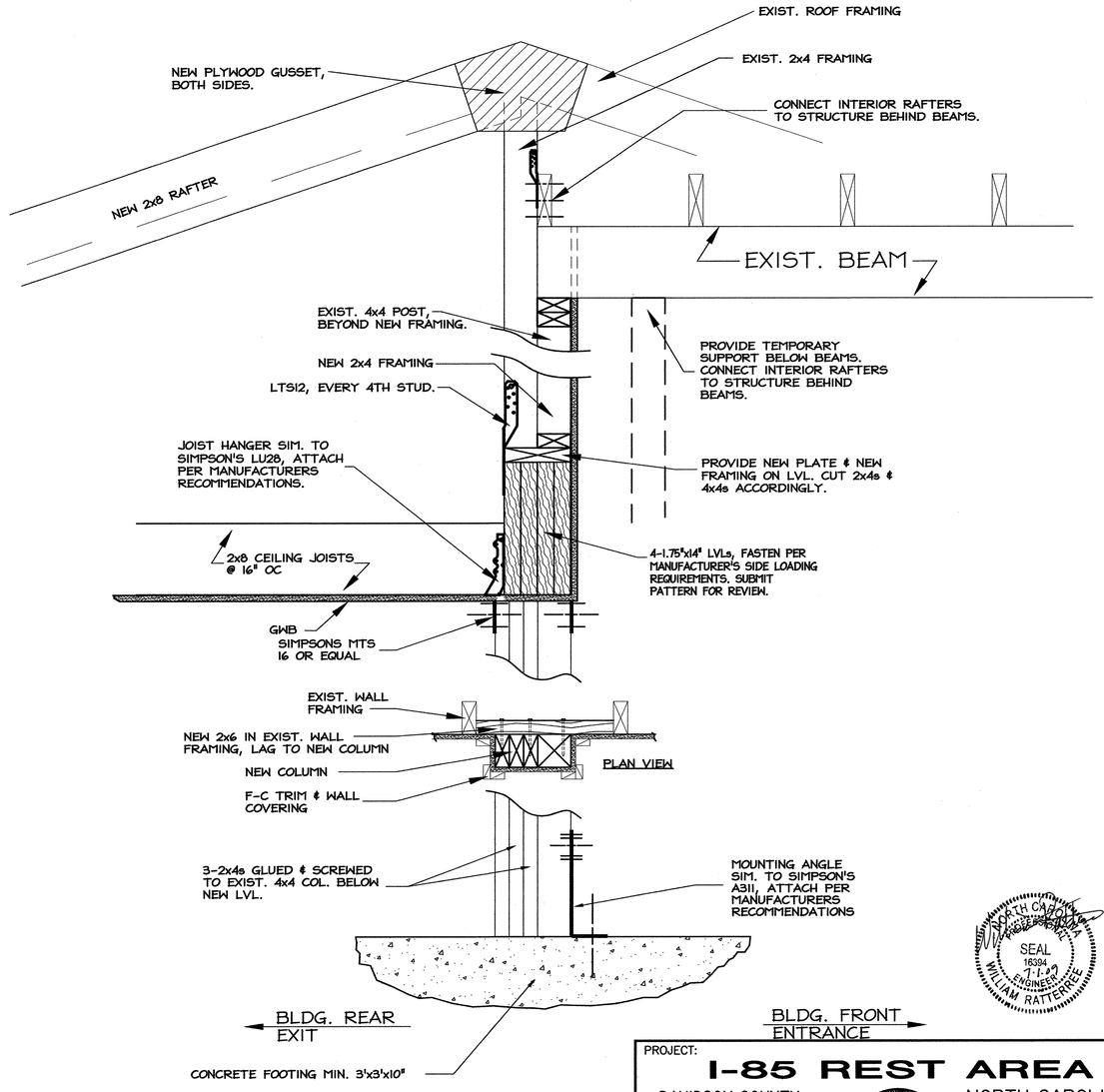


A10 / VA3 REFLECTED CEILING PLAN

SCALE 1/8" = 1'-0"

BUILDING NORTH — NORTHBOUND

BUILDING NORTH — SOUTHBOUND



B6 / VA3 STRUCTURAL SECT.

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

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 16394 7-1-09 ENGINEER WILLIAM RATTERREE

PROJECT:

I-85 REST AREA

DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

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DRAWING TITLE: CEILING PLAN

DRAWN BY: KT, CLS — CHECKED BY: V. BUZARD — ISSUE DATE: 30 APRIL 09

SEAL: VICTOR M. BUZARD JR. REGISTERED ARCHITECT 4241 7-1-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL– AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

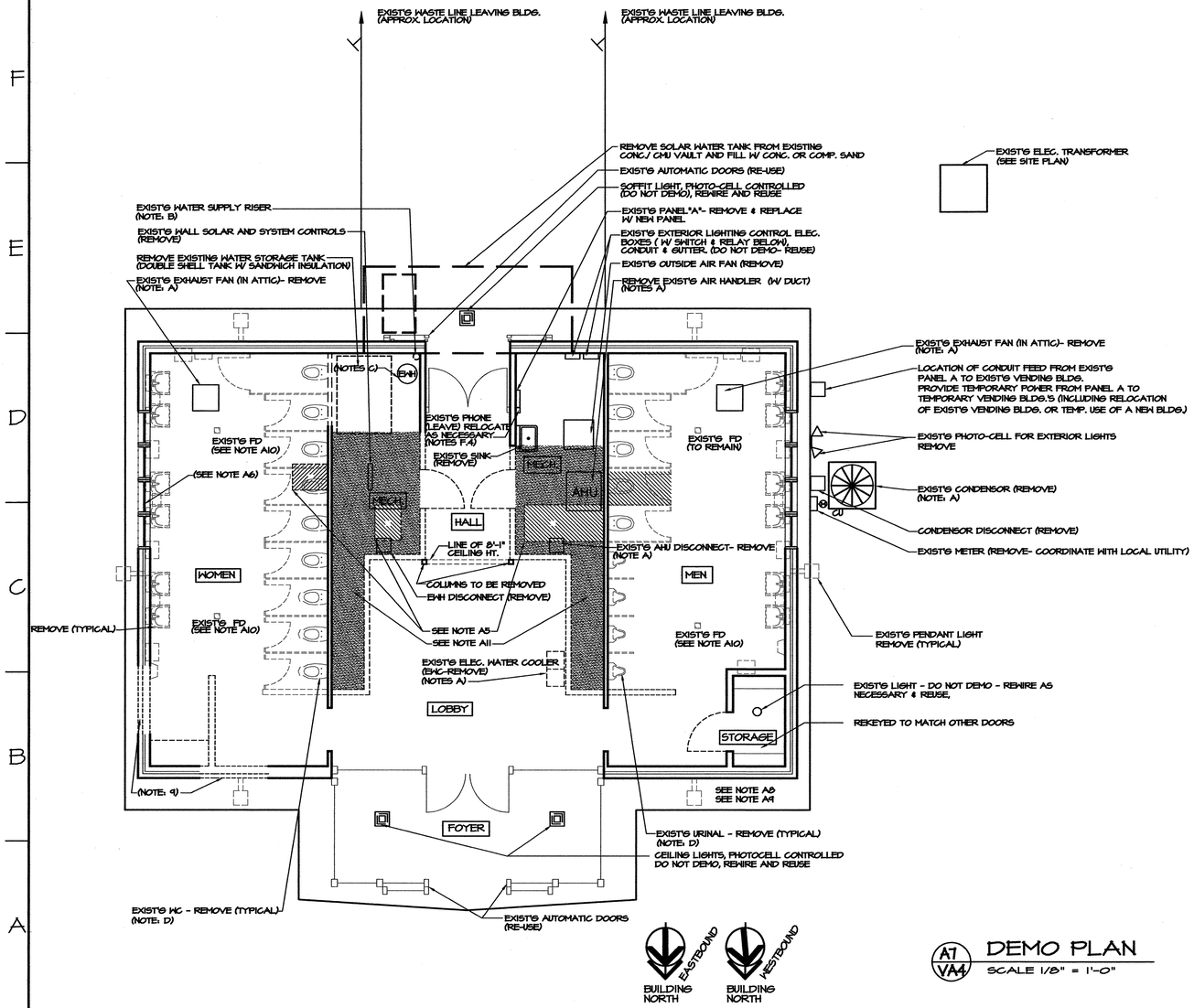
SHEET NO. VA3 OF 4

S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\VA3-Davidson.dwg, 7/1/2009 11:36:02 AM, CLS

GENERAL NOTES:

A1. REMOVE EXISTING STUD WALLS.
A2. REMOVE EXISTING MASONRY & TILE WALLS.
A3. OMIT.
A4. REMOVE ALL TOILET PARTITIONS, ALL FIXTURES (SEE NOTE: TD).
A5. REMOVE TILE & CONC. SLAB AT OLD WOMEN'S RESTROOM & LOBBY FOR NEW FLOOR DRAIN, SEE SHEET VP1.
A6. REMOVE & REPLACE EXISTING WINDOWS (SEE SHEET VA1).
A7. REMOVE BRICK & STUD WALL & INSTALL NEW WINDOW, WINDOW SILL.
A8. REPAIR & REPAINT ALL DAMAGED FASCIA, SOFFIT TO MATCH NEW BUILDING.
A9. REMOVE & REPLACE EXISTING SHINGLES TO MATCH NEW BUILDING.
A10. EXISTING FD; CAP & SEAL TO MATCH ARCH. FINISHES.
A11. REMOVE TOP SURFACE OF CONC. FLOOR & TILE, TO MATCH EXISTING TILE FLOOR.

---------- WALL TO BE REMOVE



A7/VA4 DEMO PLAN
SCALE 1/8" = 1'-0"

GENERAL NOTES

1. THE PME DEMOLITION SCOPE DOES NOT REQUIRE REMOVAL OF ANY PIPE OR CONDUIT LOCATED INSIDE BUILDING AND BELOW FINISHED FLOOR ELEVATION UNLESS SPECIFICALLY NOTED OR REQUIRED TO COMPLETE OTHER WORK. UNLESS OTHERWISE NOTED, ALL DEMO'D CONDUIT AND PIPE ENTERING/EXITING FLOOR SHALL BE CUT OFF AT OR JUST BELOW FLOOR LEVEL AND PERMANENTLY SEALED IN A MANNER THAT DOES NOT INTERFERE WITH OR ADVERSELY AFFECT THE CONSTRUCTION AND FINISHES REQUIRED IN RENOVATED BLDG AND IN A MANNER THAT MEETS APPLICABLE CODE REQUIREMENTS.

2. THE FLOOR DRAINS AND UNDERGROUND WASTE LINES SHALL REMAIN FULLY FUNCTIONAL FOLLOWING DEMOLITION AND RENOVATION.

3. PIPE AND CONDUIT MAY BE ABANDONED IN WALLS PROVIDED PIPE IS DRAINED, WIRE IS REMOVED FROM CONDUIT, AND BOTH ARE SEALED. BOTH SHALL BE CLEARLY LABELED AS ABANDONED AT EXPOSED LOCATIONS AND AT EACH END.

4. ALL PENETRATIONS, DAMAGE, AND OPENINGS IN WALLS, CEILINGS, ROOFS, FLOORS, OR DOORS WHICH RESULTS FROM DEMOLITION SHALL BE REPAIRED, SEALED AND FINISHED IN A MANNER WHICH IS CONSISTENT WITH THE CONSTRUCTION AND FINISHES REQUIRED FOR BUILDING RENOVATION. ALL FIRE BARRIER RATINGS SHALL BE MAINTAINED.

5. REMOVAL OF ANY DEVICE OR EQUIPMENT INCLUDES THE REMOVAL OF ALL RELATED ELECTRICAL, PLUMBING, AND MECHANICAL SYSTEM COMPONENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, MOUNTING BOLTS, CLAMPS, SUPPORTS, FASTENERS, WIRING (UP TO CIRCUIT BREAKER), CONDUIT (UP TO FEEDER PANEL), SWITCHES, DISCONNECTS, CONTROLS, DUCT, DAMPERS, REGISTERS, GRILLS, DIFFUSERS, PIPE, VALVES, INSULATION, ETC. ASSOCIATED WITH THAT DEVICE UNLESS SPECIFICALLY NOTED OTHERWISE. PROVIDE ALL PLUMBING VALVES TO OWNER REP.(G. HARRELL OR HIS DESIGNEE).

6. GENERAL CONTRACTOR (GC) HAS OVERALL RESPONSIBILITY FOR COORDINATING DEMOLITION AND COMPLETING ALL DEMOLITION. TRADE RESPONSIBILITY FOR SPECIFIC DEMOLITION SCOPE/TASKS SHALL BE THE SAME CONTRACTOR/TRADE WHO WOULD BE RESPONSIBLE FOR INSTALLING/RENOVATING SIMILAR ITEMS AS PER THIS PROJECTS DESIGN PLANS AND SPECIFICATIONS.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH LOCAL UTILITIES.

A. EQUIPMENT DEMOLITION

REMOVE AIR HANDLER (AHU), CONDENSOR, EXHAUST FAN, HEATER(S) (INCLUDING ANY BASEBOARD OR DUCT HEATERS), AND ELECTRIC WATER COOLER (EWC). THE SOUTHBOUND CONDENSOR SHALL BE PROVIDED TO OWNER (G HARRELL OR HIS DESIGNEE)

B. COLD WATER (CW) SUPPLY & DISTRIBUTION

EXISTING WATER SUPPLY RISER ENTERS BLDG AT THIS LOCATION. REMOVE ALL EXISTING CW PIPING AND COMPONENTS BEYOND APPROXIMATE 6" ABOVE MECHANICAL ROOM FLOOR. SEE PLUMBING RISER (SUPPLY WATER & BACKFLOW PREVENTER DETAIL) ON DRAWING VP--1. CW PIPING REMOVAL INCLUDES ALL PIPING TO ELEC. WATER HEATER (EWH), URINALS, WATER CLOSETS, BATHROOM SINKS, ELECTRIC WATER COOLER (EWC), HOSEBIBBS, ETC. IN EXISTING BUILDING.

C. ELECTRIC WATER HEATER (EWH), HOT WATER (HW) PIPE, AND TEMPERED WATER (TW) PIPE

BOTH EWH'S (NORTH & SOUTH BOUND) WILL BE REMOVED, INCLUDING ALL PIPE, SOUTHBOUND EWH SHALL BE PROVIDED TO OWNER'S REP. (G.HARRELL OR DESIGNEE). NORTHBOUND EWH SHALL BE DISCARDED.

REMOVE PIPING AND DEVICES FOR HW SUPPLY AND TEMPERED WATER BETWEEN EWH AND ALL OTHER PLUMBING FIXTURES IN BUILDING. THIS INCLUDES REMOVAL OF ALL PIPING TO AND FROM SOLAR COLLECTION/ PANEL SYSTEM.

D. PLUMBING FIXTURES

REMOVE ALL SINKS, URINALS, WATER CLOSETS, HOSE BIBBS, ETC. IN MEN'S AND WOMEN'S BATHROOMS INCLUDING ALL PLUMBING PIPE, VALVES, FIXTURES, AND THEIR SUPPORTS / CARRIERS. SEE SEPARATE NOTES FOR PIPING FOR CW, HW, WASTE, AND VENTS.

E. WASTE & VENT PIPING

E.1 REMOVE ALL EXPOSED WASTE & VENT LINES IN ROOMS AND IN ATTIC. ALL EXISTING VTR'S TO BE REMOVED.

E.2 PERMANENTLY PLUG EXISTING WASTE LINES FROM WATER COOLERS (EWC), BATHROOM SINKS, WATER CLOSETS, AND URINALS CONSISTENT WITH REQUIREMENTS FOR FINAL WALL AND FLOOR FINISHES WHEN BUILDING IS RENOVATED. WASTE LINES SHALL BE PLUGGED BELOW FLOOR LEVEL WHERE THEY ENTER FLOOR INSIDE A ROOM (INCLUDING PIPE CHASE ROOMS). OTHERWISE, THEY SHALL BE PLUGGED IN WALLS.

F. ELECTRICAL – LIGHTING & MISCELLANEOUS

F.1 DO NOT REMOVE EXTERIOR AREA LIGHTING SUPPLIED FROM EXTG PANEL "A". IT REMAINS ON PANEL "A" (SEE DRAWING VE-2).

F.2 UNLESS NOTED OTHERWISE, REMOVE ALL INTERIOR LIGHTING, EXTERIOR PENDANT LIGHTING, EXIT SIGNS, EMERGENCY LIGHTING, AND OTHER MISCELLANEOUS LIGHTING & DEVICES INSTALLED INSIDE THIS BUILDING OR MOUNTED ON THE EXTERIOR OF THIS BUILDING.

F.3 UNLESS OTHERWISE NOTED, REMOVE ALL MISCELLANEOUS ELECTRICAL DEVICES INCLUDING ELECTRIC HAND DRYERS, ELECTRICAL OUTLETS, AUTOMATIC FLUSH DEVICES, AND SINK FAUCET CONTROLS

F.4 DO NOT REMOVE EXISTING PHONE SERVICE, WIRING, DEVICES, OR JACKS FROM THIS BUILDING.

G. SOLAR COLLECTION SYSTEM FOR WATER HEATING

REMOVE ALL SOLAR PANELS FROM ROOF INCLUDING ALL PIPING & VALVES. REMOVE ALL PUMPS, HEAT EXCHANGERS, TANKS, CONTROLS, EQUIPMENT, THERMOSTATS, INSULATION, PENETRATIONS, TANKS, ETC, FROM BLDG.

PROJECT:
I-85 REST AREA
DAVIDSON COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

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DRAWING TITLE: DEMO PLAN
DRAWN BY: CLS CHECKED BY: V. BUZARD ISSUE DATE: 30 APRIL 09

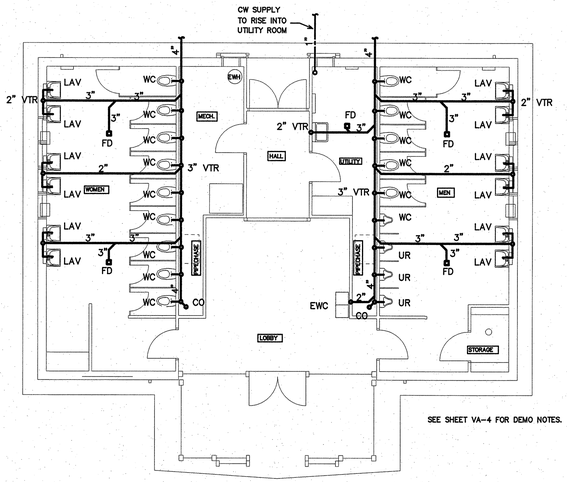
SEAL: REGISTERED ARCHITECT VICTOR M. BUZARD 4241 5-8-09 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

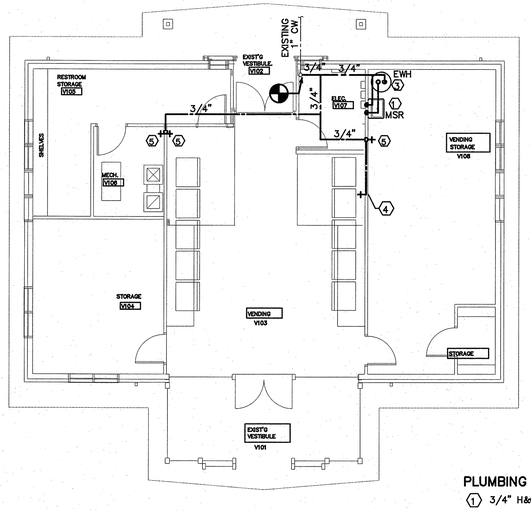
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VA4 OF 4

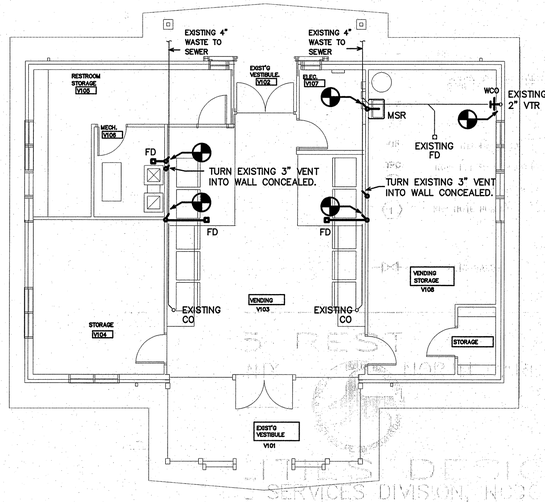
S:\FD\REST AREA, WELCOME CENTERS\I-85 Davidson Co\Arch\VA4-Davidson-updated.dwg, 5/8/2009 2:29:54 PM



3 VP1 EXISTING PLUMBING PLAN
SCALE: 1/8"=1'-0"



2 VP1 PLUMBING PLAN–WATER
SCALE: 1/8"=1'-0"



1 VP1 PLUMBING PLAN–WASTE
SCALE: 1/8"=1'-0"

PLUMBING KEY NOTES – WATER

1. 3/4" H&CW DN. TO MSR (HW 140 DEG. F)
2. NOT USED.
3. 3/4" CW DN TO EWH
4. 1/2" CW DN TO COFFEE MAKER BOX. MOUNT 36" A.F.F. COORDINATE EXACT LOCATION WITH EQUIPMENT SERVED.
5. 3/4" CW DOWN TO HB

GENERAL NOTES – PLUMBING

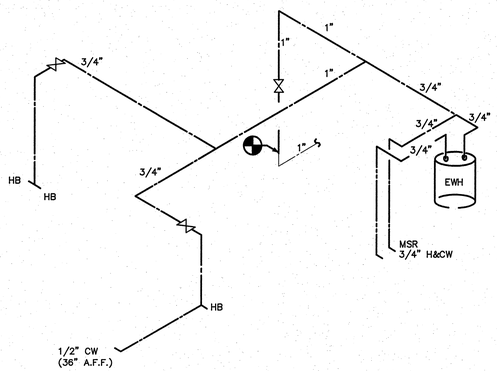
1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
2. IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS WITH EXISTING FIELD CONDITIONS OR THE WORK OF OTHER TRADES.
3. RESOLVE ALL CONFLICTS PRIOR TO INCURRING ANY MATERIAL OR LABOR EXPENSES.
4. COMPLY WITH THE MANUFACTURER'S TECHNICAL INSTRUCTIONS WHEN INSTALLING PLUMBING FIXTURES, MATERIALS, AND DEVICES.
5. LOCATE FIXTURES AND EQUIPMENT GENERALLY AS SHOWN ON THE PLANS; HOWEVER, COORDINATE LOCATIONS WITH ACTUAL FIELD CONDITIONS TO PRESERVE ALL CODE-REQUIRED AND MANUFACTURER – REQUESTED SERVICE CLEARANCES.
6. COORDINATE ROUTING OF ALL PIPING WITH BUILDING STRUCTURE AND WITH THE WORK OF OTHER TRADES. OFFSET VENT PIPING AROUND BEAMS AND JOISTS AS NECESSARY.
7. AT EXTERIOR WALL, INSTALL WATER PIPING ON HEATED SIDE OF WALL INSULATION.
8. PROVIDE WATER HAMMER ARRESTORS AT THE END OF EACH COLD AND HOT WATER BRANCH RISER. SIZE ARRESTOR APPROPRIATELY.
9. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT INSTALLED AS PART OF HIS CONTRACT. UNLESS OTHERWISE NOTED, THIS CONTRACTOR SHALL WIRE FROM HIS EQUIPMENT TO DISCONNECT SWITCHES, JUNCTIONBOXES, OR PANELBOARD CIRCUIT BREAKERS AS PROVIDED BY THE ELECTRICAL CONTRACTOR.
10. DO NOT INSTALL ANY WATER PIPING IN THE MECHANICAL ROOM ABOVE ELECTRICAL PANELS, DISCONNECTS, OR MDPE.
11. LOCATION OF EXISTING PLUMBING IS APPROXIMATE.

PLUMBING LOAD SUMMARY

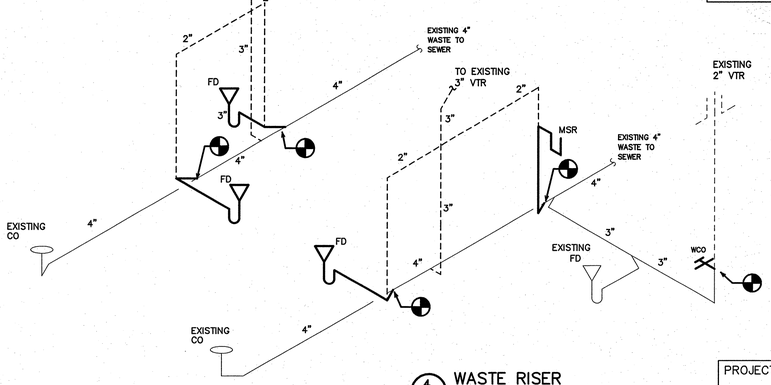
WASTE FIXTURE UNITS =	11
WATER FIXTURE UNITS =	3
TOTAL DEMAND G.P.M. =	6.5

WASTE AND VENT LEGEND:

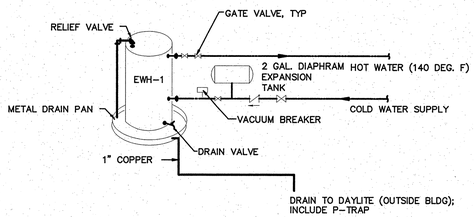
- COLD WATER PIPE
- HOT WATER PIPE
- BALL VALVE
- HOSE BIBB
- WATER HYDRANT
- NEW VENT
- NEW WASTE
- C.O. CLEAN OUT–PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS
- W.C.O. WALL CLEAN OUT
- FLOOR DRAIN
- VTR VENT THROUGH ROOF
- TPC TRAP PRIMER CONNECTION (TIE POINT)
- CONNECT TO EXISTING
- (1) KEY NOTE NUMBER
- GATE VALVE



5 VP1 DOMESTIC WATER RISER
SCALE: NOT TO SCALE



4 VP1 WASTE RISER
SCALE: NOT TO SCALE



5 VP1 DOMESTIC WATER HEATER PIPING SCHEMATIC
SCALE: NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	ALTERNATE MANUFACTURER/MODEL	ALTERNATE MANUFACTURER/MODEL
HB	HOSE BIBB ZURN Z-1330-C, 3/4" WALL HYDRANT WITH VANDAL RESISTANT VACUUM BREAKER. ENCASED WITH KEY LOCK.	WATTS #HY-330.	JAY R. SMITH #5509QT.
EWH	ELECTRIC WATER HEATER A.O. SMITH MODEL ELJC-10, 10 GALLON, 1,500 WATT, 3/4" INLET AND OUTLET, 120V, 1 PH. MOUNT ON WALL. MODEL# ETC-2X EXPANSION TANK.	RHEEM #81VP10S.	BRADFORD WHITE #M-1-10U6SS.
MSR	MOP SINK CRANE PLUMBING #MSB-2424, 24"x24"x10" FLOOR TYPE WITH #830-AA FAUCET/VACUUM BREAKER, #832-AA HOSE AND HOSE BRACKET, #1453-BB STRAINER, #889-CC MOP HANGER, #E-77-AA BUMPER GUARD, AND STAINLESS STEEL WALL SPLASH GUARD.	FLORESTONE MOP SINK #83 WITH SPEAKMAN #MR-371 FAUCET, HOSE AND MOP HANGER.	ACORN MODEL #TRH-242410 WITH #KFC FAUCET, VACUUM BREAKER, HOSE #KH36 AND PAIL HOOK.
FD	FLOOR DRAIN ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER. TRAP PRIMER CONNECTION REQUIRED ONLY FOR FLOOR DRAINS IN CHASES, MECH & STORAGE.	JOSAM #30000A.	JAY R. SMITH #2005-A.

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PROJECT:
I–85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
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DRAWING TITLE: NORTHBOUND/SOUTHBOUND PLUMBING PLAN
DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE 4/10/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL-AID NO.
K-4905	39886.3.ST1	C202161	STM-085-3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VP1 OF 6

AIR DISTRIBUTION SCHEDULE

DESIGNATION	MANUFACTURER – MODEL NO.	TYPE	PANEL SIZE	NECK SIZE	MAX CFM	MAX NC	REMARKS
A	PRICE – ASCD CARNES – SFAB METALAIRE – 5800 AL	CEILING SUPPLY	12 x 12	8"ϕ	200	30	GYP. CEILING
B	PRICE – ASCD CARNES – SFAB METALAIRE – 5800 AL	CEILING SUPPLY	24 x 24	10"ϕ	400	30	GYP. CEILING
C	PRICE – PDDR CARNES – SPRB224 METALAIR – 7300 R	RETURN GRILLE	16 x 16	8"ϕ	200	30	GYP. CEILING
D	PRICE – 610 DAL CARNES – RNDAH METALAIRE – H4000A–AF–1 OBDA	SUPPLY REGISTER	14 x 10	–	350	30	SIDEWALL
E	PRICE – 630 CARNES – RAAAH METALAIRE – RHE–1	RETURN GRILLE	26 x 18	–	1450	30	GYP. CEILING

PROVIDE ALL SUPPLY DIFFUSERS WITH VOLUME DAMPER ACCESSIBLE FROM DIFFUSER FACE.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

DESIGNATION	MANUF.	MODEL NO.	CFM	COOLING CAPACITY		HEATING CAPACITY	ELECTRICAL DATA					
				TOTAL BTUH	SEER	TOTAL BTUH	AHU			CU		
							MCA	MOCP	VOLTAGE	MCA	MOCP	VOLTAGE
DSAH–1/DSCU–1	MITSUBISHI ✱	MSZ09UN ✱	297	8800	12	12300	0.5	15	120/1	14	15	208/1
DSAH–2/DSCU–2	MITSUBISHI ✱	MSZ09UN ✱	297	8800	12	12300	0.5	15	120/1	14	15	208/1

✱ OTHER ACCEPTABLE MANUFACTURERS/MODELS: SANYO/09KHS71
CARRIER/40MVQ009–3–01 (INDOOR UNIT),38MVQ009–3–01 (OUTDOOR UNIT)

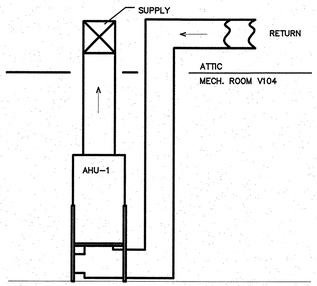
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE:

PRESCRIPTIVE [X] ENERGY COST BUDGET [ ]

THERMAL ZONE	7A
EXTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	16D F
SUMMER DRY BULB	92D F (75 F WB)
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	68 F
SUMMER DRY BULB	75F
RELATIVE HUMIDITY	50%
BUILDING HEATING LOAD	27 MBH
BUILDING COOLING LOAD	5.8 TONS
MECHANICAL SPACE CONDITIONING SYSTEM	
SPLIT SYSTEM	
U AHU–1/CU–1	
DESCRIPTION OF UNIT	SPLIT SYSTEM HEAT PUMP
HEATING EFFICIENCY	COP = 3.5
COOLING EFFICIENCY	SEER = 13.0
HEAT OUTPUT OF UNIT	43.5 MBH
COOLING OUTPUT OF UNIT	45.5 MBH

LIST EQUIPMENT EFFICIENCIES
EFFICIENCIES ARE LISTED ON EQUIPMENT SCHEDULES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
MOTORS USED IN THIS PROJECT ARE INCLUDED IN THE EFFICIENCY RATING OF THE UNITS

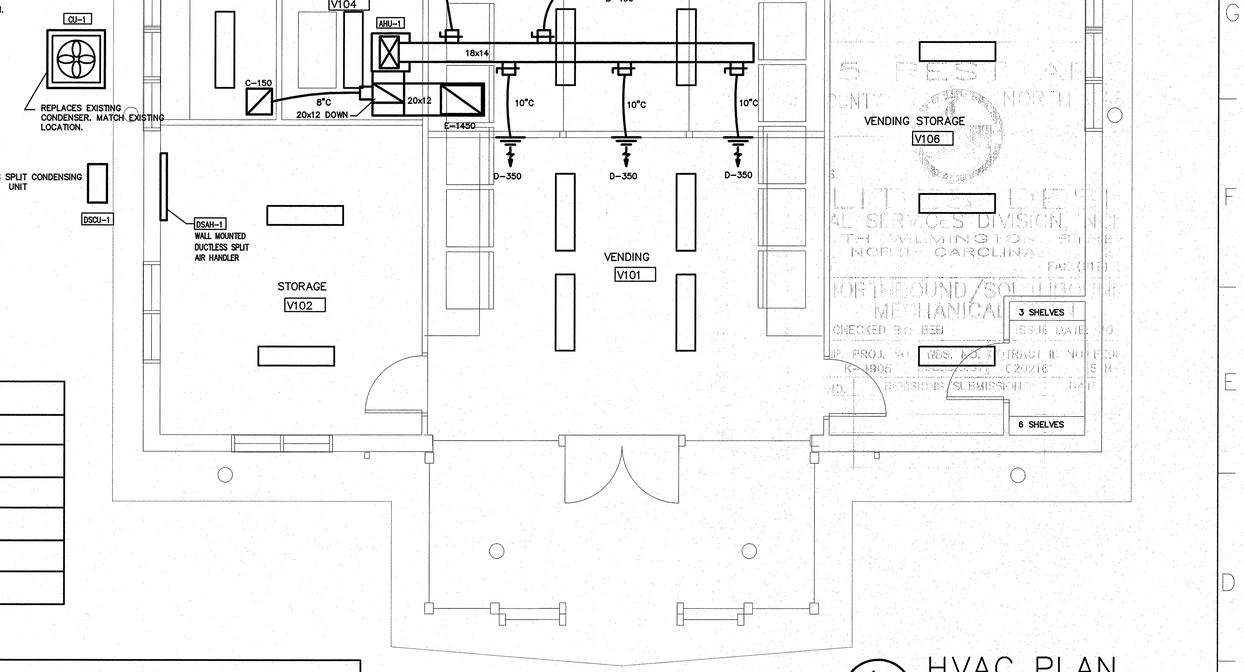


3 VM1 AHU–1 DETAIL
SCALE: NOT TO SCALE

GENERAL NOTES

1. PROVIDE LOCKING COVER FOR THERMOSTAT.
2. GENERAL NOTES AND DUCT CONSTRUCTION DETAILS ON DRAWINGS M1 AND M2 APPLY TO THIS DRAWING ALSO.
3. ROUTE SUPPLY, EXHAUST, AND RETURN DUCTS IN ATTIC.
4. ROUTE CONDENSATE TO FLOOR DRAIN IN MECH. RM. USE COPPER PIPE (1" MIN.)

LEGEND – DUCTWORK/ACCESSORIES	
⊠	SUPPLY DIFFUSER
⊘	RETURN GRILLE
⊣	LOCKING MANUAL BALANCING DAMPER
T	THERMOSTAT
⊣	VOLUME DAMPER (SPIN IN) (LOCKING)
/	VOLUME DAMPER (LOCKING)



1 VM1 HVAC PLAN
SCALE: 1/4" = 1'–0"

HVAC SCHEDULE

EQUIP. NUMBER	INDOOR UNIT										OUTDOOR UNIT				NOTES
	MODEL NO.	FAN			COOLING CAPACITY		COIL HEATING CAPACITY	ELECTRICAL HEATING		VOLTAGE	MCA	FUSE/ CB MAX	MODEL NO.	POWER	MCA	FUSE/ CB MAX	
		CFM	HP	POWER	MIN TOTAL	MIN SENS.		MODEL #	CAPACITY								
AHU–1/CU–1	CARRIER FX4BNF048010AAAA ✱	1600@1/2"WC	3/4	208/230–1	46.5 MBH	35.35 MBH	30/48 MBH @ 17/47F	KFCEH0901N10	34 MBH (10 KW)	208/230–1	58.5	60 (TD)	CARRIER 25HBA348A0030 ✱✱	208/230–1	35.4	50 A (TD)	1,2,3,4,5,6,7,8,9

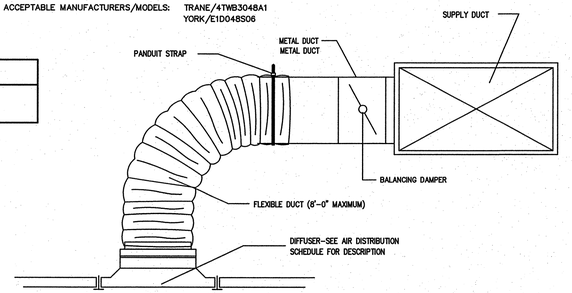
✱ OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TEC3048B1000AA
YORK/AHP48C

✱✱ OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TWB3048A1
YORK/E1D048S06

HVAC SCHEDULE NOTES:

1. PROVIDE WITH DISCONNECT SWITCH, AND TIME DELAY RELAY, FILTER RACK WITH FILTERS, AND HEAD PRESSURE CONTROLLER AND SINGLE POINT POWER CONNECTIONS.
2. PROVIDE MINIMUM OUTDOOR AIR FLOW SETTINGS AS PER PLAN.
3. AHU's ARE BASED ON 1/2" EXT. WATER COLUMN STATIC.
4. NOT USED
5. PROVIDE SHUTDOWN RELAY SWITCH WITH A MAXIMUM OF 60 SECOND DELAY ON HEATING CYCLE, TO BE WIRED TO THE DUCT SMOKE DETECTORS AS PROVIDED BY THE ELECTRICAL CONTRACTOR.
6. SPECIFIED COOLING CAPACITIES ARE BASED ON STANDARD CONDITIONS: EAT= DB/WB = 80/67 F; AMBIENT = 95 F. COIL HEATING CAPACITIES ARE BASED ON 65 F EDB. ELECTRIC HEATER RATINGS ARE AT 240V.
7. PROVIDE NON–PROGRAMMABLE, AUTOMATIC CHANGEOVER, DIGITAL THERMOSTATS WITH LOCKING COVER FOR AHU–1 FAN SHALL BE SET IN "ON" POSITION.
8. PROVIDE SIDE RETURN UNIT STAND FOR BOTTOM RETURN. (SUPPORTING AIR HANDLING UNIT WITH DUCT IS NOT ACCEPTABLE.)
9. PROVIDE CONCRETE EQUIPMENT PAD FOR OUTSIDE CONDINSING UNIT (SIZE PER EQUIPMENT MANUF. RECOMENDATIONS).
10. PROVIDE NEW REFRIGERANT LINES. RUN CONCEALED IN EXTERIOR WALL AND ATTIC TO NEW AHU LOCATION. PAINT ALL EXPOSED REFRIGERANT LINE INSULATION WITH UV RESISTANT PAINT. TYPICAL FOR ALL UNITS.

OUTSIDE AIR CALCULATION
DUCTED OUTSIDE AIR NOT REQUIRED.
BUILDING MEETS REQUIREMENT FOR NATURAL VENTILATION.



2 VM1 DIFFUSER DETAIL
SCALE: NOT TO SCALE

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DRAWING TITLE: NORTHBOUND/SOUTHBOUND MECHANICAL PLAN

DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

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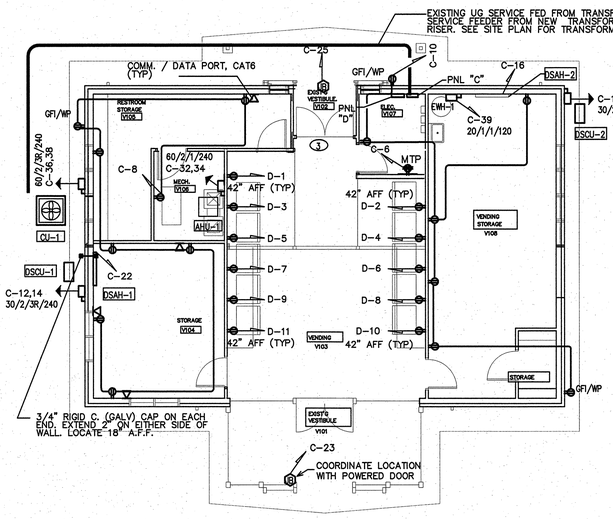
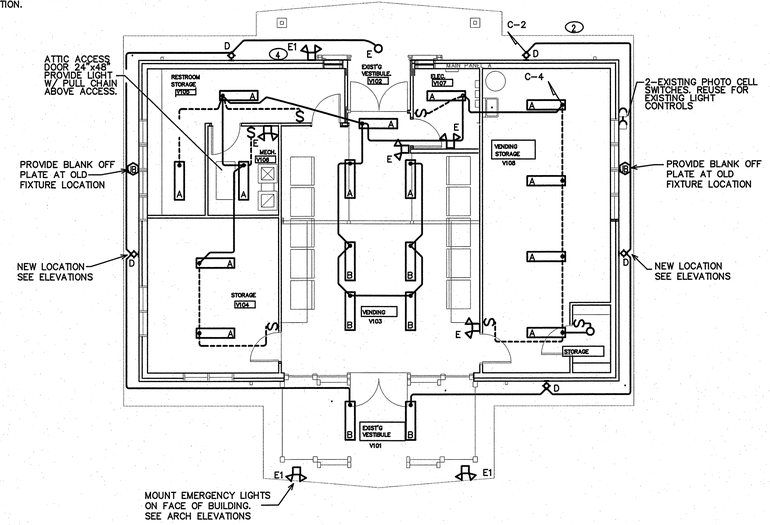
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4905	39886.3.ST1	C202161	STM–085–3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VM1 OF 3



2 VE1 POWER PLAN– RENOVATION TO EXIST. BLDG.
SCALE: 1/8"=1'-0"



1 VE1 LIGHTING PLAN– RENOVATION TO EXIST. BLDG.
SCALE: 1/8"=1'-0"

ELECTRICAL NOTES

1. COORDINATE LOCATION OF SMOKE DETECTORS WITH MECHANICAL PLANS SO POSITION IS 3' FROM SUPPLY DIFFUSERS AND GRILLES.
2. SWITCH WITH PHOTO CELL.
3. SEE RISER, SHEET E-2, FOR DETAILS ON REMOVAL OF EXISTING ELECTRICAL DEVICES AND ADDITION OF NEW GUTTER TO SERVE EXISTING BRANCH CIRCUITS. EXISTING GUTTER, CONDUITS & CONTROLS FOR LIGHTS TO REMAIN.
4. WIRE EXTERIOR EMERGENCY FIXTURE TO EXTERIOR LIGHTING CIRCUIT, TYP.

Davidson VE1revised

NEW PANEL 'C'

MAKE: CUTLER HAMMER
TYPE: CH LOAD CENTER
RATING: 120/240 1 PHASE 3 WIRE
MOUNTING: FLUSH
MINIMUM AIC: 22,000 AMPS
400A MAIN CIRCUIT BREAKER (FRAME) ___
EQUIPMENT GROUND BUS ☒YES ☐NO
SERVICE ENTRY RATED ☒YES ☐NO

	LOAD SERVICE	WATTS PER PHASE A	WATTS PER PHASE B	FR SIZE	CKT BRKR	CKT NO	NEUTRAL A B	CKT NO	CKT BRKR	FR SIZE	WATTS PER PHASE A	WATTS PER PHASE B	LOAD SERVICE
	SPACE	---		70A		1		2	70A	70A	1660		LTS– SOFFIT, EXTERIOR,FRONT VEST.
	EXISTING EXTERIOR LIGHTS		1100		30A	3		4	20A			1158	LTS– NEW, STORAGE RM
	2 POLE, YARD (NOTE 1)	1100				5		6	20A		500		NEW TELEPHONE EQUIP
	EXISTING EXTERIOR LIGHTS		1100		30A	7		8	20A			1440	REC
	2 POLE, YARD (NOTE 1)	1100				9		10	20A		1260		REC
	EXISTING EXTERIOR LIGHTS		1100		30A	11		12	20A			1456	DSCU–1
	2 POLE, YARD (NOTE 1)	1100				13		14			1456		2 POLE
	EXISTING EXTERIOR LIGHTS		1100		30A	15		16	20A			60	DSAH–2
	2 POLE, YARD (NOTE 1)	1100				17		18	20A		1456		DSCU–2
	EXST EXTR LTG CONTROL (PHOTOCELL)		100		20A	19		20				1456	2 POLE
	EXST TELEPHONE BOOTHS	2000				21		22	20A		60		DSAH–1
*	EXST AUTO DOOR (FRONT)		322			23		24				---	SPACE
*	EXST AUTO DOOR (REAR)	322				25		26			---		SPACE
	SPACE		---			27		28				---	SPACE
	SPACE	---				29		30			---		SPACE
	EXST UTILITY BUILDING		4800		50A	31		32	60A			6360	NEW AHU–1
	2 POLE	4800				33		34			6360		2 POLE
L	NEW SMOKE DETECTORS		100		20A	35		36	40A			3000	NEW CU–1
	SPARE	---				37		38			3000		2 POLE
	EWH–1		1650			39		40	100A			2500	PANEL D
	SPARE	---				41		42			3000		2 POLE
	NOTES	11522	11372	SUB–TOTALS 'B'							18752	17430	
*	GFCI BREAKER						400A BUS	SUB–TOTALS 'A'			11522	11372	TOTAL CONNECTED LOAD
L	LOCKING BREAKER						400A LUGS	SUB–TOTALS 'B'			30274	28802	
							400A S/N	GRAND TOTAL			252A	240A	252A 240A
							VERIFY FEED	AMPS/PHASE					

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		NEC DEM FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②		125%	7825	7198	15023
GENERAL USE RECEPT.		≤10KVA@100%	1260	1440	2700
		>10KVA@50%	---	---	---
MOTORS AND EQUIPMENT	LARGEST	125%	3750	3750	7500
	ALL OTHERS	100%	4624	4854	9478
WATER HEATERS		125%	---	2063	2063
KITCHEN EQUIPMENT ③		100%	---	---	---
FIX. ELEC. SPACE HEAT. ④		100%	5000	5000	10000
SHOW WINDOW LIGHTS ⑤		100%	---	---	---
SIGN		125%	---	---	---
MISC		100%	10100	7300	17400
PHASE (TOTAL VA)			32559	31605	64164
TOTAL AMPS			271A	263A	VOLT AMPS / VOLTS = 267A TOTAL AMPS

NOTES: (1) PHOTO–CELL CONTROLLED LIGHTS (PHOTO–CELL CONTROLS ARE EXISTING.)

Davidson VE1revised

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
AHU–1	58.5A	60A	240V	1	3–#6, 1–#10 GND IN 1" CONDUIT
CU–1	26.0A	40A	240V	1	3–#8, 1–#10 GND IN 3/4" CONDUIT
DSCU–1	14.0A	15A	240V	1	2–#12, 1–#12 GND IN 1/2" CONDUIT
DSCU–2	14.0A	15A	240V	1	2–#12, 1–#12 GND IN 1/2" CONDUIT
EWH	(4500W)	30A	240V	1	2–#10, 1–#10 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH–IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

FIXTURE SCHEDULE

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	1x4 SURFACE MOUNT	COLUMBIA SM14–232–FSA12–EU	HOLOPHANE LS SERIES LEGION 41 SERIES	120 V	2–32W T8	MODULAR BOX FIXTURE .	64
B	SUSPENDED FLUORESCENT	ALERA ALS–2T8*/*–CM*–LD–EU–MW	LITECONTROL LC94 SERIES DAYOLITE AD3510–DI SERIES		2–32W T8	.	64
C	8"– 2 LAMP RECESSED CAN W/LENS	PRESCOLITE CFR826UEB–ST492A	KIRLIN RR80907 KURT VERSEN P642 SERIES		2–26W CF	. ①	52
D	WAL SCONCE	LUMINAIRE SPC818***– 2PLC26–***–OP–BRZ–WET	RAVEN SERIES AMERICANA SERIES		2–26W CF	. ①	52
E	EXISTING INCANDESCENT CAN	PROGRESS # P–6696–29	N/A EXISTING		1–100W INC.	FOR REFERENCE ONLY, EXISTING INCANDESCENT; REUSE	100
NOTES: 1. FIXTURES & BALLAST MUST BE REMOVABLE FROM INACCESSIBLE CEILING.							
	EMERGENCY LIGHT .	EU–MR–3R .	LUNA SERIES NEMA SERIES	120 V		. .	
E	EMERGENCY LIGHT EXTERIOR	DUAL LITE PGZ–HTR	MULE MAKO–3–CW HIGH LITES PLURALUX SERIES			. .	
P ②	SMOKE DETECTOR .	KIDDE MODEL 12356	EST ADEM CO			CEILING MNT. NFPA 72 IONIZATION TYPE, LOCAL ALARMS, FOR	<5

LIGHT FIXTURE NOTES

① ALL COMPACT FLUORESCENT FIXTURES SHALL HAVE INTERCHANGEABLE 26 WATT LAMPS.

Davidson VE1revised

NEW PANEL 'D'

MAKE: CUTLER HAMMER
TYPE: CH LOAD CENTER
RATING: 120/240 1 PHASE 3 WIRE
MOUNTING: FLUSH
MINIMUM AIC: 22,000 AMPS
MLO MAIN CIRCUIT BREAKER (FRAME) ___
EQUIPMENT GROUND BUS ___☒YES ☐NO
SERVICE ENTRY RATED ___☐YES ☒NO

	LOAD SERVICE	WATTS PER PHASE A	WATTS PER PHASE B	FR SIZE	CKT BRKR	CKT NO	NEUTRAL A B	CKT NO	CKT BRKR	FR SIZE	WATTS PER PHASE A	WATTS PER PHASE B	LOAD SERVICE	
*	REC– VENDING	500		70A	20A	1		2	20A	70A	500		REC– VENDING	*
*	REC– VENDING		500			3		4				500	REC– VENDING	*
*	REC– VENDING	500				5		6			500		REC– VENDING	*
*	REC– VENDING		500			7		8				500	REC– VENDING	*
*	REC– VENDING	500				9		10			500		REC– VENDING	*
*	REC– VENDING		500			11		12				---	SPACE	
	SPACE	---				13		14			---		SPACE	
	SPACE		---			15		16				---	SPACE	
	SPACE	---				17		18			---		SPACE	
	SPACE		---			19		20				---	SPACE	
	SPACE	---				21		22			---		SPACE	
	SPACE		---			23		24				---	SPACE	
	SPACE	---				25		26			---		SPACE	
	SPACE		---			27		28				---	SPACE	
	SPACE	---				29		30			---		SPACE	
	NOTES	1500	1500	SUB–TOTALS 'B'							1500	1000		
*	GFCI BREAKER						100A BUS	SUB–TOTALS 'A'			1500	1500	TOTAL CONNECTED LOAD	
							100A LUGS	SUB–TOTALS 'B'			3000	2500		
							100A S/N	GRAND TOTAL			25A	21A	25A	21A
							VERIFY FEED	AMPS/PHASE						

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		NEC DEM FACTOR①	A	B	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ②		125%	---	---	---
GENERAL USE RECEPT.		≤10KVA@100%	---	---	---
		>10KVA@50%	---	---	---
MOTORS AND EQUIPMENT	LARGEST	125%	---	---	---
	ALL OTHERS	100%	---	---	---
WATER HEATERS		125%	---	---	---
KITCHEN EQUIPMENT ③		100%	---	---	---
FIX. ELEC. SPACE HEAT. ④		100%	---	---	---
SHOW WINDOW LIGHTS ⑤		100%	---	---	---
SIGN		125%	---	---	---
MISC		100%	3000	2500	5500
PHASE (TOTAL VA)			3000	2500	5500
TOTAL AMPS			25A	21A	VOLT AMPS / VOLTS = 23A TOTAL AMPS

ENGINEER
BURKE DESIGN GROUP, PA
CONSULTING ENGINEERS
3305-109 Durham Drive
Raleigh, North Carolina 27603
919.771.1916 fax: 919.779.0826
email: benburke@nc.rr.com

PROJECT:
I–85 REST AREA
DAVIDSON COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
GENERAL SERVICES DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
(919) 715–0400 FAX (919) 715–0399

DRAWING TITLE: NORTHBOUND/SOUTHBOUND ELECTRICAL PLAN
DRAWN BY: DS CHECKED BY: BEB ISSUE DATE: 30 APRIL 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN C. BURKE
5/11/09

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4905	39886.3.ST1	C202161	STM–085–3(200)100

NO.	REVISIONS/SUBMISSIONS	DATE

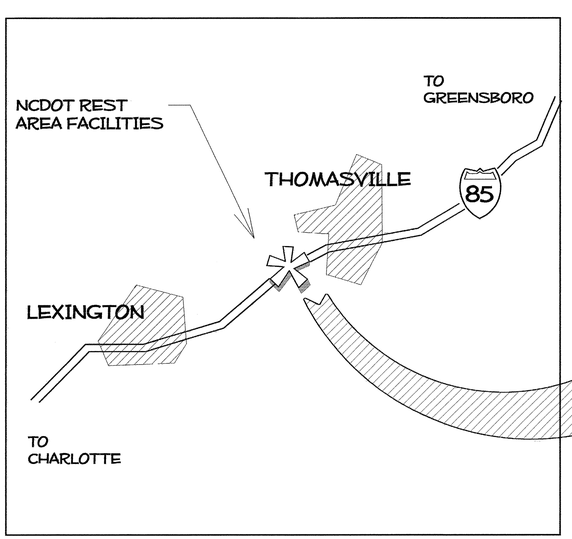
SHEET NO. VE1 OF 1

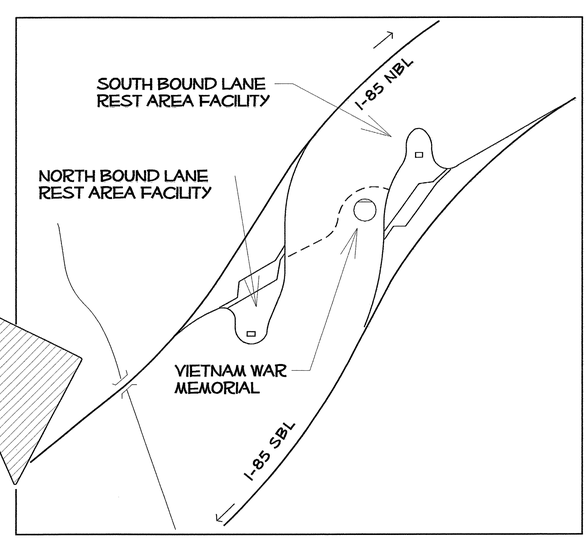
STATE	NC	T.I.P. #	K-4905	SHEET #	1 of 22
WBS #		F.A. Project #			Description
39886.1.1					P.E.
					R/W
39886.3.ST1		STM-085-3(200)100			CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

LOCATION: I-85 DAVIDSON COUNTY, REST AREA PAIR SOUTH OF THOMSAVILLE, NC & NORTH OF LEXINGTON, NC.
TYPE OF WORK: CONSTRUCTION OF NEW REST AREA BLDGS., RESTORATION OF EXISTING BLDGS. AND SITE WORK





VICINITY MAPS

INDEX OF SHEETS

LT-001 TITLE SHEET
L-001 NBL SITE PLAN
L-002 NBL DEMOLITION PLAN
LG-001 NBL GRADING PLAN
LH-001 NBL HARDSCAPE PLAN
LP-001 NBL LANDSCAPE PLAN
LU-001 NBL UTILITY PLAN
L-003 SBL SITE PLAN
L-004 SBL DEMOLITION PLAN
LG-002 SBL GRADING PLAN
LH-002 SBL HARDSCAPE PLAN
LP-002 SBL LANDSCAPE PLAN
LU-002 SBL UTILITY PLAN
LP-003 LANDSCAPE QUANTITIES

SBL & NBL COMMON DETAIL SHEETS

LD-001 RETAINING WALL DETAILS
LD-002 PLANTING DETAILS
LD-003 PICNIC SHELTER DETAIL
LD-004 CONCRETE STEPS
LD-005 HANDICAP RAMP
LD-006 FLAGPOLE / WASTE CONTAINER/ YARD HYD
LD-007 HARDSCAPE & TELEPHONE DETAILS
LD-008 DRAINAGE DETAILS

Contract #: C202161 - RA Davidson County / I-85 Rest Area Renovation

SITE / LANDSCAPE DESIGN

LANDSCAPE DESIGN & DEVELOPMENT

ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 733-2920 FAX (919) 733-9810

SITE / UTILITY DESIGN

REST AREA SECTION

ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1557
OFFICE (919) 733-2920 FAX (919) 733-9810

ARCHITECTURAL / ENGINEERING

ARCHITECT: NCDOT GENERAL SERVICES - FACILITIES DESIGN
1 S. WILMINGTON STREET
RALEIGH, NC 27601 919.715.0400

MECHANICAL/ELECTRICAL/PLUMBING.: BURKE DESIGN GROUP
305-109 DURHAM DRIVE
RALEIGH, NC 27603 919.618.0717

North Carolina Department of Transportation
Division of Highways
1 South Wilmington Street Raleigh, North Carolina

I-85
DAVIDSON COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By:	KOPETSKY
Scale	n/a
Date	4 / 30 / 09
Letting Date	AUG 18, 2009
2006 Standard Specifications	
Sheet Description	TITLE SHEET
Sheet #	LT - 001

NOTES

SEE DEMOLITION/ STAGING PLANS FOR REMOVAL OF EXISITNG SITE ITEMS

NEW BLDG. SHALL BE SURVEYED, STAKED (CORNERS), AND APPROVED BY NCDOT ENGINEER PRIOR TO CONSTRUCTION

NEW SIDEWALKS IN BOLD LINE WGT

KEY

- NEW PARK BENCH
- NEW WASTE CONTANER
- FP NEW FLAGPOLE
- RELOCATED/ NEW YARD HYDRANT

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

NORTH CAROLINA LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.13.09

REU ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 09
CHECKED BY & DATE :	
FINAL DESIGN DATE :	4-30-09

I-85 NBL RENOVATION
SITE PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO : L 1	TOTAL SHEET NO : 22

NOTES

STAGE 1 DEMO AREA

PROPOSED STAGE 1 CONSTRUCTION:

- RELOCATION OF VENDING BLDG
- NEW REST ROOM BLDG
- UTILITY RELOCATION
- SELECTIVE DEMOLITION
- SELECTIVE ITEM REMOVAL & STOCKIPILE (I.E. PICNIC TABLES, SPLIT RAIL FENCE, POST TOP LIGHTS, ETC.)
- SELECTIVE SITE DEVEVOPMENT

STAGE 2 DEMO AREA

PROPOSED STAGE 2 CONSTRUCTION:

- RENOVATION OF NEW VENDING BLDG (OLD REST RM BLDG)
- SELECTIVE DEMOLITION
- SELECTIVE ITEM REMOVAL & RELOCATION
- SELECTIVE SITE DEVEVOPMENT
- LANDSCAPE PLANTINGS

CONTRACTOR TO PROVIDE FINAL DEMOLITION PLAN & STAGING PLAN (TO NCDOT ENGINEER) PRIOR TO CONSTRUCTION.

TEMPORARY SEEDING, ERORION CONTROL, FINAL SEEDING, AND SOD INSTALLATION TO BE INTEGRATED PER NCDOT STANDARDS AND/OR ENGINEER DIRECTIVE.

TREE PROTECTION FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION (SEE GRADING/DRAINAGE PLAN)

FOUNDATION PLANTING AROUND EXISTING REST ROOM BLDG TO BE REMOVED ACCORDING TO THE ENGINEER'S INSTRUCTION

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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I- 85 DAVIDSON CO
REST AREA RENOVATION

CONTRACT #: C202161 - RA

REU ENGINEER : B. Kopetsky

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.14.09

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 09
CHECKED BY & DATE :	
FINAL DESIGN DATE :	4-30-09

I-85 NBL RENOVATION
DEMOLITION & STAGING

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO : L 2 TOTAL SHEET NO : 22

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

NOTES

NEW CONTOUR GRADES IN BOLD LINE WGT

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%

GRADE TO DRAIN AWAY FROM BLDG, STRUCTURES & PAV'T AREAS; DIRECT STORMWATER TO BASINS OR SHEET FLOW TO YARD AREAS

GRADE WITH MINIMAL DISTURBANCE AROUND EXISTING CLEAN-OUTS AND UTILITY ACCESS BOXES

KEY

- DI — NEW (YARD) DROP INLET
- JB — NEW JUNCTION BOX (W/ GRATE)
- 6" CPP — CORRUGATED PLASTIC PIPE (SIZE NOTED); MIN 1' COVERAGE; MIN. 08. % SLOPE TO DRAIN
- DS — BLDG DOWNSPOUT LOCATION
- CO — CLEAN-OUT FOR SUBSURFACE DRAINAGE PIPE
- TREE PROTECTION FENCE

NO SIDEWALK SHALL EXCEED 5% SLOPE (ADA STANDARD)

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
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HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

REU ENGINEER : B. Kopetsky

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.14.09

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 09
CHECKED BY & DATE :	
FINAL DESIGN DATE :	4-30-09

I-85 NBL RENOVATION
GRADING & DRAINAGE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO :	TOTAL SHEET NO :
LG 1	22

NO SIDEWALK SHALL EXCEED 5% SLOPE (ADA STANDARD)

RELOCATED YARD HYDRANT

NOTES

COORDINATE HARDSCAPE CONSTRUCTION WITH SITE AND BUILDING DEVELOPMENT

NEW SIDEWALKS IN BOLD LINE WGT

SIDEWALKS TO MATCH EXISTING WHERE NOTED

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%

CAR-TRAILER PARKING
CAR PARKING
EXISTING SIDEWALK (TYP)
CB
EXISTING STAIRS
SIDEWALK POURED TO NOTED ELEV AND/ OR 5" BELOW BOTTOM STEP
RETAINING WALL (SEE DETAIL)
MATCH EDGE OF SIDEWALK TO EDGE OF EXIST. STEPS
4" CONC. SIDEWALK (TYP)
MIN. 8'
SRW LD1
4" CONC SIDEWALK (TYP)
9" CONC COLLAR FOR GRATE SEE DETAIL
4" CONC PAD APPROX. 3' X 5' POURED AROUND NEW PORCH POSTS (MATCH TO EXISTING SIDEWALK); TYP
CP LD7
4"X8' - 4" CONC. PAD FOR BENCH
EXISTING HANDICAP PARKING W/ RAMPS (REMOVE SIGNAGE AND RE-STRIPE PARKING AREA)
EXISTING CONC PAD
MATCH TO EXIST. SIDEWALK
0.5% SLOPE ON PORCH FOR DRAINAGE
RENOVATED VENDING BLDG. FFE 722. 5
NEW REST ROOM BLDG. FFE 722. 5
3.8%
4" CONC PAD
9" CONC BORDER (TYP)
CONC PAVERS PER SPEC/ DETAILS
4" CONC SIDEWALK (TYP)
WORK AROUND EXISTING LIGHT POST
MATCH TO EXIST. SIDEWALK
NEW CURB CUTS FOR HANDICAP RAMPS
RECYCLE BIN RELOCATED TO CENTER OF CONC PAD (MOUNT- AS INSTRUCTED BY ENG)
CONC LD7
FF
H/C VAN
H/C CAR
CONC BASE FOR FLAGPOLE
MATCH TO EXIST. SIDEWALK
PRESERVE EXIST. CONC PAD DURING REMOVAL OF PHONE SHELTER; PATCH CONC AS NEEDED
EXISTING SIDEWALK (TYP)
MATCH AND ATTACH TOP STAIR LANDING TO EXISTING PVT; CONSULT NCDOT ENG
MATCH EDGE OF SIDEWALK TO OUTSIDE EDGE OF CHEEK WALL
LD4
TRUCK PARKING
MATCH TO EXIST. SIDEWALK
STAIRS PER DETAIL
REMOVE EXISTING STAIRS
MATCH TO EXIST. SIDEWALK
4" CONC PAD (5' X 5')
RELOCATED HANDICAP ACCESS. PICNIC SHELTER; SEE DETAIL
DP LH1
DUMPSTER PAD TO BE LOCATED ADJACENT TO EXIT RAMP- (EXACT LOCATION TO BE DETERMINED)
0 10 20 40
NORTH

CRUSH & RUN DRIVE (15' W)
6" REIN CONC PAD (12' X 20')
DUMPSTER (PROVIDED BY OTHERS)
LOCATED ADJACENT TO EXIT RAMP- (EXACT LOCATION TO BE DETERMINED)

DUMPSTER PAD

DP LH 1

NTS

$$$$$$$$$$VSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$$$$USERNAME$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION

CONTRACT #: C202161 - RA

ENGINEER: Robert N. Kopetsky

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY

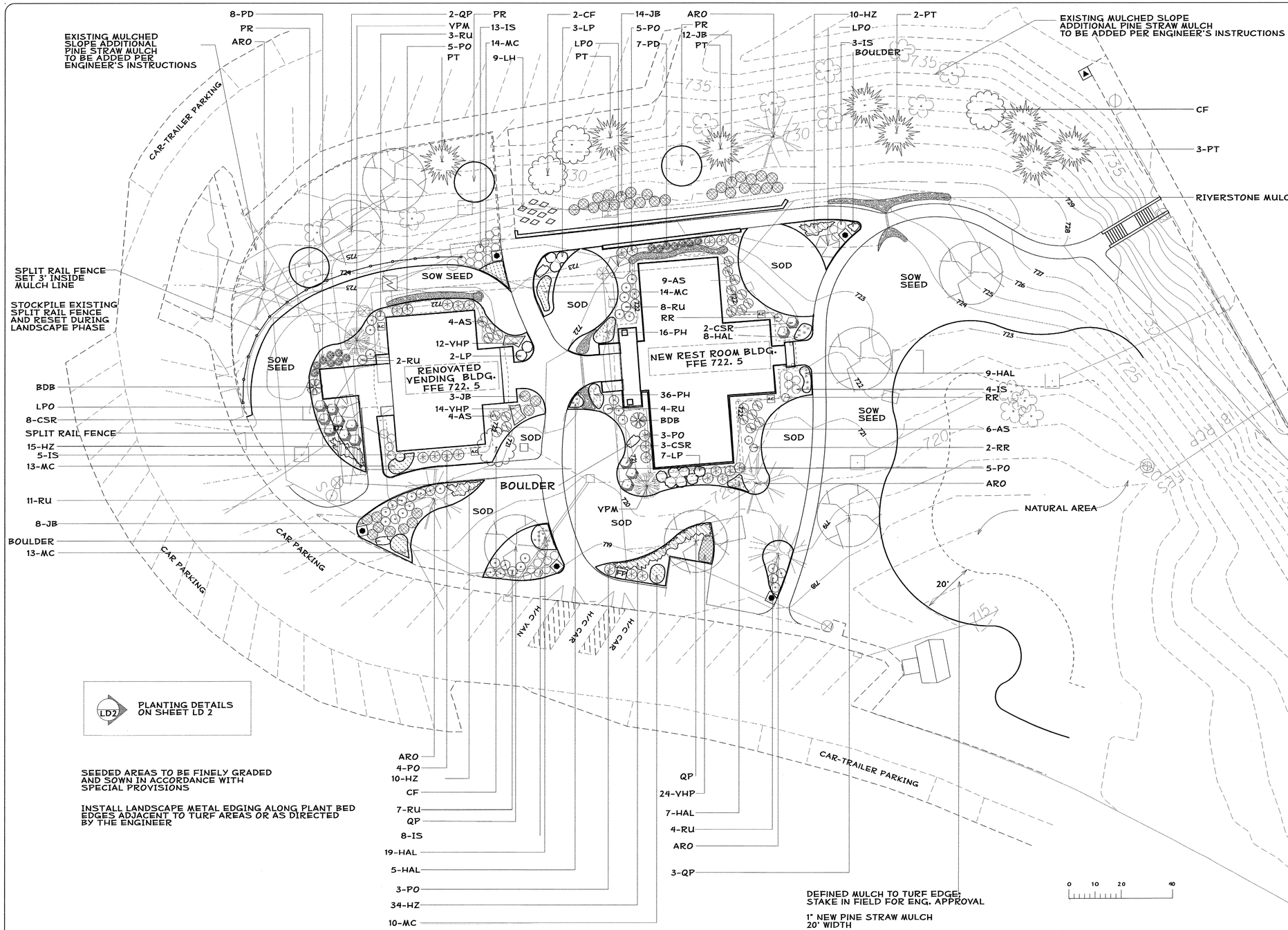
SHEET DESCRIPTION:

PRELIMINARY DESIGN DATE: MAR/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE: 4-30-09

I-85 NBL RENOVATION
HARDSCAPE / LAYOUT
& DIMENSION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO: LH 1 TOTAL SHEET NO: 22



Key	Botanical Name	Common Name
ARO	*Acer rubrum 'October Glory'*	October Glory Maple
AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azale
BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush
CF	*Cercis canadensis 'Oklahoma'*	Oklahoma Redbud
CSR	*Cotoneaster salicifolius 'Repens'*	Willow Leaf Cotoneaster
HAL	*Helianthus angustifolius 'Low Down'*	Low Down Swamp Sunflower
HZ	*Hemerocallis 'Black eyed Stella'*	Black eyed Stella Daylily
IS	*Ilex verticillata 'Red Sprite' (10% to be Jim*	Red Sprite Winterberry
JB	*Juniperus horizontalis 'Bar Harbor'*	Bar Harbor Juniper
LPO	*Lagerstroemia indica 'Potomac'*	Potomac Crape Myrtle
LH	*Lantana camera "Miss Huff"*	Miss Huff Lantana
LP	*Loropetalum chinensis 'Purple Pixie'*	Purple Pixie Fringe Flower
MC	*Muhlenbergia capillaris*	Pink Muhley Grass
PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass
PH	*Pennisetum alopecuroides 'Hamlin'*	Dwarf Fountain Grass
PT	*Pinus taeda*	Loblolly Pine
PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel
PR	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Cherry
QP	*Quercus palustris*	Pin Oak
RU	*Raphiolepsis umbellata 'Pinkie'*	Dwarf Pink India Hawthorn
RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose
VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena
VPM	*Viburnum plicatum tomentosum 'Mariesii'*	Mariesii Doublefile Viburnum

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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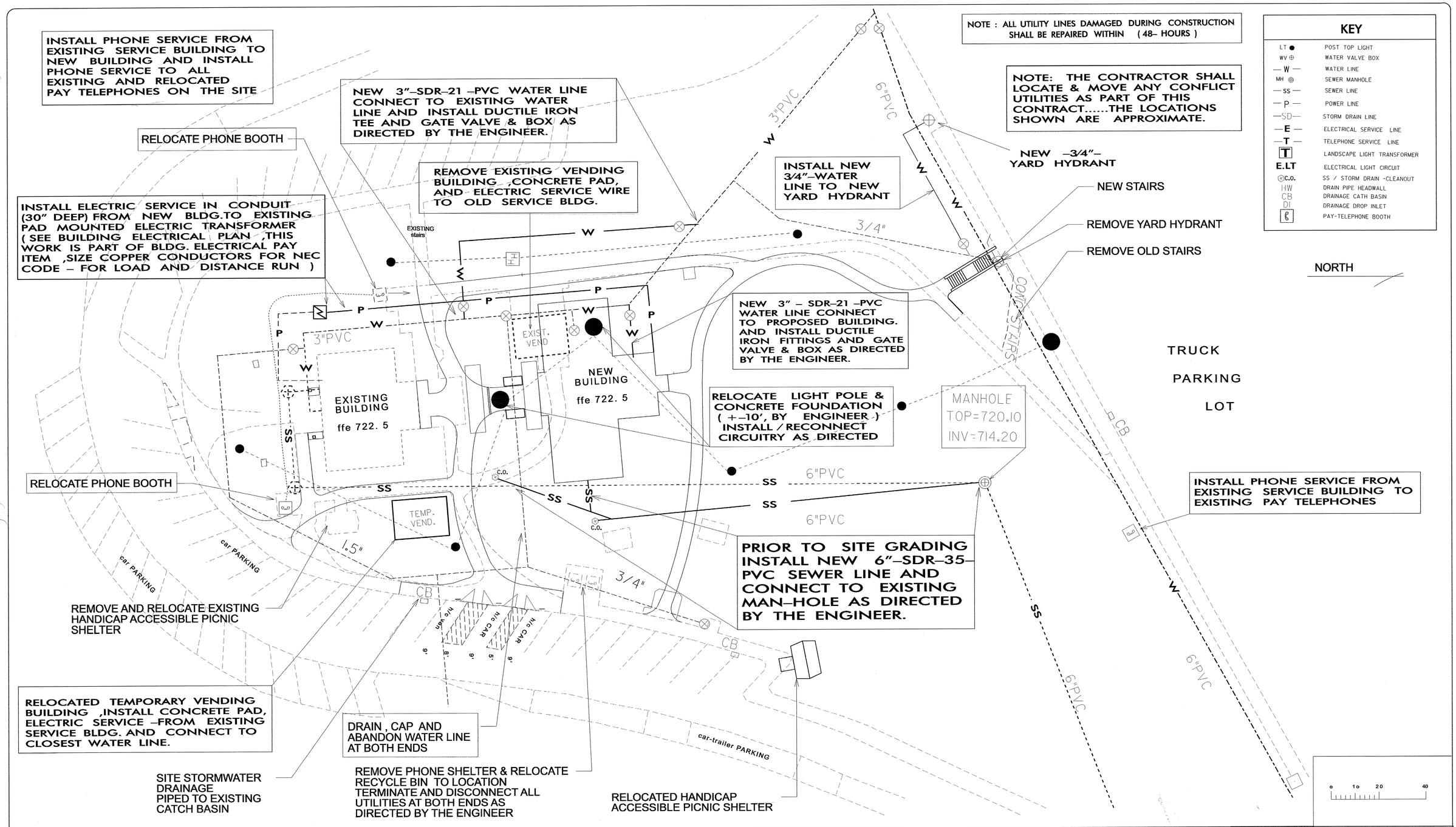
I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

PROJ. ENGINEER: B. Kopetsky

SHEET DESCRIPTION:
PREL. DESIGN DATE: FEB/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE: 4-30-09

I-85 NBL RENOVATION
LANDSCAPE PLANTING

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO: LP 1
TOTAL SHEET NO: 22



NCDOT - Roadside Environmental Unit
Landscape Design & Development
1557 Mail Service Center Raleigh NC 27699-1557
ph: 919-733-2920 fax: 919-733-9810
http://www.ncdot.org/doh/operations/dp chief eng/roadside/

I- 85 Davidson Co
Rest Area Renovation

CONTRACT # C202161

reu engineer: NORTH CAROLINA PROFESSIONAL SEAL 028878 ENGINEER KENNETH D. PACE June 9, 2009

sheet description:
prel. design date :
checked by & date :
final design date : APRIL 30, 2009

NORTHBOUND LANE
UTILITY PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
sheet no : LU– 1
total sheet no : 22

NOTES

SEE DEMOLITION/ STAGING PLANS FOR REMOVAL OF EXISITNG SITE ITEMS

NEW BLDG. SHALL BE SURVEYED, STAKED (CORNERS), AND APPROVED BY NCDOT ENGINEER PRIOR TO CONSTRUCTION

NEW SIDEWALKS IN BOLD LINE WGT

KEY

- NEW PARK BENCH
- NEW WASTE CONTANER
- NEW FLAGPOLE
- RELOCATED/ NEW YARD HYDRANT

NORTH

K-4905-3
N 763831.0740
E 1660456360
ELEV= 745.67'

REMOVE & RELOCATE RECYCLE BIN

RELOCATE RECYCLE BIN ; ANCHOR TO NEW CONC PAD

EXISTING SIDEWALK (TYP)

ABANDONED LIGHT POLE

CAR-TRAILER PARKING

CAR PARKING

TOP = 728.00'
INV = 722.00'

TOP = 733.00'
INV = 728.70'

18" RCP

6" PVC

12" CONC.

15" PVC

CONC.

1SF REFRESH. FFE=741.70

NEW SIDEWALK (TYP)

60" CONC.

RENOVATED VENDING BLDG. FFE 736.8

NEW REST ROOM BLDG. FFE 736.8

53. 0'

15. 0'

6' ELITE PARK BENCH

FP LD6

40' ALUMINUM FLAGPOLE (AS SPEC)

NEW SIDEWALK (TYP)

30" C&G

734.34

TRUCK PARKING

REMOVE PHONE SHELTER, CONC PAD & ADJACENT SIDEWALK

EXISTING HANDICAP PARKING W/ RAMPS

WC LD6

HC LD5

HC VAN

HC CAR

HANDICAP PARKING SIGNS (R7-8E & VAN ACCESS. SIGNS; PRIMARY SIGN MOUNTED @ 84")

EXISTING SIDEWALK (TYP)

CAR PARKING

CAR-TRAILER PARKING

TOP = 734.50'
INV = 730.60'

SITE STORMWATER DRAINAGE PIPED TO EXISTING CATCH BASIN

NEW CURB-CUTS FOR HANDICAP ACCESSIBLE PARKING (PARKING LOT RESTRIPED TO MATCH HANDICAP SPACING)

RELOCATE PHONE BOOTH AND REMOVE CONC PAD

0 10 20 40

$$$$USERNAME$$$$ $$$$DGN$$$$ $$$$TIME$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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I- 85 DAVIDSON CO
REST AREA RENOVATION

CONTRACT #: C202161 - RA

NORTH CAROLINA LANDSCAPE ARCHITECT SEAL 1447 ROBERT N. KOPETSKY

ENGINEER : Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE : FEB/ 09	I-85 SBL RENOVATION
CHECKED BY & DATE :	SITE PLAN
FINAL DESIGN DATE : 4-30-09	

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO : L 3
TOTAL SHEET NO : 22

NOTES

1 — STAGE 1 DEMO AREA

PROPOSED
STAGE 1 CONSTRUCTION:

- RELOCATION OF VENDING BLDG
- NEW REST ROOM BLDG
- UTILITY RELOCATION
- SELECTIVE DEMOLITION
- SELECTIVE ITEM REMOVAL & STOCKPILE (I.E. PICNIC TABLES, POST TOP LIGHTS, ETC.)
- SELECTIVE SITE DEVEVOPMENT

2 — STAGE 2 DEMO AREA

PROPOSED
STAGE 2 CONSTRUCTION:

- RENOVATION OF NEW VENDING BLDG (OLD REST RM BLDG)
- SELECTIVE DEMOLITION
- SELECTIVE ITEM REMOVAL & RELOCATION
- SELECTIVE SITE DEVEVOP-MENT.
- LANDSCAPE PLANTINGS

NOTES

CONTRACTOR TO PROVIDE FINAL DEMOLITION PLAN & STAGING PLAN (TO NCDOT ENGINEER) PRIOR TO CONSTRUCTION.

TEMPORARY SEEDING, ERORION CONTROL, FINAL SEEDING, AND SOD INSTALLATION TO BE INTEGRATED PER NCDOT STANDARDS AND/OR ENGINEER DIRECTIVE.

TREE PROTECTION FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION (SEE GRADING/DRAINAGE PLAN)

FOUNDATION PLANTING AROUND EXISTING REST ROOM BLDG TO BE REMOVED ACCORDING TO THE ENGINEER'S INSTRUCTION

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

REU ENGINEER : B. Kopetsky
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-14-09

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 09
CHECKED BY & DATE :	
FINAL DESIGN DATE :	4-30-09

I-85 SBL RENOVATION
DEMOLITION & STAGING

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO :	TOTAL SHEET NO :
L 4	22

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

NOTES

NEW CONTOUR GRADES IN BOLD LINE WGT

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%

GRADE TO DRAIN AWAY FROM BLDG, STRUCTURES & PAV'T AREAS; DIRECT STORMWATER TO BASINS OR SHEET FLOW TO YARD AREAS

GRADE WITH MINIMAL DISTURBANCE AROUND EXISTING CLEAN-OUTS AND UTILITY ACCESS BOXES

KEY

- DI — NEW (YARD) DROP INLET
- JB — NEW JUNCTION BOX (W/ GRATE)
- 6" CPP — CORRUGATED PLASTIC PIPE (SIZE NOTED); MIN. 1' COVERAGE; MIN. 08. % SLOPE TO DRAIN
- DS — BLDG DOWNSPOUT LOCATION
- CO — CLEAN-OUT FOR SUBSURFACE DRAINAGE PIPE
- TREE PROTECTION FENCE

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION

CONTRACT #: C202161 - RA

ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 09
CHECKED BY & DATE :	
FINAL DESIGN DATE :	4-30-09

I-85 SBL RENOVATION

GRADING & DRAINAGE

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO : LG 2	TOTAL SHEET NO : 22

$$$$$$SYSTIME$$$$ $$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$$USERNAME$$$$

NO SIDEWALK SHALL EXCEED 5% SLOPE (ADA STANDARD)

NORTH

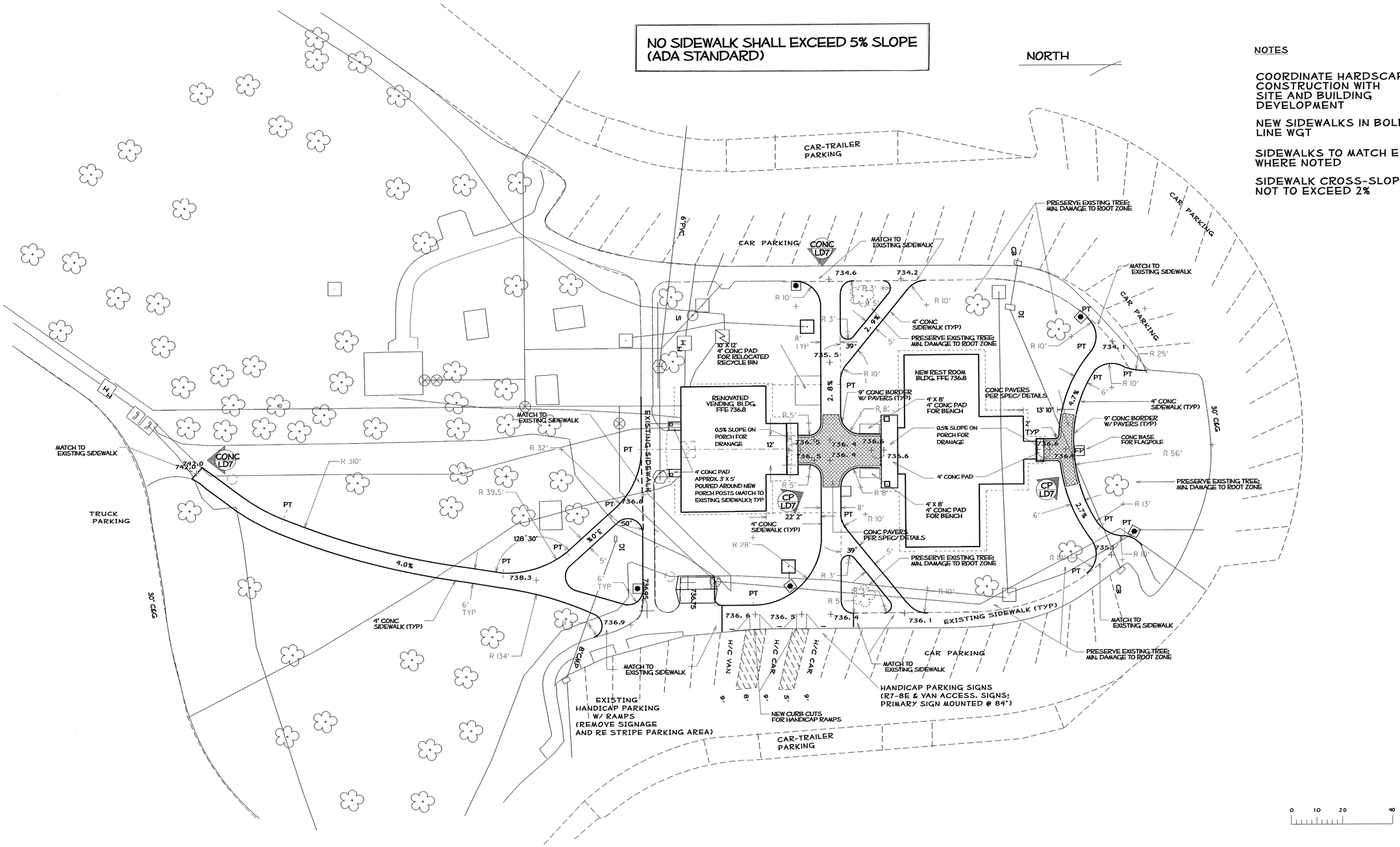
NOTES

COORDINATE HARDSCAPE CONSTRUCTION WITH SITE AND BUILDING DEVELOPMENT

NEW SIDEWALKS IN BOLD LINE WGT

SIDEWALKS TO MATCH EXISTING WHERE NOTED

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%



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NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

NORTH CAROLINA LANDSCAPE ARCHITECT SEAL 1447 REGISTERED ROBERT N. KOPETSKY

DEU ENGINEER: B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 09	I-85 SBL RENOVATION
CHECKED BY & DATE:	HARDSCAPE/ LAYOUT
FINAL DESIGN DATE: 4-30-09	& DIMENSION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO:	TOTAL SHEET NO:
LH	2 22

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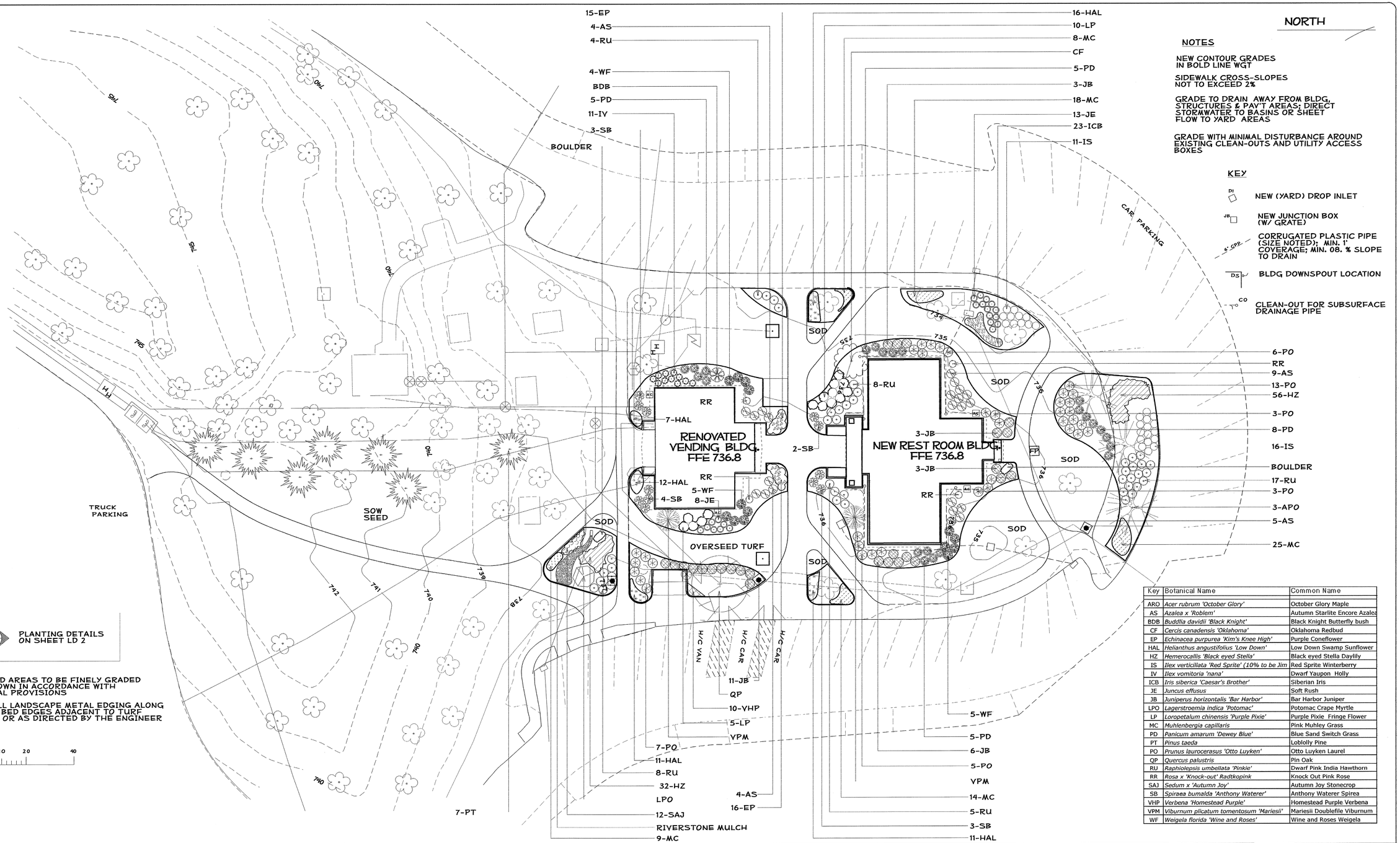


Key	Botanical Name	Common Name
ARO	*Acer rubrum 'October Glory'*	October Glory Maple
AS	*Azalea x 'Robiem'*	Autumn Starlite Encore Azalea
BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush
CF	*Cercis canadensis 'Oklahoma'*	Oklahoma Redbud
EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower
HAL	*Helianthus angustifolius 'Low Down'*	Low Down Swamp Sunflower
HZ	*Hemerocallis 'Black eyed Stella'*	Black eyed Stella Daylily
IS	*Ilex verticillata 'Red Sprite' (10% to be Jim*	Red Sprite Winterberry
IV	*Ilex vomitoria 'nana'*	Dwarf Yaupon Holly
ICB	*Iris siberica 'Caesar's Brother'*	Siberian Iris
JE	*Juncus effusus*	Soft Rush
JB	*Juniperus horizontalis 'Bar Harbor'*	Bar Harbor Juniper
LPO	*Lagerstroemia indica 'Potomac'*	Potomac Crape Myrtle
LP	*Loropetalum chinensis 'Purple Pixie'*	Purple Pixie Fringe Flower
MC	*Muhlenbergia capillaris*	Pink Muhley Grass
PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass
PT	*Pinus taeda*	Loblolly Pine
PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel
QP	*Quercus palustris*	Pin Oak
RU	*Raphiolepsis umbellata 'Pinkie'*	Dwarf Pink India Hawthorn
RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose
SAJ	*Sedum x 'Autumn Joy'*	Autumn Joy Stonecrop
SB	*Spiraea bumalda 'Anthony Waterer'*	Anthony Waterer Spirea
VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena
VPM	*Viburnum plicatum tomentosum 'Mariesii'*	Mariesii Doublefile Viburnum
WF	*Weigela florida 'Wine and Roses'*	Wine and Roses Weigela

$$$$$$$$$$YSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$
$$$$$$USERNAME$$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION

CONTRACT #: C202161 - RA

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY

ROBERT N. KOPETSKY, PLA ENGINEER: R. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 09

CHECKED BY & DATE:

FINAL DESIGN DATE: 4-30-09

I-85 SBL RENOVATION

LANDSCAPE PLANTING

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905

WBS # 39886.3.ST1

FED I.D. # STM-085-3(200)100

SHEET NO: LP 2 TOTAL SHEET NO: 22

NCDOT- ROADSIDE ENVIRONMENTAL UNIT
Landscape Design & Development
1557 Mail Service Center Raleigh NC 27699-1557
ph: 919-733-2920 fax: 919-733-9810
http://www.ncdot.org/doh/operations/dp chief eng/roadside/

I- 85 Davidson Co
Rest Area Renovation

CONTRACT # C20261

reu engineer: NORTH CAROLINA PROFESSIONAL SEAL 028878 ENGINEER KENNETH D. PACE June 9, 2009

sheet description:

prel. design date :

checked by & date :

final design date : APRIL 30, 2009

SOUTHBOUND LANE
UTILITY PLAN

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
sheet no : LU- 2
total sheet no : 22

DAVIDSON COUNTY / I-85 REST AREA RENOVATION
PLANTING - SUMMARY OF QUANTITIES

NBL - LANDSCAPE QUANTITIES

Des	Sec	Qty.	Unit	Key	Botanical Name	Common Name	Size	Caliper	Furnish	A.S.N.S.	Remarks
L	1670	**5**	ea	ARO	*Acer rubrum 'October Glory'*	October Glory Maple	8-10'		B&B	1.2.1	As Shown
L	1670	**23**	ea	AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azale	18-24"		#3 cont.	2.2.1	4 canes
L	1670	**2**	ea	BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush	18-24"		#3 cont.	2.2.1	4 canes
L	1670	**4**	ea	CF	*Cercis canadensis 'Oklahoma'*	Oklahoma Redbud	5-6'		#15 cont.	1.3	As Shown
L	1670	**13**	ea	CSR	*Cotoneaster salicifolius 'Repens'*	Willow Leaf Cotoneaster	8-12"		#3 cont.	4.2.1	As Shown
L	1670	**48**	ea	HAL	*Helianthus angustifolius 'Low Down'*	Low Down Swamp Sunflower	8-12"		#1 cont.		2' O.C.
L	1670	**69**	ea	HZ	*Hemerocallis 'Black eyed Stella'*	Black eyed Stella Daylily	3 fan		#1 cont.	12.2.3	2' O.C.
L	1670	**33**	ea	IS	*Ilex verticillata 'Red Sprite' (10% to be Jin*	Red Sprite Winterberry	18-24"		#3 cont.	2.2.4	As Shown
L	1670	**37**	ea	JB	*Juniperus horizontalis 'Bar Harbor'*	Bar Harbor Juniper	12-15"		#3 cont.	3.2.2	As Shown
L	1670	**3**	ea	LPO	*Lagerstroemia indica 'Potomac'*	Potomac Crape Myrtle	7-8'		B&B	1.3	3-4 stem
L	1670	**9**	ea	LH	*Lantana camera "Miss Huff"*	Miss Huff Lantana	15-18"		#1 cont.	2.2.3	4 canes
L	1670	**12**	ea	LP	*Loropetalum chinensis 'Purple Pixie'*	Purple Pixie Fringe Flower	18-24"		#3 cont.	4.2.3	As Shown
L	1670	**64**	ea	MC	*Muhlenbergia capillaris*	Pink Muhley Grass			#1 cont.	12.4	2' O.C.
L	1670	**15**	ea	PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass	18-24"		#3 cont.	12.4	As Shown
L	1670	**52**	ea	PH	*Pennisetum alopecuroides 'Hamlin'*	Dwarf Fountain Grass	18-24"		#3 cont.	12.4	2' O.C.
L	1670	**8**	ea	PT	*Pinus taeda*	Loblolly Pine	6-8'	1 1/2 - 2'	B&B	3.2.4	As Shown
L	1670	**26**	ea	PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel	18-24"		#3 cont.	4.2.2	As Shown
L	1670	**3**	ea	PR	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Cherry	6-8'		B&B	1.2.3	As Shown
L	1670	**7**	ea	QP	*Quercus palustris*	Pin Oak	10-12'	1.75-2"	B&B	1.2.1	As Shown
L	1670	**39**	ea	RU	*Raphiolepsis umbellata 'Pinkie'*	Dwarf Pink India Hawthorn	18-24"		#3 cont.	4.2.2	As Shown
L	1670	**4**	ea	RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose	18-24"		#3 cont.	5.2	3 canes
L	1670	**50**	ea	VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena			#SP4	12.3	18" O.C.
L	1670	**2**	ea	VPM	*Viburnum plicatum tomentosum 'Mariesii'*	Mariesii Doublefile Viburnum	3-4'		#15 cont.	2.2.4	As Shown
2729	1670	**107**	CY		Mulch for Planting						
2731	1670	**7**	M/G		Water for Planting						
SP	1670	**220**	Bale		Pine Straw Mulch						
L	1670	**745**	SY		Pre emergence Herbicidal Treatment						
L	1670	**745**	SY		Post emergence Herbicidal Treatment						
L	1670	**6654**	SF		Sod						
L	1670	**10**	TONS		Riverstone Mulch (Thick Alabama/Tennessee Riverrock)						
L	1670	**8**	TONS		Boulders						

SBL - LANDSCAPE QUANTITIES

Des	Sec	Qty.	Unit	Key	Botanical Name	Common Name	Size	Caliper	Furnish	A.S.N.S.	Remarks
L	1670	**3**	ea	ARO	*Acer rubrum 'October Glory'*	October Glory Maple	8-10'		B&B	1.2.1	As Shown
L	1670	**22**	ea	AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azale	18-24"		#3 cont.	2.2.1	4 canes
L	1670	**1**	ea	BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush	18-24"		#3 cont.	2.2.1	4 canes
L	1670	**1**	ea	CF	*Cercis canadensis 'Oklahoma'*	Oklahoma Redbud	5-6'		#15 cont.	1.3	As Shown
L	1670	**31**	ea	EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower			#1 cont.	12.3	2' O.C.
L	1670	**57**	ea	HAL	*Helianthus angustifolius 'Low Down'*	Low Down Swamp Sunflower	8-12"		#1 cont.		2' O.C.
L	1670	**88**	ea	HZ	*Hemerocallis 'Black eyed Stella'*	Black eyed Stella Daylily	3 fan		#1 cont.	12.2.3	2' O.C.
L	1670	**27**	ea	IS	*Ilex verticillata 'Red Sprite' (10% to be Jin*	Red Sprite Winterberry	18-24"		#3 cont.	2.2.4	As Shown
L	1670	**11**	ea	IV	*Ilex vomitoria 'nana'*	Dwarf Yaupon Holly	18-24"		#3 cont.	4.2.4	As Shown
L	1670	**23**	ea	ICB	*Iris siberica 'Caesar's Brother'*	Siberian Iris	2-3 fan		#1 cont.	12.2.5	2' O.C.
L	1670	**21**	ea	JE	*Juncus effusus*	Soft Rush	15-18"		#2 cont.	12.4	3' O.C.
L	1670	**26**	ea	JB	*Juniperus horizontalis 'Bar Harbor'*	Bar Harbor Juniper	12-15"		#3 cont.	3.2.2	As Shown
L	1670	**1**	ea	LPO	*Lagerstroemia indica 'Potomac'*	Potomac Crape Myrtle	7-8'		B&B	1.3	3-4 stem
L	1670	**15**	ea	LP	*Loropetalum chinensis 'Purple Pixie'*	Purple Pixie Fringe Flower	18-24"		#3 cont.	4.2.3	As Shown
L	1670	**74**	ea	MC	*Muhlenbergia capillaris*	Pink Muhley Grass			#1 cont.	12.4	2' O.C.
L	1670	**23**	ea	PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass	18-24"		#3 cont.	12.4	As Shown
L	1670	**7**	ea	PT	*Pinus taeda*	Loblolly Pine	6-8'	1 1/2 - 2'	B&B	3.2.4	As Shown
L	1670	**37**	ea	PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel	18-24"		#3 cont.	4.2.2	As Shown
L	1670	**1**	ea	QP	*Quercus palustris*	Pin Oak	10-12'	1.75-2"	B&B	1.2.1	As Shown
L	1670	**42**	ea	RU	*Raphiolepsis umbellata 'Pinkie'*	Dwarf Pink India Hawthorn	18-24"		#3 cont.	4.2.2	As Shown
L	1670	**7**	ea	RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose	18-24"		#3 cont.	5.2	3 canes
L	1670	**12**	ea	SAJ	*Sedum x 'Autumn Joy'*	Autumn Joy Stonecrop			#1 cont.	6.4.1	2' O.C.
L	1670	**12**	ea	SB	*Spiraea bumalda 'Anthony Waterer'*	Anthony Waterer Spirea	18-24"		#3 cont.	2.2.3	As Shown
L	1670	**10**	ea	VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena			#SP4	12.3	18" O.C.
L	1670	**2**	ea	VPM	*Viburnum plicatum tomentosum 'Mariesii'*	Mariesii Doublefile Viburnum	3-4'		#15 cont.	2.2.4	As Shown
L	1670	**14**	ea	WF	*Weigela florida 'Wine and Roses'*	Wine and Roses Weigela	18-24"		#5 cont.	2.2.3	As Shown
2729	1670	**141**	CY		Mulch for Planting						
2731	1670	**7**	M/G		Water for Planting						
L	1670	**1007**	SY		Pre emergence Herbicidal Treatment						
L	1670	**1007**	SY		Post emergence Herbicidal Treatment						
L	1670	**6116**	SF		Sod						
L	1670	**3**	TONS		Riverstone Mulch (Thick Alabama/Tennessee Riverrock)						
L	1670	**5**	TONS		Boulders						

"LANDSCAPE PLANTING" - FURNISH, DELIVER, PLANT BED PREPARATION AND
THE PLANTING OF TREES, SHRUBS, GROUND COVERS, BEDDING PLANTS AND SEEDLINGS AT LOCATIONS
SHOWN ON THE PLANS OR AS DIRECTED , IN ACCORDANCE TO NCDOT STANDARD SPECIFICATION 1670.

$$$$$$$$SYSTIMES$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

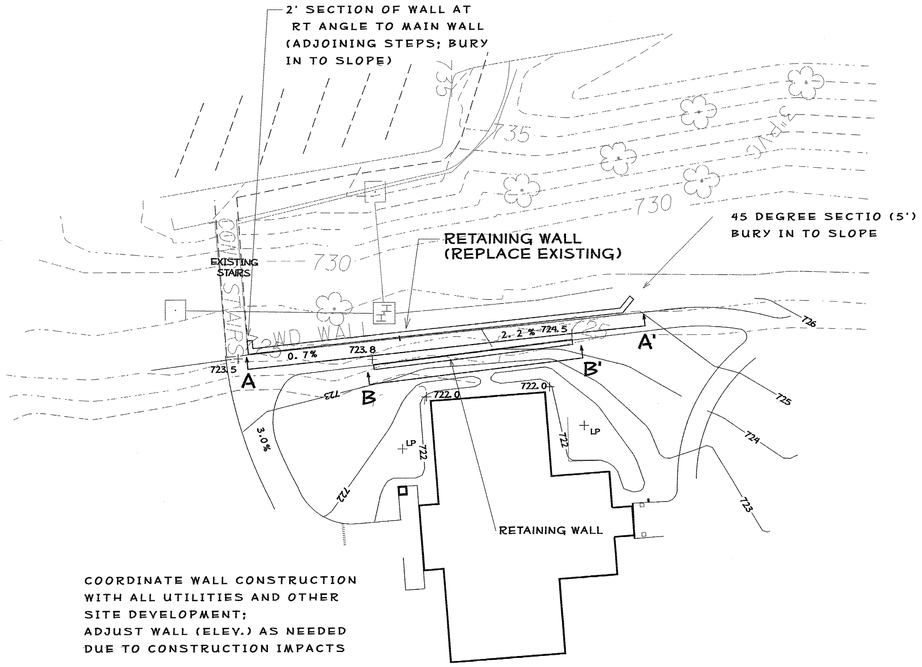
I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

9-MC 11-HAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15447 ROBERT N. KOPETSKY — R. Kopetsky

SHEET DESCRIPTION:		
PREL. DESIGN DATE: FEB/ 09	I-85 SBL RENOVATION	T.I.P. # K-4905
CHECKED BY & DATE:	LANDSCAPE PLANTING	WBS # 39886.3.ST1
FINAL DESIGN DATE: 4-30-09		FED I.D. # STM-085-3(200)100
		SHEET NO: LP 3 TOTAL SHEET NO: 22

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

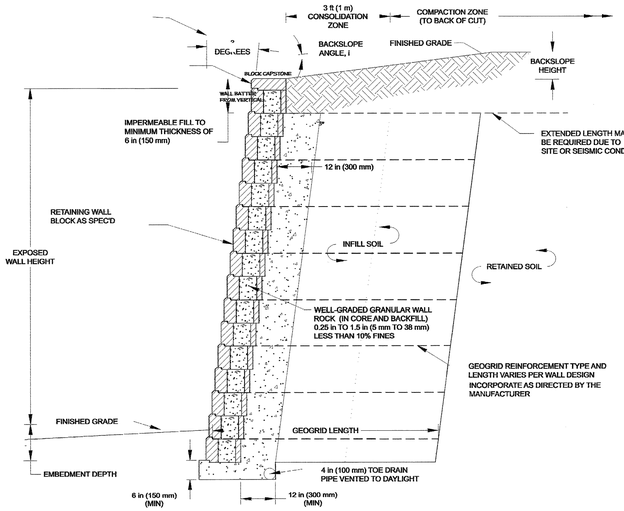


COORDINATE WALL CONSTRUCTION WITH ALL UTILITIES AND OTHER SITE DEVELOPMENT; ADJUST WALL (ELEV.) AS NEEDED DUE TO CONSTRUCTION IMPACTS

SEGMENTED RETAINING WALL - NBL SITE

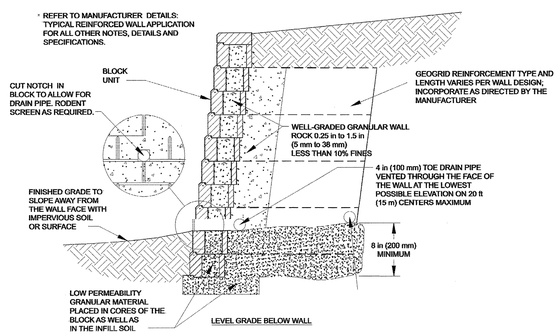
SRW LD1

SEE ALL DETAILS NTS



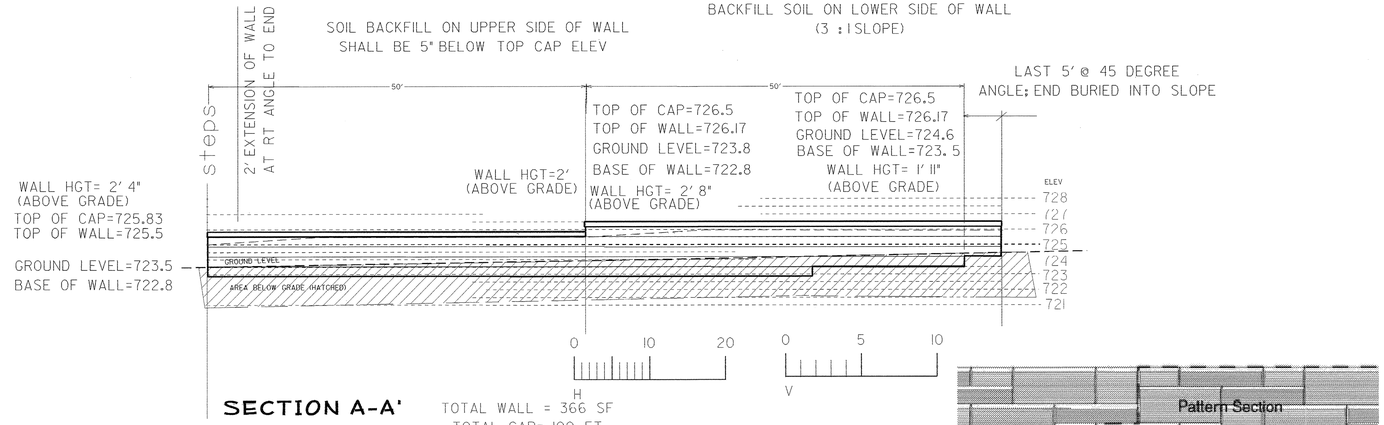
RETAINING WALL W/ GEOGRID

NTS



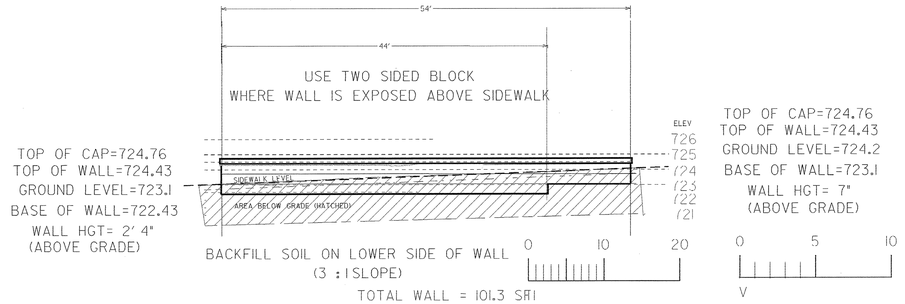
RETAINING WALL DRAINAGE (TYP)

NTS



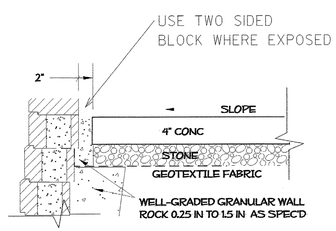
SECTION A-A'

TOTAL WALL = 366 SF
TOTAL CAP= 100 FT
totalsf=400



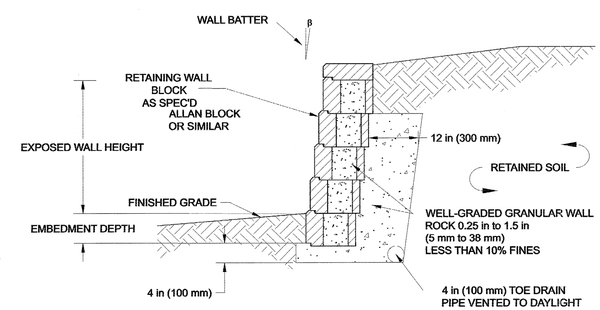
SECTION B-B'

TOTAL WALL = 101.3 SFT
TOTAL CAP= 54 FT
totalsf= 120



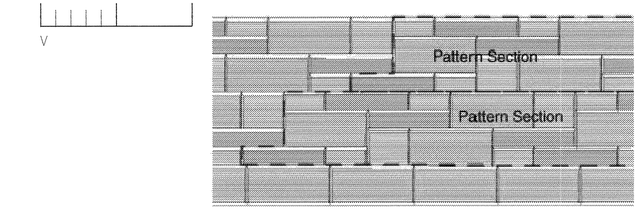
TOP OF WALL ADJOING SIDEWALK (TYP)

NTS



GRAVITY RETAINING WALL (TYP)

NTS



BLOCK WALL PATTERN

NTS

$$$$$$$$$$SYSTIMES$$$$$$$$$$
$$$$$$$$$$USERNAME$$$$$$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

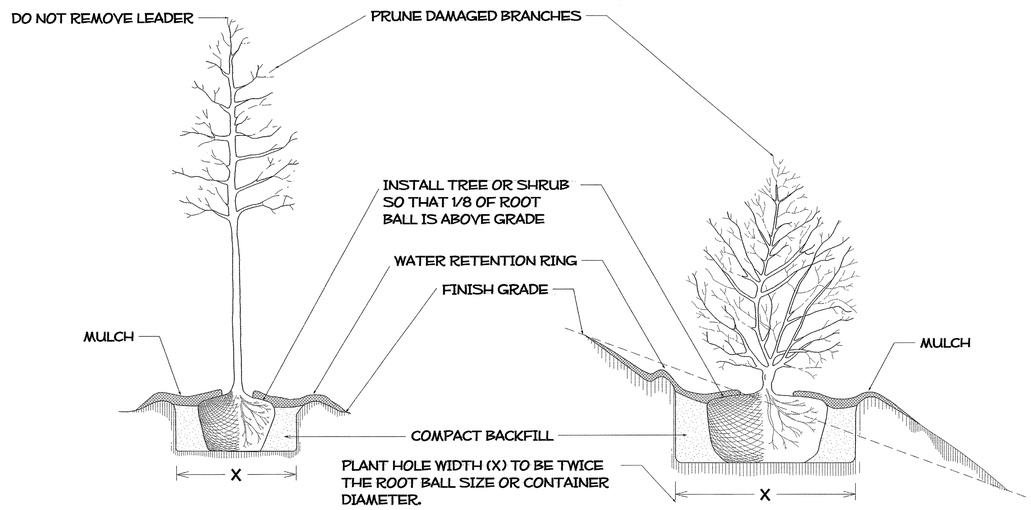
ENGINEER : Robert N. Kopetsky
NORTH CAROLINA PROFESSIONAL LANDSCAPE ARCHITECT 1447 REGISTERED ROBERT N. KOPETSKY

SHEET DESCRIPTION:
PREL. DESIGN DATE: FEB/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE:

I-85 NBL RENOVATION
SEGMENTED RETAINING WALL
PLAN & DETAILS

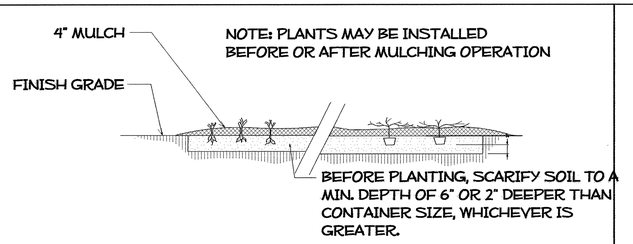
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO : LD 1 TOTAL SHEET NO : 22

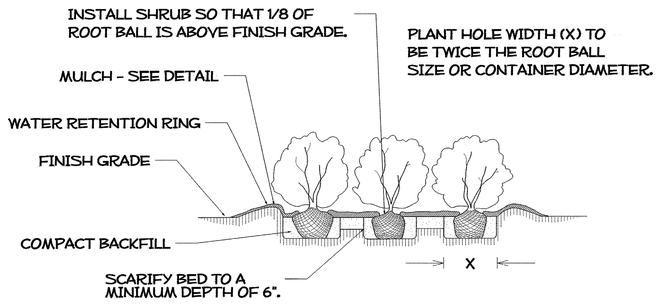


TREE OR SHRUB PLANTING DETAIL
(LEVEL GROUND)

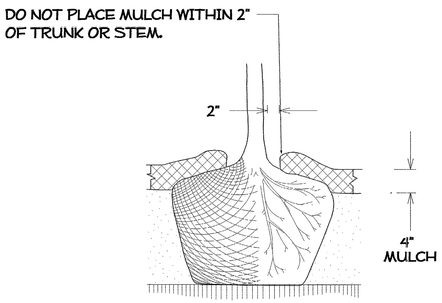
TREE OR SHRUB PLANTING DETAIL
(SLOPING GROUND)



GROUND COVER/ BEDDING PLANT DETAIL



SHRUB BED PLANTING DETAIL

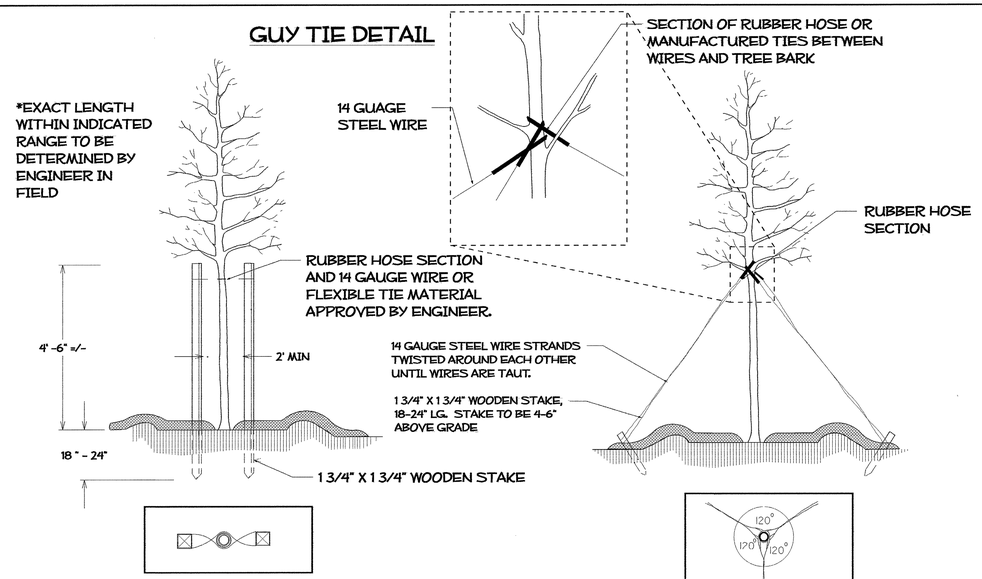


MULCH DETAIL

NOTES:

- SCHEDULE FOR PLANT HOLE SIZE: PLANT HOLE WIDTH (X) TO BE TWICE THE ROOT BALL SIZE OR CONTAINER DIAMETER.
- SEE STANDARD SPECIFICATIONS FOR PLANT BED FUMIGATION AND HERBICIDAL TREATMENT.
- APPLY FERTILIZER AT PLANTING TIME IN THE FORM OF A SLOW RELEASE PELLET OR TABLET. APPLY AT RATE RECOMMENDED BY MANUFACTURER. BOTH RATE AND FORMULATION MUST BE APPROVED BY FIELD ENGINEER PRIOR TO APPLICATION.
- REMOVE WIRE BASKET AND FOLD BURLAP BACK FROM TOP OF ROOT BALL BEFORE BACKFILLING IS COMPLETE.
- ALL PRUNING TO FOLLOW STANDARD ARBORICULTURAL PRACTICES AS SPECIFIED BY INTERNATIONAL SOCIETY OF ARBORICULTURE.
- DO NOT ATTEMPT TO STRAIGHTEN A TREE THAT HAS BEEN PLANTED AT AN ANGLE WITH THE USE OF STAKING OR GUYING. DIG TREE AND REPLANT TO UPRIGHT POSITION.

GUY TIE DETAIL

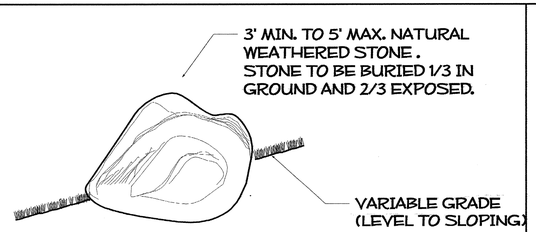


STAKING DETAIL
(TREES 6'-10')
USE AS DIRECTED BY FIELD ENGINEER

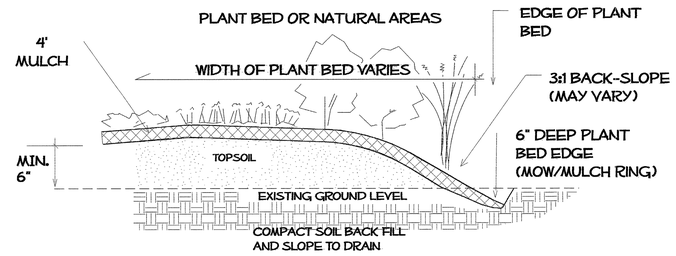
GUYING DETAIL
(TREES 10' OR LARGER)
USE AS DIRECTED BY FIELD ENGINEER

WASHED RIVER STONE (MIN. 2 INCH - MAX 6 INCH DIAM) ON FILTER FABRIC LINER IN DITCH. PLACE STONE FLUSH WITH DITCH GRADE FOR MAXINUM WATER FLOW.

RIVERSTONE DITCH LINING DETAIL



BOULDER PLACEMENT DETAIL TYPICAL



PLANT BED EDGE DETAIL

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I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

ENGINEER: R. KOPETSKY
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY

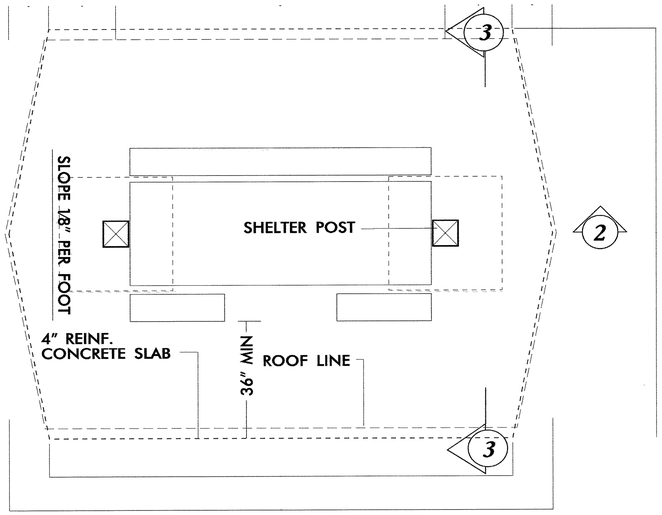
SHEET DESCRIPTION:
PREL. DESIGN DATE: FEB/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE:

I-85 SBL RENOVATION
PLANTING DETAILS

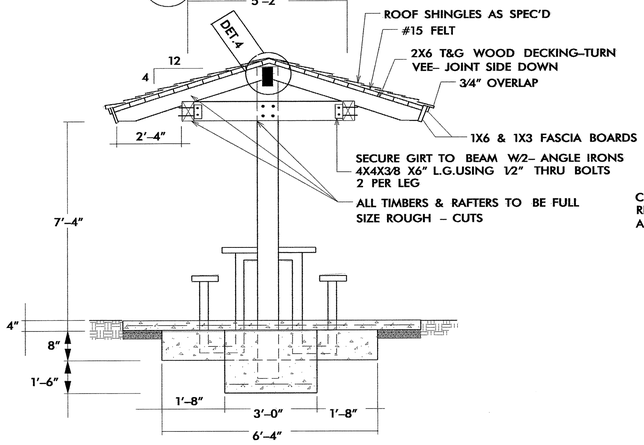
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO: LD 2 TOTAL SHEET NO: 22

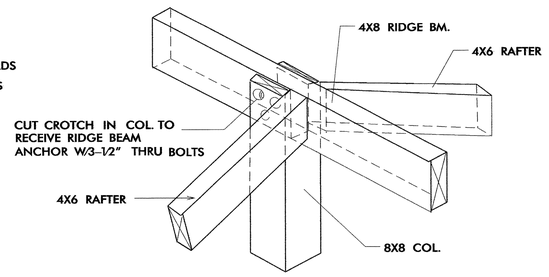
SYSTIME DGN USERNAME



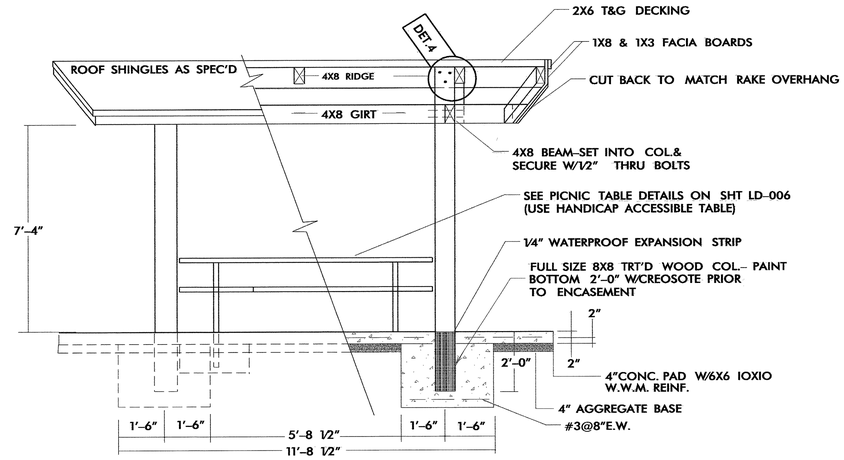
1 CONC PAD & ROOF PLAN
NTS



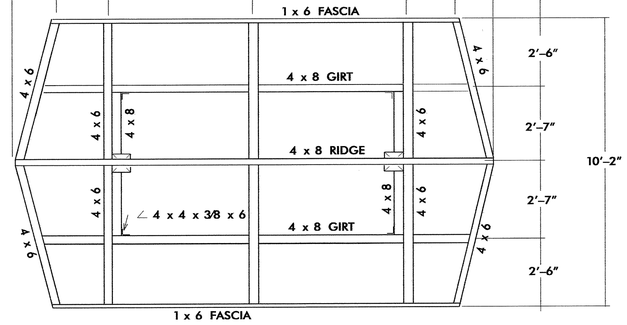
3 SECTION
1/2" = 1'-0"



4 JOINT DETAIL
1/2" = 1'-0"



2 SECTION
1/2" = 1'-0"



5 FRAMING PLAN
1/2" = 1'-0"

USE DETAIL FOR REFERENCE (TO RECONSTRUCT & RELOCATE EXISTING PICNIC SHELTER)

$$$$$$$$$$TIMESTAMP$$$$$$$$$$
$$$$$$$$$$USERNAME$$$$$$$$$$

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I- 85 DAVIDSON CO
REST AREA RENOVATION
~~CONTRACT #:~~ C202161 - RA

PREL ENGINEER : ROBERT N. KOPETSKY
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14473 ROBERT NICHOLAS KOPETSKY
5/13/09

SHEET DESCRIPTION:

PREL. DESIGN DATE : FEB/ 09	I-85 REST AREA
CHECKED BY & DATE :	HARDSCAPE DETAILS
FINAL DESIGN DATE :	

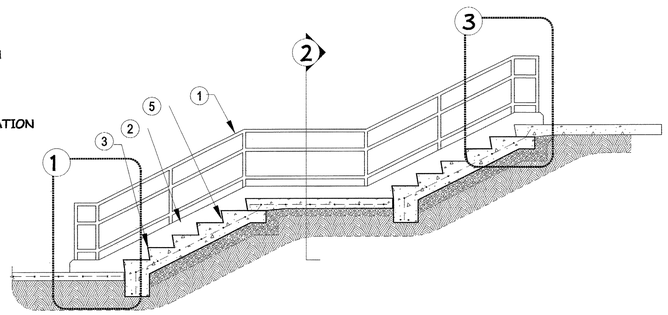
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4905
WBS #	39886.3.ST1
FED I.D. #	STM-085-3(200)100
SHEET NO :	TOTAL SHEET NO :
LD	3 22

UPPER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

LANDING ELE. VARIES BY LOCATION
SEE PLANS

LOWER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

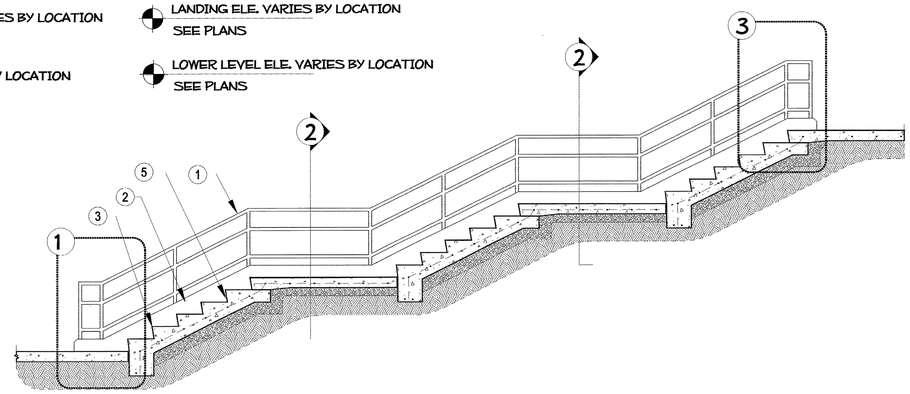


UPPER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

LANDING ELE. VARIES BY LOCATION
SEE PLANS

LANDING ELE. VARIES BY LOCATION
SEE PLANS

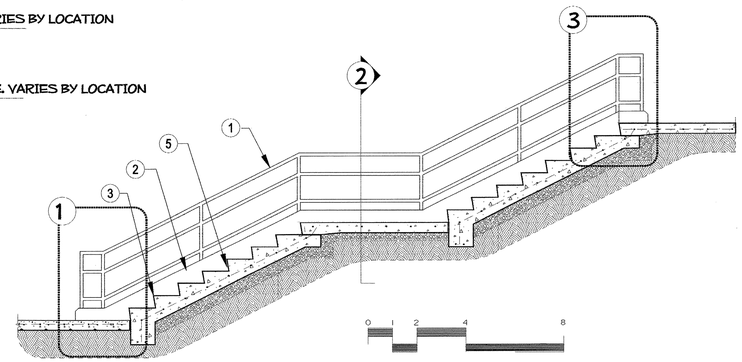
LOWER LEVEL ELE. VARIES BY LOCATION
SEE PLANS



UPPER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

LANDING ELE. VARIES BY LOCATION
SEE PLANS

LOWER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

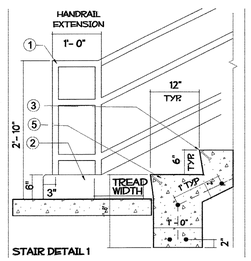


1. HANDRAIL- 1 1/2" Ø METAL PIPE, TYP.
2. CONCRETE CURB STRINGER
3. GALVANIZED METAL NOSING, TYP. -EMBED IN CONCRETE
4. GUARDRAIL PIPE SLEEVE - 2 1/4" Ø METAL PIPE, TYP.
5. 6'-0" WIDE POURED IN PLACE CONCRETE STAIR WITH REINFORCING AS SHOWN. REINFORCING SHALL BE 1/2" Ø STEEL REBAR 12" O.C. IN BOTH DIRECTIONS. REINFORCING SHALL EXTEND INTO STRINGERS.

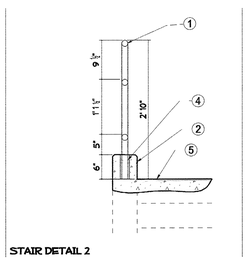
REINFORCING, NOSING AND OTHER MATERIALS INCIDENTAL TO STEP CONSTRUCTION, EXCEPT HANDRAIL,SHALL BE INCLUDED IN THE PER CUBIC YARD PAYMENT AMOUNT.

UPPER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

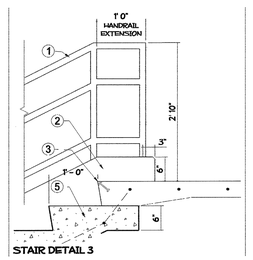
LOWER LEVEL ELE. VARIES BY LOCATION
SEE PLANS



STAIR DETAIL 1



STAIR DETAIL 2



STAIR DETAIL 3

A. HANDRAIL ASSEMBLY TO BE FINISHED WITH KYNAR 500 TO MATCH CURTAINWALL SYSTEM.

B. STAIRS MAY VARY IN NUMBER OF RISERS. SEE PLANS FOR LOCATION AND DESCRIPTION.

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I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 1447 ROBERT N. KOPETSKY
ENGINEER: R. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE:

I-85 SBL RENOVATION
DETAILS - CONC STAIRS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO: LD 4 TOTAL SHEET NO: 22

$$$$$$$$$YTIMESSSSS
$$$$$$$$$DESIGN$$$$$$$$$$$$$$$$$$$$
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06
ENGLISH STANDARD DRAWING FOR WHEELCHAIR RAMP CURB CUT
SHEET 1 OF 4 848.05

NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

DETECTABLE WARNING DOMES

W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'**
7'	0.0'	7.8'	7.3'	6.5'**
8'	0.0'	8.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X-(A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
7-06

ENGLISH STANDARD DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 1 OF 4
848.05

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06
ENGLISH STANDARD DRAWING FOR WHEELCHAIR RAMP CURB CUT
SHEET 4 OF 4 848.05

NOTES:

1. CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANTANCE AND A 70% CONTRASTING COLOR TO THE SIDEWALK.
2. CROSSWALK WIDTHS AND CONFIGURATION VARY BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
3. NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILTIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.

   IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1,1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.

   THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES. COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILIAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
4. PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
5. PAY FOR CONSTRUCTION OF WHEELCHAIR RAMPS AS CONCRETE WHEELCHAIR RAMPS. (EACH)
6. ~~PAY FOR ALL DEPRESSED CURBS AT WHEELCHAIR RAMPS AS THE TYPE CURB AND GUTTER USED ADJACENT TO DEPRESSED CURB. (LN. FT.)~~
7. SUCH PRICES AND PAYMENTS IS CONSIDERED FULL COMPENSATION FOR CONSTRUCTION OF THE WHEELCHAIR RAMPS, REMOVAL OF EXISTING PAVEMENT/CURBING INCLUDING ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE WORK.
8. DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
9. CONSTRUCT WHEELCHAIR RAMPS 40" (3'-4") OR GREATER FOR DUAL RAMPS.
10. USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
11. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
12. PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADII, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 17)
13. COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24" OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
14. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
15. USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
16. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
17. PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
7-06

ENGLISH STANDARD DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 4 OF 4
848.05

HC / LD5 HANDICAP RAMP

NTS

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REST AREA RENOVATION
CONTRACT #: C202161 - RA

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.13.09
ENGINEER: B. Kopetsky

SHEET DESCRIPTION:
PREL. DESIGN DATE: FEB/ 09
CHECKED BY & DATE:
FINAL DESIGN DATE:

I-85 SBL RENOVATION
HANDICAP RAMP DETAIL

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO: LD 5 TOTAL SHEET NO: 22

FLAG POLE ELEVATION
SCALE: NTS

FP LD6 FLAGPOLE

NTS

SECTION VIEW

YARD HYDRANT DETAIL
SCALE: NTS

SECTION "A-A"

YARD HYDRANT DETAIL
SCALE: NTS

YH LD6 YARD HYDRANT

NTS

RELOCATE YARD HYDRANT AS NOTED ON PLANS. REUSE EXISTING STEM /HYDRANT,(REPLACE IF UNSALVAGEABLE.) REATTACH TO EXISTING WATER LINE AND RESET NEW CUT-OFF VALVE ; RECONSTRUCT ACCORDING TO DETAIL.

REMOVE ALL EXISTING MATERIALS AT OLD YARD HYDRANT LOCATION(S), CAP AND/OR REMOVE SERVICE LINE AS DIRECTED BY ENGINEER.

PRE-CAST EXPOSED AGGREGATE – WASTE CONTAINER

WC LD6 EXPOSED AGGREGATE WASTE CONTAINER

NTS

NCDOT - ROADSIDE ENVIRONMENTAL UNIT LANDSCAPE DESIGN & DEVELOPMENT 1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557 PH: 919-733-2920 FAX: 919-733-9810 HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/	I- 85 DAVIDSON CO REST AREA RENOVATION PROJECT #: 39886.1.1 REU ENGINEER : NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 5-14-09 ROBERT N. KOPETSKY — B. Kopetsky	SHEET DESCRIPTION: PREL DESIGN DATE : FEB/ 09 CHECKED BY & DATE : FINAL DESIGN DATE :	I-85 SBL RENOVATION DETAILS - FLAGPOLE, YRD HYD, & WASTE CONT	T.I.P. # K-4905 WBS # 39886.3.ST1 FED I.D. # STM-085-3(200)100 SHEET NO : LD 6 TOTAL SHEET NO : 22

$$$$$$SYSTIME$$$$$ $$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$$USERNAME$$$$

CONC / LD7

MATCHING NEW CONC SIDEWALK TO EXISTING

FOR ALL LOCATIONS WHERE EXISTING SIDEWALK ADJOINS NEW CONC
- CONSULT ENGINEER -

NTS

CP3 / LD7

TYPICAL PAVER PATTERN

REFER TO CP1 & CP2

NTS

CP1 / LD7

CONC PAVER DETAIL A

REFER TO CP2 & CP3

NTS

GENERAL NOTES:

1) SIDEWALK AS SPECIFIED BY SITE/HARDSCAPE PLANS.

2) CONCRETE PAVER AREA AS SHOWN WITH 9" CAST IN PLACE CONCRETE BORBER GREY PAVER BORDER. PAVERS TO BE A BLEND & COLOR AND SIZE AS SPECIFIED.

3) STANDARD 4" THICK CONCRETE SIDEWALK; CONTROL JOINT EVERY 5' AND EXPANSION JOINT EVERY 10'.

CP2 / LD7

CONC PAVER DETAIL B

REFER TO CP1 & CP3

NTS

PLAN VIEW

NOTE:

TELEPHONE SHALL MEET STATE AND FEDERAL HANDICAP ACCESSIBILITY REQUIREMENTS.

TRANSFORMER IS APPROXIMATELY 10" HIGH AND 5" X 5" SQUARE. STRAP TO SUPPORT POST.

ELEVATION/ SECTION VIEW

TP / LD7

OUTDOOR TELEPHONE INSTALLATION DETAIL

NTS

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I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

REU ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE : FEB/ 09
CHECKED BY & DATE :
FINAL DESIGN DATE :

I-85 REST AREA HARDSCAPE AND TELEPHONE DETAIL

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100

SHEET NO :	TOTAL SHEET NO :
LD 7	22

DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE D	SPAN A	WIDTH B	MIN. HEIGHT H	BOTTOM SLAB	WALL PER FT. HT.	TOTAL CONCRETE FOR MINIMUM HEIGHT, H	C.M.	R.C.
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"			2'-3"			0.648	0.023	0.036
18"			2'-6"			0.703	0.033	0.049
24"			3'-0"			0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

YI / LD8 — YARD INLET / JUNCTION BOX

NTS

TD / LD8 — SIDEWALK TRENCH DRAIN

NTS

RL / LD8 — ROOF LEADER DRAINAGE SYSTEM

NTS

SQUARE GRATE WITH SQUARE CATCH BASIN

CB / LD8 — CATCH BASIN

NTS

$$$$$$SYSTIME$$$$$ $$$$$$$$$$DGN$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 85 DAVIDSON CO
REST AREA RENOVATION
CONTRACT #: C202161 - RA

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.15.09
REU ENGINEER : B. Kopetsky

SHEET DESCRIPTION:
PREL. DESIGN DATE : FEB/ 09
CHECKED BY & DATE :
FINAL DESIGN DATE :

I-85 REST AREA
DRAINAGE DETAILS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4905
WBS # 39886.3.ST1
FED I.D. # STM-085-3(200)100
SHEET NO : LD 8 TOTAL SHEET NO : 22