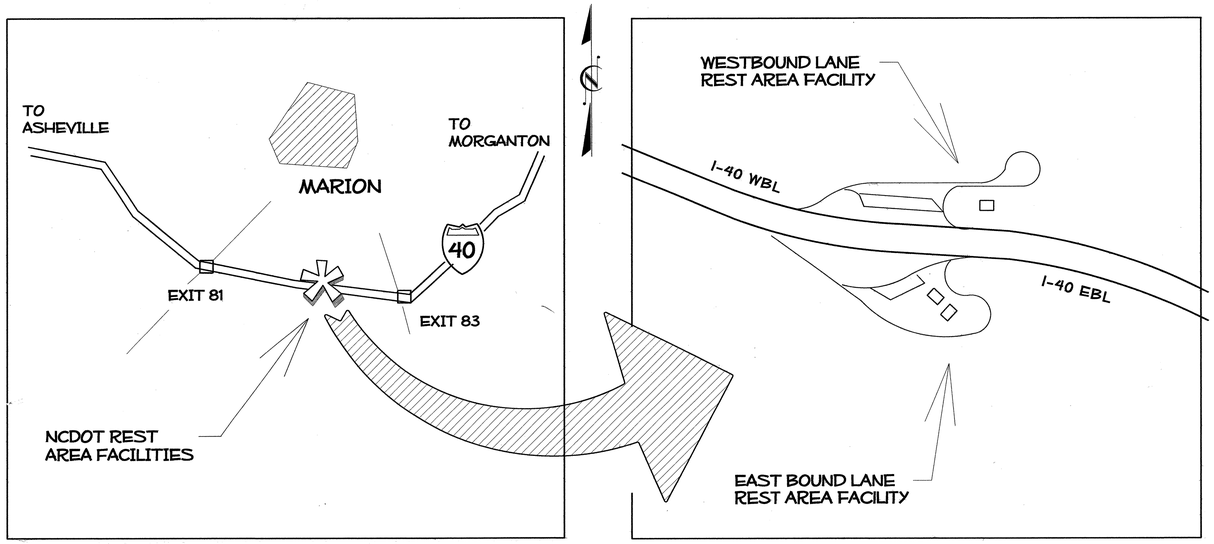
STATE NC	T.I.P. # K-4909	SHEET # 1 OF
WBS #	F.A. Project #	Description
39977.1.1		P.E.
		R/W
39977.3.ST1	STM-040-2(150)83	CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MCDOWELL COUNTY

LOCATION: I-40 MCDOWELL COUNTY REST AREA PAIR EAST OF EXIT 81- MARION, NC

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



VICINITY MAPS

Contract# C202206 /Tip# K-4909 /McDowell County /I-40 Rest Area Renovation

REST AREA PROJECT 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.: TRIANGLE ENGINEERING ASSOC
1320 SE MAYNARD RD
CARY, NC 27511 919.678.6107

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

I-40
MCDOWELL COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By:	KOPETSKY
Scale	n/a
Date	5 / 12 / 10
Letting Date	Aug 17, 2010
	2006 Standard Specifications
Sheet Description	TITLE SHEET
Sheet #	1

STATE	T.I.P. #	SHEET #
NC	K-4909	2 of

WBS #	F.A. Project #	Description
39977.1.1		P.E.
		R/W
39977.3.ST1	STM-040-2(150)83	CONST.

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VP2 EBL PLUMBING PLAN
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VM2 MECHANICAL PLAN
VE1 WBL ELECTRICAL PLAN
VE2 EBL ELECTRICAL PLAN

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L-3 EBL SITE PLAN
L-4 EBL DEMOLITION PLAN
LG-1 WBL GRADING PLAN
LG-2 EBL GRADING & DRAINAGE PLAN
LG-3 EBL GRADING & DRAINAGE PLAN DETAIL
LH-1 WBL HARDSCAPE PLAN
LH-2 EBL HARDSCAPE PLAN
LP-1 WBL LANDSCAPE PLAN
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LP-3 PLANTING QUANTITIES
LI-1 WBL IRRIGATION
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LU-2 EBL UTILITY PLAN

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LD-2 PLANTING DETAILS
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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
846. 01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848. 01	CONCRETE SIDEWALK

Contract# C202206 /Tip# K-4909 /McDowell County / I-40 Rest Area Renovation

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

I-40
MCDOWELL COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By: KOPETSKY
Scale: n/a
Date: 5 / 12 / 10
Letting Date: Aug 17, 2010
2006 Standard Specifications
Sheet Description: INDEX
Sheet # 2

REST AREA PROJECT 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
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ARCHITECTURAL / ENGINEERING
ARCHITECT: NCDOT GENERAL SERVICES - FACILITIES DESIGN
1 S. WILMINGTON STREET
RALEIGH, NC 27601 919.715.0400
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STATE	T.I.P. #	SHEET #	
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39977.1.1			P.E.
			R/W
39977.3.ST1	STM-040-2(150)83		CONST.

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202206

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
2549000000-E	846	175	LF	2'-6" CONCRETE CURB & GUTTER
2605000000-N	848	4	EA	CONCRETE WHEELCHAIR RAMPS
2738000000-E	SP	250	SY	GENERIC PAVING ITEM 4" CONCRETE SIDEWALK
2761000000-E	848	105	SY	GENERIC PAVING ITEM 9" CONCRETE BORDER
3575000000-E	SP	800	LF	GENERIC FENCING ITEM TEMPORARY 72" CHAIN LINK FENCE
3578000000-N	SP	2	EA	GENERIC FENCING ITEM TEMPORARY DOUBLE GATES, 72" HIGH, 8' WIDE, 16' OPENING
3656000000-E	876	75	SY	FILTER FABRIC FOR DRAINAGE
6000000000-E	1605	500	LF	TEMPORARY SILT FENCE
6006000000-E	1610	40	TON	STONE FOR EROSION CONTROL, CLASS A
6012000000-E	1610	20	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.25	ACR	TEMPORARY MULCHING
6018000000-E	1620	15	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.05	TON	FERTILIZER FOR TEMPORARY SEEDING
6036000000-E	1631	100	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	100	LF	1/4" HARDWARE CLOTH
6084000000-E	1660	4	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	10	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.05	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	10	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.1	TON	FERTILIZER TOPDRESSING
6114500000-N	SP	15	MHR	SPECIALIZED HAND MOWING
6141000000-E	SP	340	SY	GENERIC EROSION CONTROL ITEM SODDING
6655000000-E	1670	11	M/G	WATER FOR PLANTING
6665000000-E	1670	1,625	SY	POSTEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
6670000000-E	1670	1,625	SY	PREEMERGENT HERBICIDAL TREATMENT FOR PLANT BEDS
6674000000-N	SP	Lump Sum		GENERIC PLANTING ITEM (LS) LANDSCAPE PLANTING (EBL)
6674000000-N	SP	Lump Sum		GENERIC PLANTING ITEM (LS) LANDSCAPE PLANTING (WBL)
6677000000-E	SP	6	TON	GENERIC PLANTING ITEM RIVERSTONE
6890000000-E	SP	13	CY	CONCRETE STEPS
6895000000-E	SP	52	LF	HANDRAIL ON STEPS
6900000000-E	SP	120	CY	TOPSOIL
6915000000-N	SP	2	EA	OUTDOOR PARK STOVE
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM 1" GATE VALVE AND BOX
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM 3" GATE VALVE AND BOX
6970000000-N	SP	1	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	12	EA	GENERIC REST AREA ITEM BOULDER
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM CONNECTION TO SEWER MANHOLE/ SEWER LINE
6970000000-N	SP	2	EA	GENERIC REST AREA ITEM FLAGPOLE
6970000000-N	SP	1	EA	GENERIC REST AREA ITEM RELOCATED PICNIC SHELTER
6970000000-N	SP	12	EA	GENERIC REST AREA ITEM STEPPING STONE
6970000000-N	SP	11	EA	GENERIC REST AREA ITEM WASTE CONTAINER
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL INSTALLATION REST AREA SERVICE BLDG EBL/WBL (NEW BLDGS)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL INSTALLATION VENDING BUILDING EBL (EXISTING BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM ELECTRICAL INSTALLATION VENDING BUILDING WBL (NEW SMALL BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION REST AREA SERVICE BLDG EBL/WBL (NEW BL DGS)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION VENDING BUILDING EBL (EXISTING BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION VENDING BUILDING WBL (NEW SMALL BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM GENERAL CONSTRUCTION VENDING BUILDING WBL (NEW SMALL BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM HVAC INSTALLATION REST AREA SERVICE BLDG EBL/WBL (NEW BLDGS)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM HVAC INSTALLATION VENDING BUILDING EBL (EXISTING BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM HVAC INSTALLATION VENDING BUILDING WBL (NEW SMALL BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE & SITE GRADING EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE & SITE GRADING WBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE IRRIGATION - EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM LANDSCAPE IRRIGATION - WBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING INSTALLATION REST AREA SERVICE BLDG EBL/WBL (NEW BLDGS)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING INSTALLATION VENDING BUILDING EBL (EXISTING BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PLUMBING INSTALLATION VENDING BUILDING WBL (NEW SMALL BLDG)
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM PONDLESS WATERFALL

Contract# C202206 /Tip# K-4909 /McDowell County / I-40 Rest Area Renovation

REST AREA PROJECT DEVELOPMENT

REST AREA SECTION

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

I-40
MCDOWELL COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By:
KOPETSKY

Scale
n/a

Date
5 / 12 / 10

Letting Date
Aug 17, 2010

2006 Standard Specifications

Sheet Description
SUMMARY OF QUAN

Sheet #
3

STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

PROJECT REFERENCE No.	SHEET No.
K-4909	3 C2 of 2

ItemNumber	Sec #	Quantity	Unit	Description
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM POWERWASH EXISTING SIDEWALKS - EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM POWERWASH EXISTING SIDEWALKS - WBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE DEMOLITION EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM SITE DEMOLITION WBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM STORMWATER COLLECTION SYSTEM - EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM STORMWATER COLLECTION SYSTEM - WBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM STORMWATER DRAINAGE SYSTEM - EBL
6975000000-N	SP	Lump Sum		GENERIC REST AREA ITEM STORMWATER DRAINAGE SYSTEM - WBL
6980000000-E	SP	50	LF	GENERIC REST AREA ITEM 1" PVC WATER PIPE (SCH 80)
6980000000-E	SP	100	LF	GENERIC REST AREA ITEM 3" PVC GRAVITY SEWER (SCH80)
6980000000-E	SP	100	LF	GENERIC REST AREA ITEM 3" PVC SLEEVE
6980000000-E	SP	370	LF	GENERIC REST AREA ITEM 3" PVC WATER PIPE (SCH 80)
6980000000-E	SP	175	LF	GENERIC REST AREA ITEM 6" PVC GRAVITY SEWER (SCH80)
6980000000-E	SP	250	LF	GENERIC REST AREA ITEM ELECTRIC LINE INSTALL/REPAIR
6980000000-E	SP	900	LF	GENERIC REST AREA ITEM LANDSCAPE METAL EDGING
6980000000-E	SP	300	LF	GENERIC REST AREA ITEM ORNAMENTAL WELDED WIRE FENCE
6980000000-E	SP	250	LF	GENERIC REST AREA ITEM PHONE LINE INSTALL/REPAIR
6980000000-E	SP	25	LF	GENERIC REST AREA ITEM PVC WATER PIPE SCH. 80 REPAIR
6980000000-E	SP	200	LF	GENERIC REST AREA ITEM SPLIT RAIL FENCE RELOCATION

ItemNumber	Sec #	Quantity	Unit	Description
6980000000-E	SP	650	LF	GENERIC REST AREA ITEM TREE PROTECTION FENCE
6982000000-E	SP	3,800	SF	GENERIC REST AREA ITEM PERMEABLE PAVERS
6982000000-E	SP	560	SF	GENERIC REST AREA ITEM SEGMENTED RETAINING WALL
6985000000-E	SP	227	CY	GENERIC REST AREA ITEM MULCH FOR PLANTING

I-40 REST AREA & VENDING

NEW REST AREA BUILDING & VENDING BUILDING

MCDOWELL COUNTY, NORTH CAROLINA

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VM2	EBL MECHANICAL PLAN
VE1	WBL ELECTRICAL PLAN
VE2	EBL ELECTRICAL PLAN
VA1	EBL FLOOR PLAN/ SCHEDULES
VA2	EBL ELEVATIONS
VA3	EBL CEILING PLAN
VA4	EBL DEMO PLAN

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-40 REST AREA & VENDING
Address: MCDOWELL NORTH CAROLINA
Proposed Use: BUSINESS (REST AREA)
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 MCDOWELL

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

DESIGNER	FIRM NAME:	LICENSE #	TELEPHONE #	E-MAIL
Architectural	NCDOT VICTOR M. BUZARD	4241	(919)715-9339	vbuzard@ncdot.gov
SITE "Civil"	NCDOT ROBERT N. KOPETSKY	1447	(919)733-2920	bkopetsky@ncdot.gov
Electrical	TRIANGLE ENGINEERING JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Fire Alarm				
Plumbing	TRIANGLE ENGINEERING JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Mechanical	TRIANGLE ENGINEERING RICHARD R. KEIL	16343	(919)678-6107	rkeil@triangleengineers.com
Sprinkler-Standpipe				
Structural	NCDOT W.E. RATTERREE	16384	(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 12'-0" 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
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 ☐ 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*
1	Business(B)	2,720	9,000	NOT USED	NOT USED	9,000	9,000

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 12'-0"	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[2] NUMBER OF EXITS		TRAVEL DISTANCE		EGRESS (SECTION 1014.2) ARRANGEMENT MEANS OF 1,3	
	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
Business	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)		EXIT WIDTH (in)=A/AXB REQUIRED WIDTH (SECTION 1005.1) (o+b)xc		ACTUAL WIDTH SHOWN ON PLANS	
				STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL
Business	2,427	100	24	N/A	.2	N/A	4.8"	N/A	66"
Storage/Mech	293	300	1	N/A	.2	N/A	.19"	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: 15 psf
Wind Load: Basic Wind Speed 90 mph (ASCE-7-02); Exposure Category B; Wind Base Shears (for MWFRS) Vx = 6,500# Vy = 8,700#
SEISMIC DESIGN CATEGORY: A
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 0.350 %g S_1 0.105 %g
Site Classification D ☐Field Test ☒Presumptive
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= 9000# Vy= 9000#
Analysis Procedure X Simplified ____Equivalent Lateral Force ____Modal
Architectural, Mechanical, Components anchored? YES
LATERAL DESIGN CONTROL: Earthquake X Wind ____
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 2000 psf

Rest Area Total Occupants is 25 Persons x 75% = 19 Persons by Code, [fixtures #'s provided]

USE	WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
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		# OF ACCESSIBLE SPACES PROVIDED PROVIDED		REGULAR WITH 5' ACCESS AISLE		VAN SPACES WITH 8' ACCESS AISLE		ACCESSIBLE PROVIDED TOTAL #	
LANE DIRECTION	E.B.L	W.B.L	E.B.L	W.B.L	E.B.L	W.B.L	E.B.L	W.B.L	E.B.L	W.B.L
CARS			52	44	2	2	1	1	3	3
CAR/TRAILER			6	5						
TRUCKS			12	11						
TOTAL			70	60						

SPECIAL APPROVALS: N/A

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: 7a
Heating Degree days (base 65 degrees F): 3611
Cooling Degree days (base 50 degrees F): 4154
Project Type: New Construction
Vertical Glazing/Wall Area Pct.: N/A
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	2720	0.0	38.0	0.032	0.034
SKYLIGHT 1: WOOD FRAME, DOUBLE PANE, CLEAR WITHOUT CURB, SHGC 0.01	64	–	–	0.800	0.690
EXTERIOR WALL 1: WOOD FRAME, 16" O.C.	1691	0.0	19.0	0.044	0.089
WINDOW 1: WOOD FRAME DOUBLE PANE WITH LOW-E CLEAR, SHGC 0.70, PF 1.00	361	–	–	0.590	.570
FLOOR 1: UNHEATED SLAB-ON-GRADE, HORIZONTAL WITHOUT VERTICAL 2 FT.	228	–	7.5	–	–

ENVELOPE PASSES: DESIGN 20% BETTER THAN CODE

ELECTRICAL SUMMARY: SEE ELECTRICAL

MECHANICAL SUMMARY: SEE MECHANICAL

SYMBOLS

- SILT FENCE
- ELEVATION MARK
- DRAINAGE / SLOPE ARROW
- 80 EXISTING CONTOURS
- EXISTING ELEVATION
- 80 NEW CONTOURS
- NEW ELEVATION
- EXISTING TREE
- FIRE EXTINGUISHER
- RIGID INSULATION
- BATT INSULATION / BLOWN
- DRYWALL OR PLASTER
- GRAVEL
- UNDISTURBED EARTH
- COMPACTED FILL
- REVISION NUMBER
- E2 / RA5 ELEVATION NUMBER / DRAWING SHEET NUMBER
- E1 / RA5 DRAWING NUMBER / DRAWING SHEET REFERENCE NUMBER
- E2 / RA1 BUILDING OR WALL SECTION NO. / DRAWING SHEET NUMBER
- CMU
- CONCRETE
- STEEL
- ROUGH CARPENTRY
- FINISH CARPENTRY

ABBREVIATIONS & SYMBOLS

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

PROJECT:
I-40 REST AREA
MCDOWELL 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: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 5-11-10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL– AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

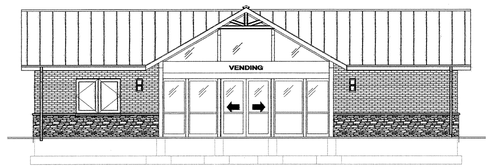
SHEET NO. T1 OF 2

S:\PDW\REST AREA, WELCOME CENTERS\I-40 Mcdowell Co\Arch\NEW\T1.dwg, 5/13/2010 10:08:43 AM, \\dot-ftppp01\PD206972

I-40 REST AREA & VENDING

NEW VENDING BUILDING (WEST BOUND) & REMODELING (EAST BOUND)

MCDOWELL COUNTY, NORTH CAROLINA



EAST BOUND

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-40 REST AREA & VENDING
Address: MCDOWELL, NORTH CAROLINA
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 MCDOWELL

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

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	NCDOT	VICTOR M. BUZZARD	4241	(919) 715-9339	vbuzzard@ncdot.gov
SITE "Civil"	NCDOT	ROBERT N. KOPETSKY	1447	(919) 733-2920	bkopetsky@ncdot.gov
Electrical	TRIANGLE ENGINEERING	JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Fire Alarm					
Plumbing	TRIANGLE ENGINEERING	JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Mechanical	TRIANGLE ENGINEERING	RICHARD R. KEIL	16343	(919)678-6107	rkeil@triangleengineers.com
Sprinkler-Standpipe					
Structural	NCDOT	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 12'-7" 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 12'-7"	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[2] NUMBER OF EXITS		TRAVEL DISTANCE		EGRESS (SECTION 1014.2) ARRANGEMENT MEANS OF 1,3	
	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	1	2	300'	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 (in)[2,3,4,5,8]	
						REQUIRED WIDTH (SECTION 1005.1) (a+b)xc	ACTUAL WIDTH SHOWN ON PLANS
				STAIR	LEVEL	STAIR LEVEL	STAIR LEVEL
Storage	1,557	300	6	N/A	.2	N/A 1.04"	N/A 132"

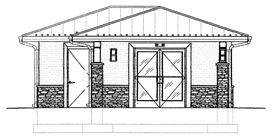
STRUCTURAL DESIGN: N/A

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



WEST BOUND

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-40 REST AREA & VENDING
Address: MCDOWELL, NORTH CAROLINA
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 MARION ☐County MCDOWELL

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

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	NCDOT	VICTOR M. BUZZARD	424	(919) 715-9339	vbuzzard@ncdot.gov
SITE "Civil"	NCDOT	ROBERT N. KOPETSKY	1447	(919) 733-2920	bkopetsky@ncdot.gov
Electrical	TRIANGLE ENGINEERING	JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Fire Alarm					
Plumbing	TRIANGLE ENGINEERING	JOEL HOBBY	7911	(919)678-6107	jhobby@triangleengineers.com
Mechanical	TRIANGLE ENGINEERING	RICHARD R. KEIL	16343	(919)678-6107	rkeil@triangleengineers.com
Sprinkler-Standpipe					
Structural	NCDOT	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 ____ 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'-8" Number of Stories 1
Mezzanine: ☒No ☐Yes
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
1st Floor		408sf	408sf
TOTAL		408sf	408sf

ALLOWABLE AREA
Primary Occupancy: ☐Assembly ☐A-1 ☐A-2 ☐A-3 ☐A-4 ☐A-5
☐Business ☐Educational Factory ☐F-1 Moderate ☐F-2 Low ☐A-4 ☐A-5
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	408	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'-6"	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[2] NUMBER OF EXITS		TRAVEL DISTANCE		EGRESS (SECTION 1014.2) ARRANGEMENT MEANS OF 1,3	
	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	1	3	300'	15'	N/A	15'

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 (in)[2,3,4,5,8]	
						REQUIRED WIDTH (SECTION 1005.1) (a+b)xc	ACTUAL WIDTH SHOWN ON PLANS
				STAIR	LEVEL	STAIR LEVEL	STAIR LEVEL
Storage	408	300'	2	N/A	.2	N/A 0.27"	N/A 180"

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: 15 psf

Wind Load: Basic Wind Speed 90 mph (ASCE-7-05)
Exposure Category B
Wind Base Shears (for MWFRS) Vx = 2,300# Vy = 2,750#

SEISMIC DESIGN CATEGORY: A
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 0.350 %g S_1 0.105 %g
Site Classification D ☐Field Test ☒Presumptive
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= 2900# Vy= 2900#
Analysis Procedure X Simplified ____ Equivalent Lateral Force ____ Modal
Architectural, Mechanical, Components anchored? YES
LATERAL DESIGN CONTROL: Earthquake X Wind ____
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) 2000 psf

Adjacent Rest Area provides fixtures for the 2 occupants that may occupy the bldg. temporarily.

ACCESSIBLE PARKING: SEE SHEET T1

SPECIAL APPROVALS: N/A

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: 4
Heating Degree days (base 65 degrees F): 3611
Cooling Degree days (base 50 degrees F): 4154
Project Type: Non- Residential
Vertical Glazing/Wall Area Pct.: 8%
Building Type: Retail (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	408	0.0	38.0	0.025	0.034
EXTERIOR WALL 1: WOOD FRAMED, 16" O.C.	715	0.0	19.0	0.044	0.089
DOOR: INSULATED METAL, SWINGING	21	–	–	0.500	0.700
DOOR: GLASS (OVER 50% GLAZING), CLEAR, SHGC 0.70, PF 1.00	56	–	–	0.500	0.570
FLOOR 1: UNHEATED SLAB-ON-GRADE, HORIZONTAL W/ VERTICAL 2 FT.	408	–	7.5	–	–

ENVELOPE PASSES: DESIGN 12% BETTER THAN CODE

PROJECT:
I-40 REST AREA
MCDOWELL 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: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZZARD REGISTERED ARCHITECT 4241 5-11-10 NORTH CAROLINA RALEIGH, N.C.

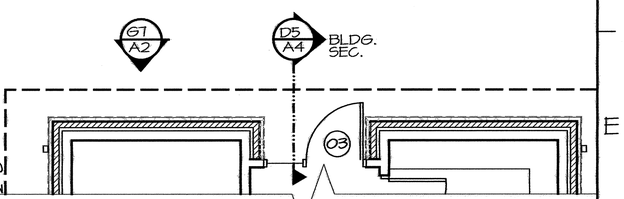
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. T2 OF 2

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 EXCEPT VESTIBULES 101, 102, LOBBY 103 AND CORRIDOR 109.
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 RESTROOM 107. PROVIDE SOLID WOOD BLOCKING FOR ALL TOILET PARTITIONS & ACCESSORIES.
8. OMIT
9. PAINT SUPPORT COLUMNS AGAINST GLASS BLOCK GRAY.
10. PROVIDE ENTRANCE MAT. & ALUM. RECESS FRAME. (SEE F2A2 & D2A2).
11. SEE SIGN SECTIONS 10425 FOR FIRE EXTINGUISHER SIGN OF THE SPEC.
12. CAULK ALL INSIDE CORNERS AT TILE WALLS.
13. SEE SPECIFICATIONS FOR FINISHES, EQUAL OR COMPETITIVE MANUFACTURERS.



D3 A1 WB. REAR ENTRANCE
SCALE 1/4" = 1'-0" (WEST BOUND ONLY)

NOTE:
1. SEE SHEET A7 FOR WALLS / FLOOR TILE PATTERN

A6 A1 FLOOR PLAN
SCALE 1/4" = 1'-0"

PROJECT:
I-40 REST AREA
MCDOWELL 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**

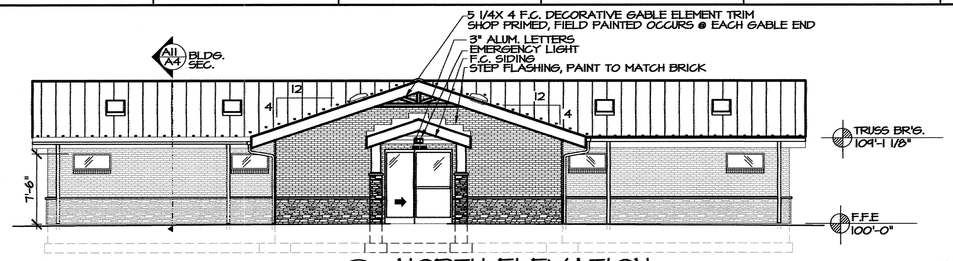
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD REGISTERED ARCHITECT 4241 6-7-10 NORTH CAROLINA RALEIGH, N.C.

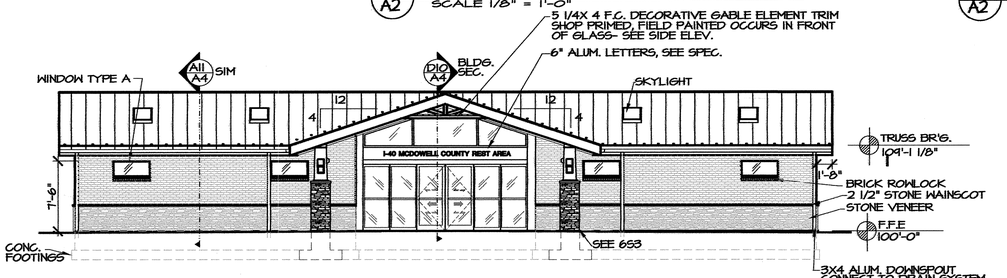
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

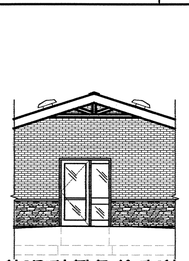
SHEET NO. **A1** 1 OF 7



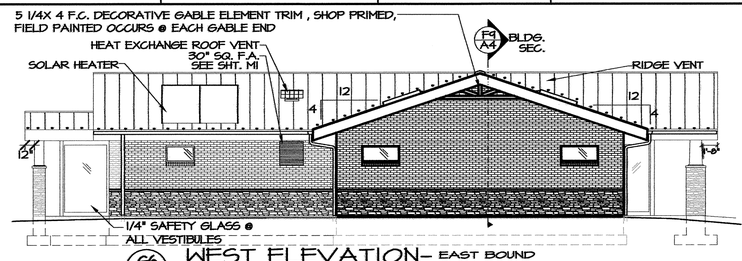
E10 A2 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



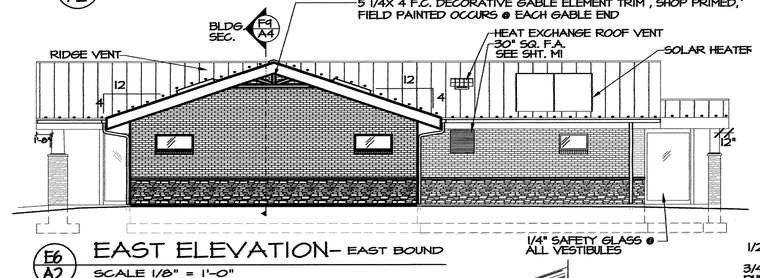
E10 A2 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



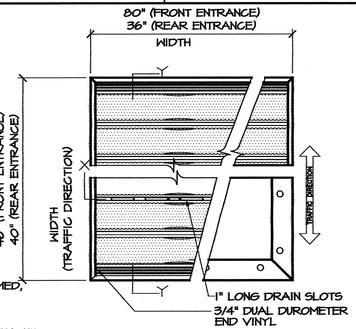
G1 A2 NORTH ELEVATION
SCALE 1/8" = 1'-0" (WEST BOUND)



G6 A2 WEST ELEVATION- EAST BOUND
SCALE 1/8" = 1'-0"

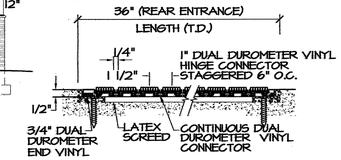


E6 A2 EAST ELEVATION- EAST BOUND
SCALE 1/8" = 1'-0"

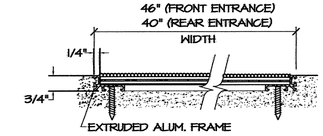


WITH BLOCK OUT FRAME

F2 A2 PLAN DETAIL
SCALE 1/2" = 1'-0"



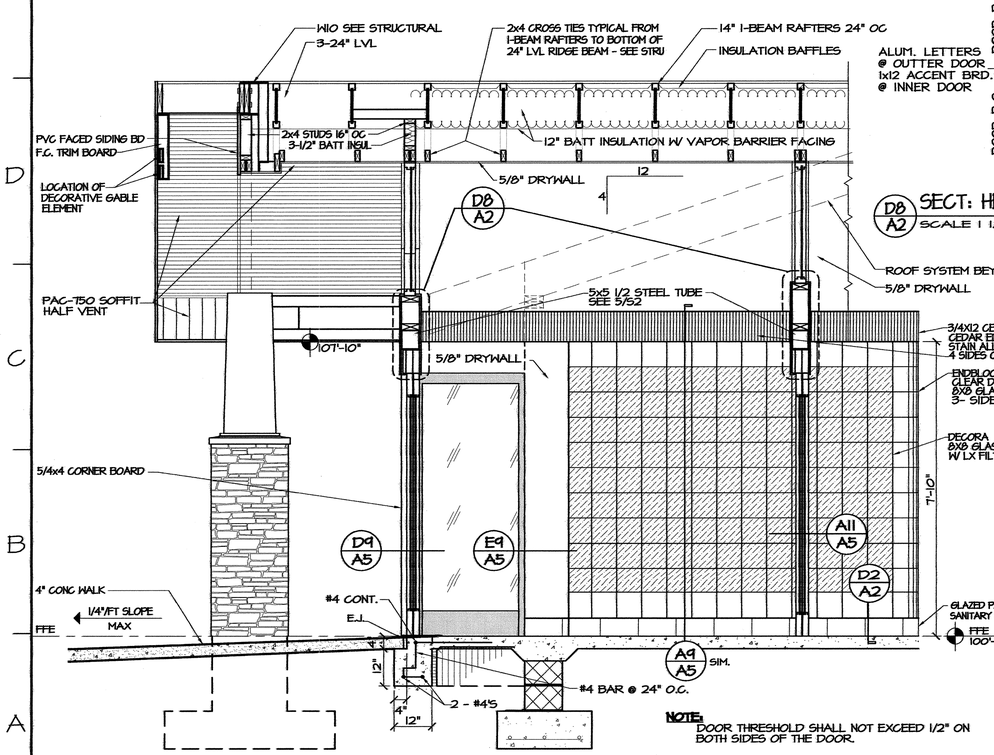
SECTION Y-Y



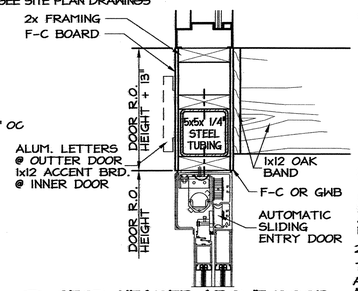
WITH BLOCK OUT FRAME

SECTION X-X

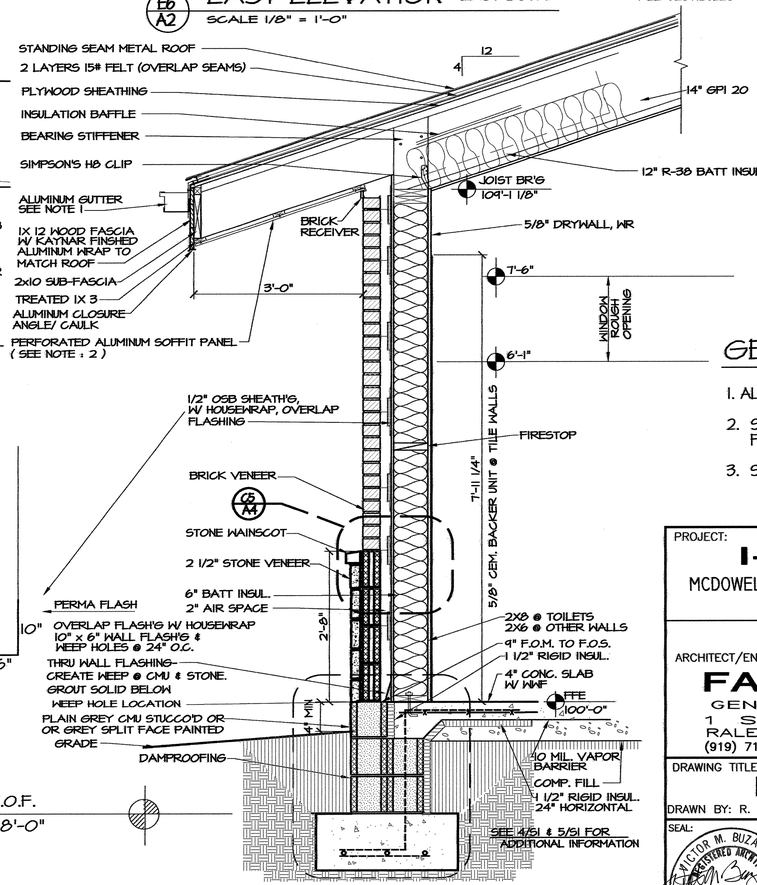
D2 A2 ENTRY MAT DETAIL
SCALE 1/2" = 1'-0"



A10 A2 SECTION- ENTRY
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"

GENERAL NOTES:

1. ALUMINUM GUTTER, W/ ANCHOR AT 24" O.C./ ROOF SPEC.
2. SEE SPEC. SECTION 07460 FOR EQUAL OR COMPETITIVE FINISH PRODUCT MANUFACTURING.
3. SEE BEARING HEIGHT NOTE ON SHEET S2.

PROJECT:
I-40 REST AREA
MCDOWELL 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: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

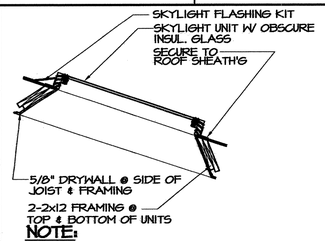
SEAL: VICTOR M. BUZARD REGISTERED ARCHITECT 4241 5-11-10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A2 2 OF 7

S:\FD\REST AREA, WELCOME CENTERS\I-40 Mcdowell Co\Arch\NEW\A2updated.dwg, 5/17/2010 3:47:30 PM, \\dot-tripp01\FD209072



NOTE:

LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN

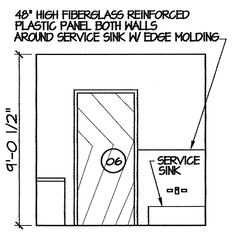
612/A3 DETAIL- SKYLIGHT

SCALE 1/2" = 1'-0"

NOTE:
SEE SPEC. FOR APPROVED EQUAL MANUFACTURERS

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.
4. ALUMINUM GUTTER, W/ ANCHOR AT 24" O.C.
5. ALUMINUM TRIM & FASCIA BOARDS.
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.



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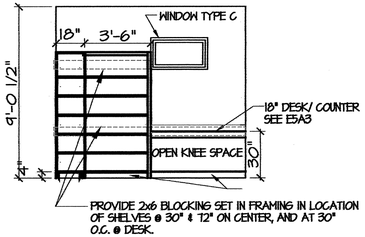

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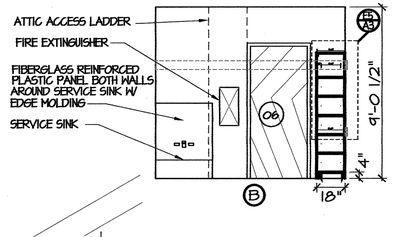

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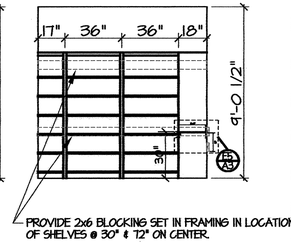

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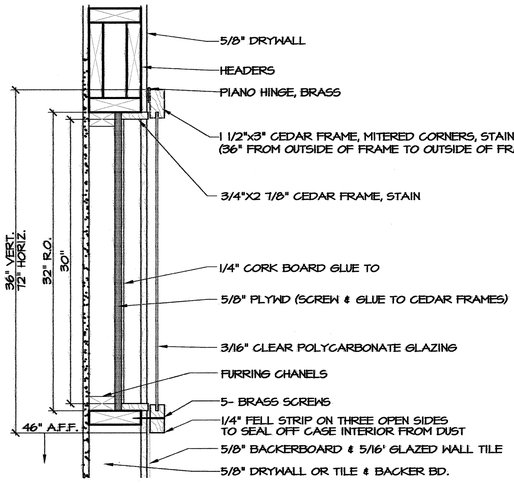
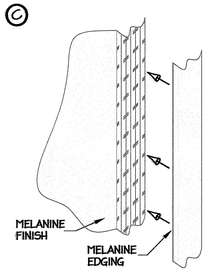
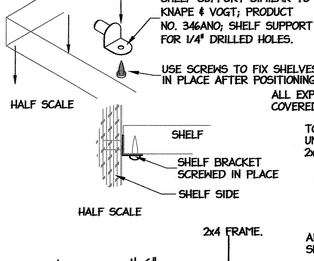
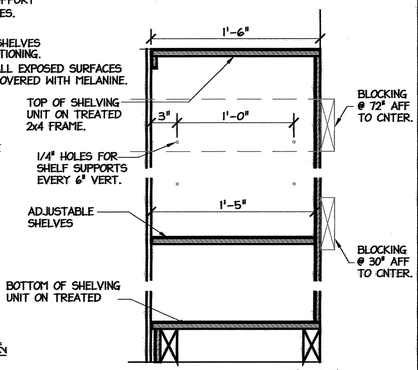


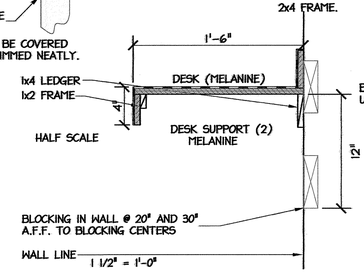
D1/A3 DETAIL- DISPLAY CASE

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



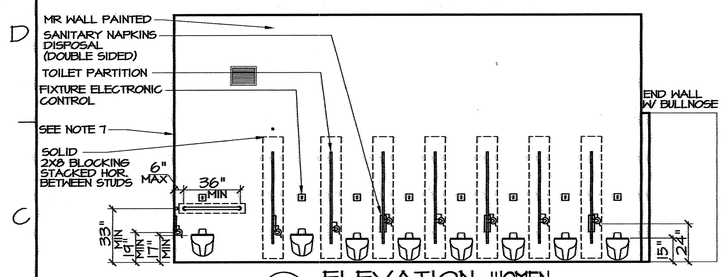






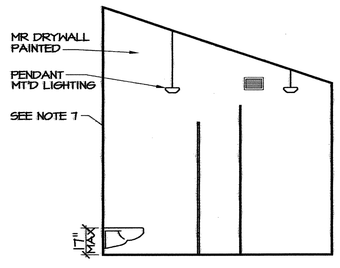
E5/A3 DETAILS & SECTIONS:@ SHELVES & DESK

SCALE: AS NOTED



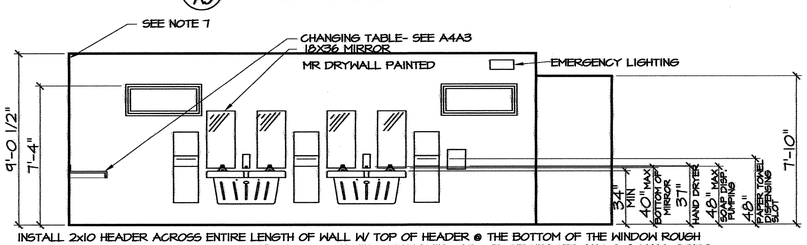
C11/A3 ELEVATION-WOMEN

SCALE 1/4" = 1'-0"



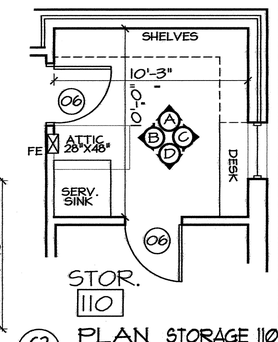
C8/A3 ELEVATION-WOMEN

SCALE 1/4" = 1'-0"



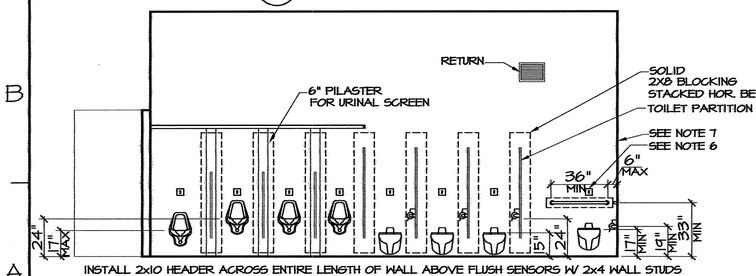
C5/A3 ELEVATION-WOMEN

SCALE 1/4" = 1'-0"



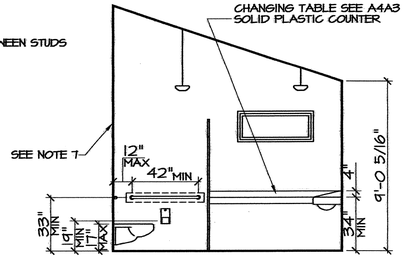
C2/A3 PLAN STORAGE 110

SCALE 1/4" = 1'-0"



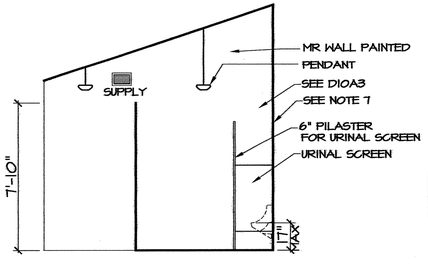
A12/A3 ELEVATION-MEN

SCALE 1/4" = 1'-0"



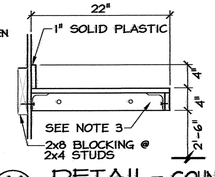
A8/A3 ELEVATION-MEN

SCALE 1/4" = 1'-0"



A6/A3 ELEVATION-MEN

SCALE 1/4" = 1'-0"



A4/A3 DETAIL- COUNTER

SCALE 1" = 1'-0"

PROJECT:

I-40 REST AREA

MCDOWELL 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:

ELEVATIOS/ WALL SECTION

DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

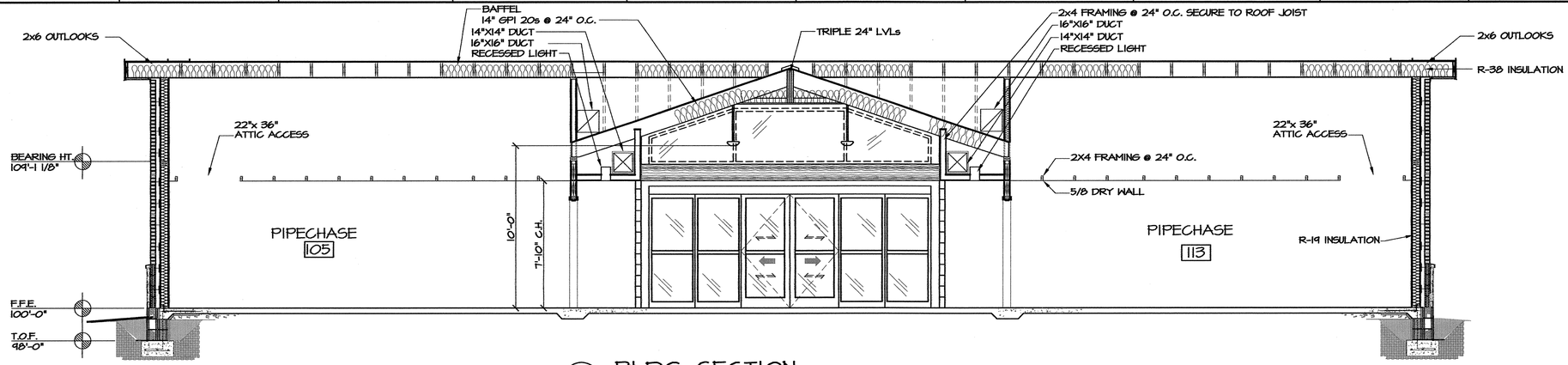
SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, 23410, NORTH CAROLINA, RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

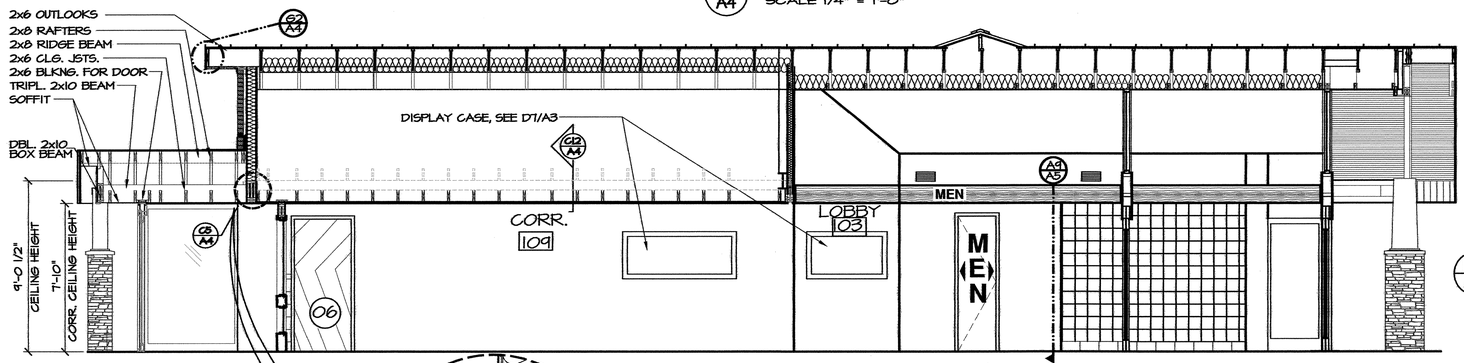
NO.	REVISIONS/SUBMISSIONS	DATE

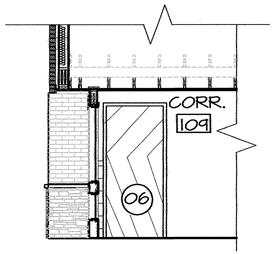
SHEET NO. A3 3 OF 7

S:\FD\REST AREA, WELCOME CENTERS\I-40 Mcdowell Co\Arch\NEW A3updated.dwg, 5/25/2010 1:37:52 PM, \\dot-thpp01\FD209072

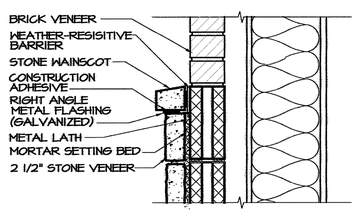


F9/A4 BLDG. SECTION
SCALE 1/4" = 1'-0"

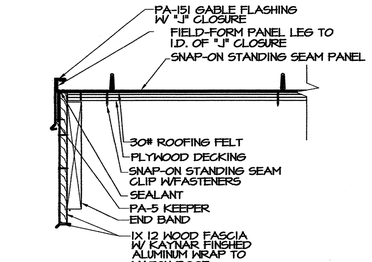




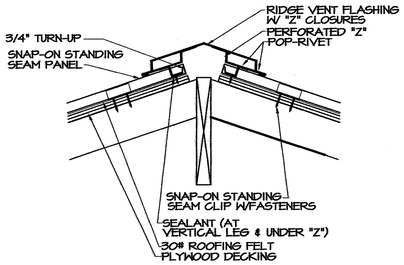
D5/A4 BLDG. SECTION (W/O REAR AIR LOCK)
SCALE 1/4" = 1'-0" (WEST BOUND ONLY)



C5/A4 WAINSCOT INSTALLATION
SCALE 1-1/2" = 1'-0"



62/A4 GABLE DETAIL
SCALE 1-1/2" = 1'-0"



E2/A4 VENTED RIDGE DETAIL
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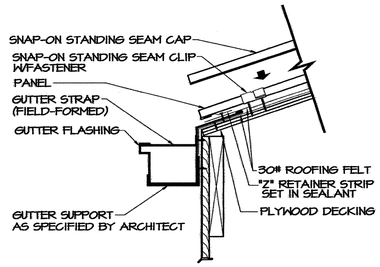
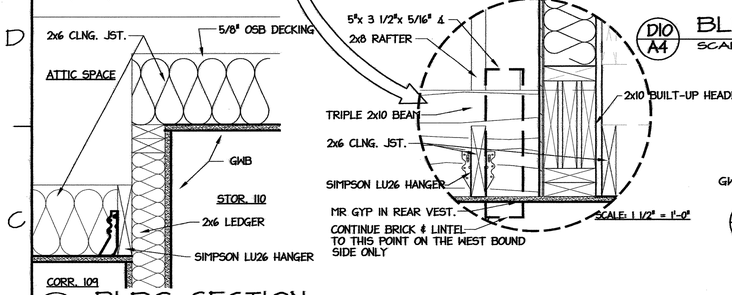
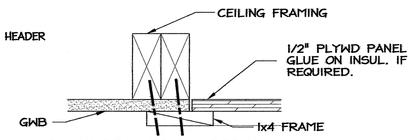


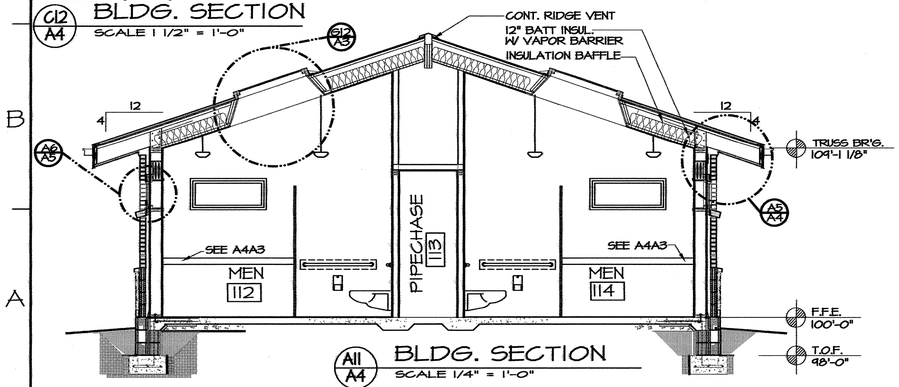
G2/A4 GUTTER DETAIL
SCALE 1-1/2" = 1'-0"



D10/A4 BLDG. SECTION (W/ REAR AIR LOCK)
SCALE 1/4" = 1'-0" (EAST BOUND ONLY)



C9/A4 SECT: ATTIC ACCESS
SCALE 3" = 1'-0"



A11/A4 BLDG. SECTION
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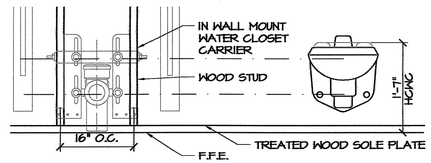
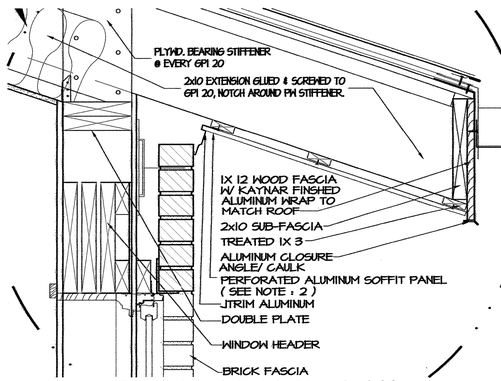


NOTES:

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



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

PROJECT:

I-40 REST AREA

MCDOWELL 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:

BLDG. SECTIONS

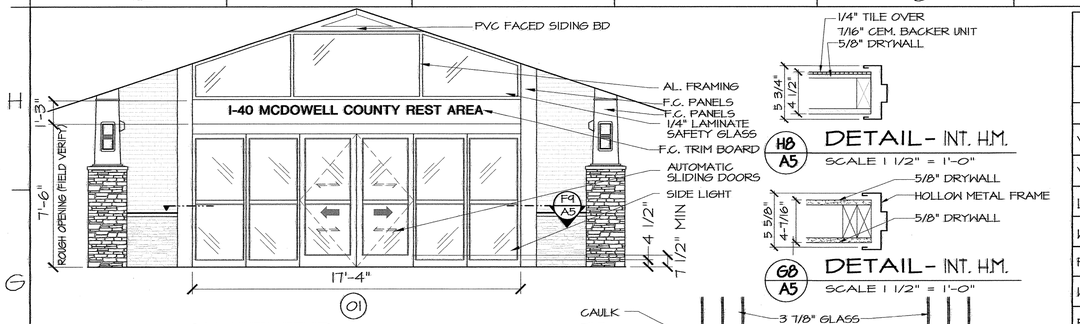
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

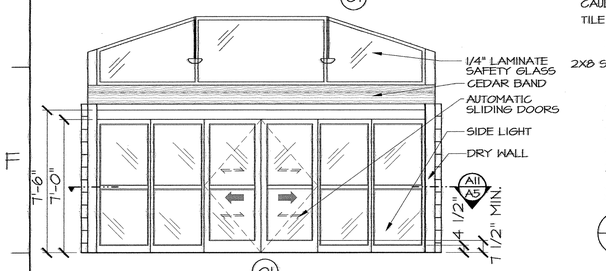
SEAL: VICTOR M. BUZARD REGISTERED ARCHITECT 4241 5-11-10 NORTH CAROLINA RALEIGH, N.C.

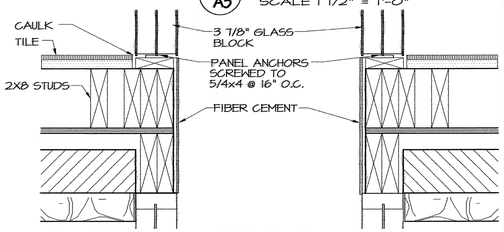
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

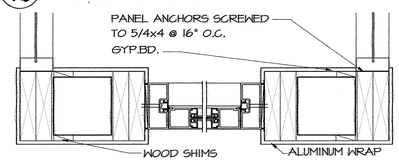
NO.	REVISIONS/SUBMISSIONS	DATE

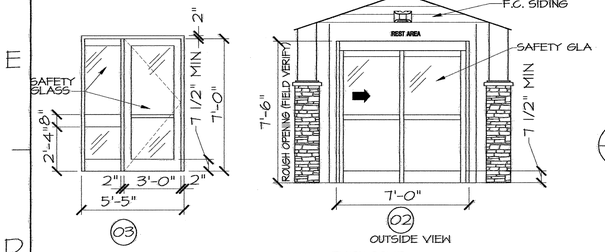
SHEET NO. A4 4 OF 6

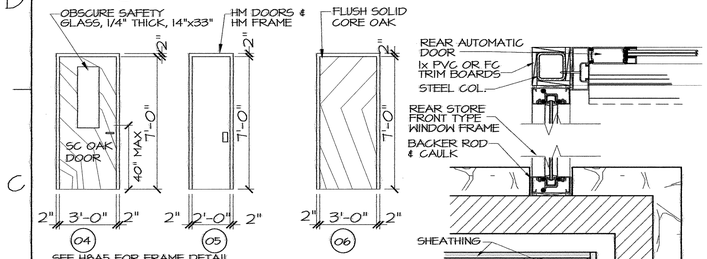


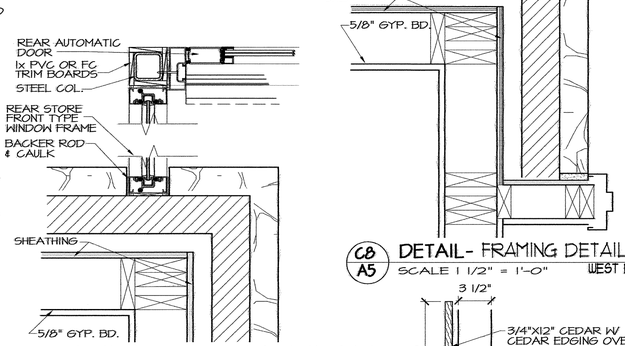


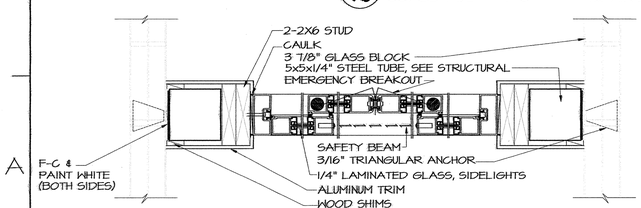


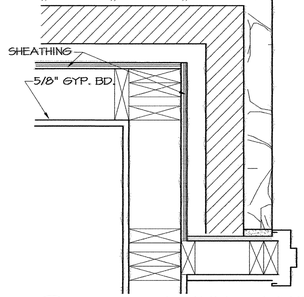


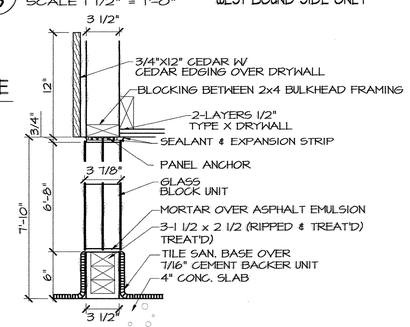


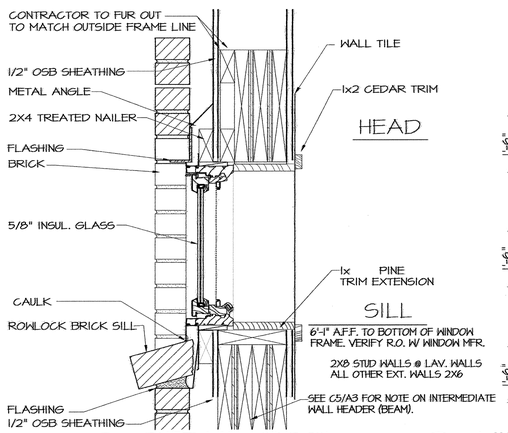


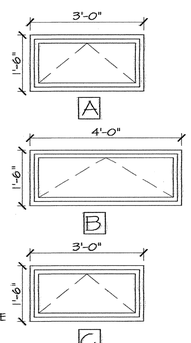












FINISH - COLOR SCHEDULE

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	SEE SPEC.	SEE SPEC.	SEE SPEC.	SEE SPEC.	-	SEE SPEC.	GB F-C	SEE SPEC.	-	SEE SPEC.	GB F-C	SEE SPEC.	T&G	SEE SPEC.	VARIES	1x6 CEDAR, CEILING
VESTIBULE	102	↓	↓	↓	↓	-	↓	*	↓	-	↓	*	↓	T&G	↓	VARIES	1x6 CEDAR, CEILING *:MATCH EXTERIOR
LOBBY	103	↓	↓	↓	↓	-	↓	TILE GB DW	↓	-	↓	TILE GB DW	↓	T&G	↓	VARIES	1x6 CEDAR, CEILING
WOMEN'S RESTRM	104	↓	↓	↓	↓	TILE	↓	TILE	↓	TILE	↓	TILE	↓	DW	↓	VARIES	WALL TILE, SEE A7
PIPECHASE	105	CONC.	↓	-	↓	OSB	↓	OSB	↓	OSB	↓	OSB	↓	DW	↓	7'-10"	
WOMEN'S RESTRM	106	SEE SPEC.	↓	SEE SPEC.	↓	TILE	↓	TILE	↓	TILE	↓	TILE	↓	DW	↓	VARIES	WALL TILE, SEE A7
RESTROOM	107	SEE SPEC.	↓	SEE SPEC.	↓	TILE	↓	TILE	↓	TILE	↓	TILE	↓	DW	↓	9'-0 1/2"	WALL TILE, SEE A7
MECHANICAL	108	CONC.	↓	R	↓	DW	↓	DW	↓	DW	↓	DW	↓	DW	↓	9'-0 1/2"	
CORRIDOR	109	SEE SPEC.	↓	SEE SPEC.	↓	-	↓	TILE	↓	-	↓	TILE	↓	DW	↓	7'-10"	
STORAGE	110	SEE SPEC.	↓	SEE SPEC.	↓	DW	↓	DW	↓	DW	↓	DW	↓	DW	↓	9'-0 1/2"	
MECHANICAL	111	CONC.	↓	R	↓	DW	↓	DW	↓	DW	↓	DW	↓	DW	↓	9'-0 1/2"	
MEN'S RESTRM	112	SEE SPEC.	↓	SEE SPEC.	↓	TILE	↓	TILE	↓	TILE	↓	TILE	↓	DW	↓	VARIES	WALL TILE, SEE A7
PIPECHASE	113	CONC.	↓	-	↓	OSB	↓	OSB	↓	OSB	↓	OSB	↓	DW	↓	7'-10"	PAINT WALLS
MEN'S RESTRM	114	SEE SPEC.	↓	SEE SPEC.	↓	TILE	↓	TILE	↓	TILE	↓	TILE	↓	DW	↓	VARIES	WALL TILE, SEE A7

DOOR - HARDWARE SCHEDULE

DOOR				FRAME		HARDWARE						REMARKS
MARK	SIZE	MAT.	COLOR	MAT.	COLOR	LOCKSET	HINGES	CLOSER	STOP	PLATE KICK	WEATHS'P/ THRESHOLD	PUSH/ PULL	
01	6'-0"X7'-0"	AL	SEE SPEC.	AL	SEE SPEC.	KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS W/ EMERGENCY EGRESS FUNCTION
02	3'-0"x7'-0"	AL		AL		KEY LOCK/EGRESS					ALUM.(1/2" MAX)		AUTO. SLIDING DOOR W/SIDELIGHTS
03	3'-0"x7'-0"	AL		AL			A5112	C02022	L02162		316A5/114/664		1/4" SAFETY GLASS
04	3'-0"x7'-0"x1 3/4"	SC		H.M.		F04	A5112	C02022	L02162	-	3/8" MARBLE	-	OBSCURE SAFETY GLASS, 1/4" THICK, 14"x33"
05	2'-0"x7'-0"x1 3/4"	H.M.		H.M.		F17	A5112	C02511		-	3/8" MARBLE	J403	DEAD BOLT LOCKSET & FLUSH PULL
06	3'-0"x7'-0"x1 3/4"	SC	↓	H.M.	↓	F01	A5112	C02022	L02162	-	3/8" MARBLE	-	

WINDOW SCHEDULE:

MARK:	OPENING SIZE:	FRAME: MAT.	FRAME: COLOR	REMARKS:
A	3'-0"x1'-6"	M. CLAD	SEE SPEC.	5/8" INSUL. GL. OBSCURE
B	4'-0"x 1'-6"	M. CLAD	↓	5/8" INSUL. GL. OBSCURE
C	3'-0"x 1'-6"	M. CLAD	↓	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)
TILE	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 (IC1 GLIDDEN "CHERRY" OR EQUAL, P&L OR SW)
F-C	FIBER-CEMENT / SIDING PANELS & TRIM CEDAR MILL EXTERIOR SIDING & TRIM
GLZ	GLAZING
GB	GLASS BLOCK
R	RUBBER

NOTE:
SEE SPEC. FOR APPROVED EQUAL MANUFACTURERS

PROJECT:
I-40 REST AREA
MCDOWELL 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:
SCHEDULES/ DETAILS

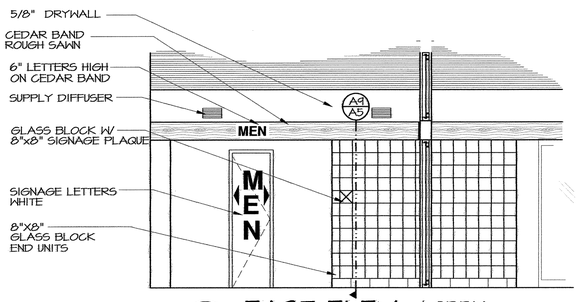
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 12410 12-18-09 NORTH CAROLINA RALEIGH, N.C.

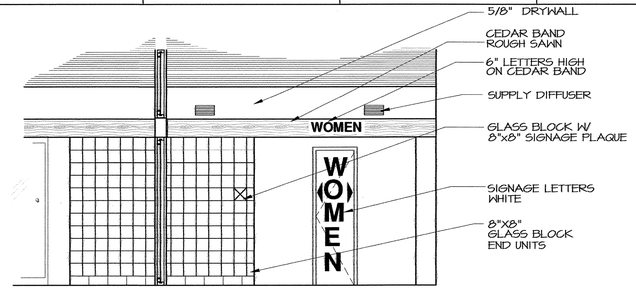
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

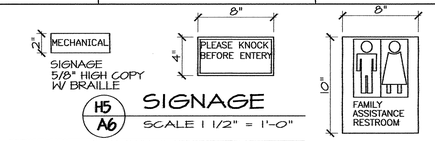
SHEET NO. A5 5 OF 7



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

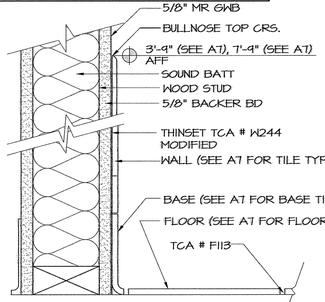


F9 A6 WEST ELEV.- LOBBY
SCALE 1/4" = 1'-0"



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

NOTE:
SEE SPEC. FOR APPROVED EQUAL MANUFACTURERS



F5 A6 SECTION.-TILE
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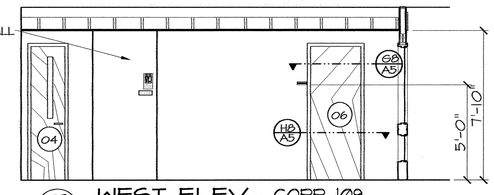
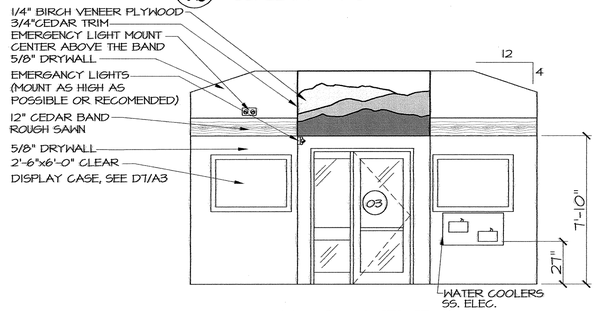


G3 A6 WEST ELEV.- CORR 109
SCALE 1/4" = 1'-0"



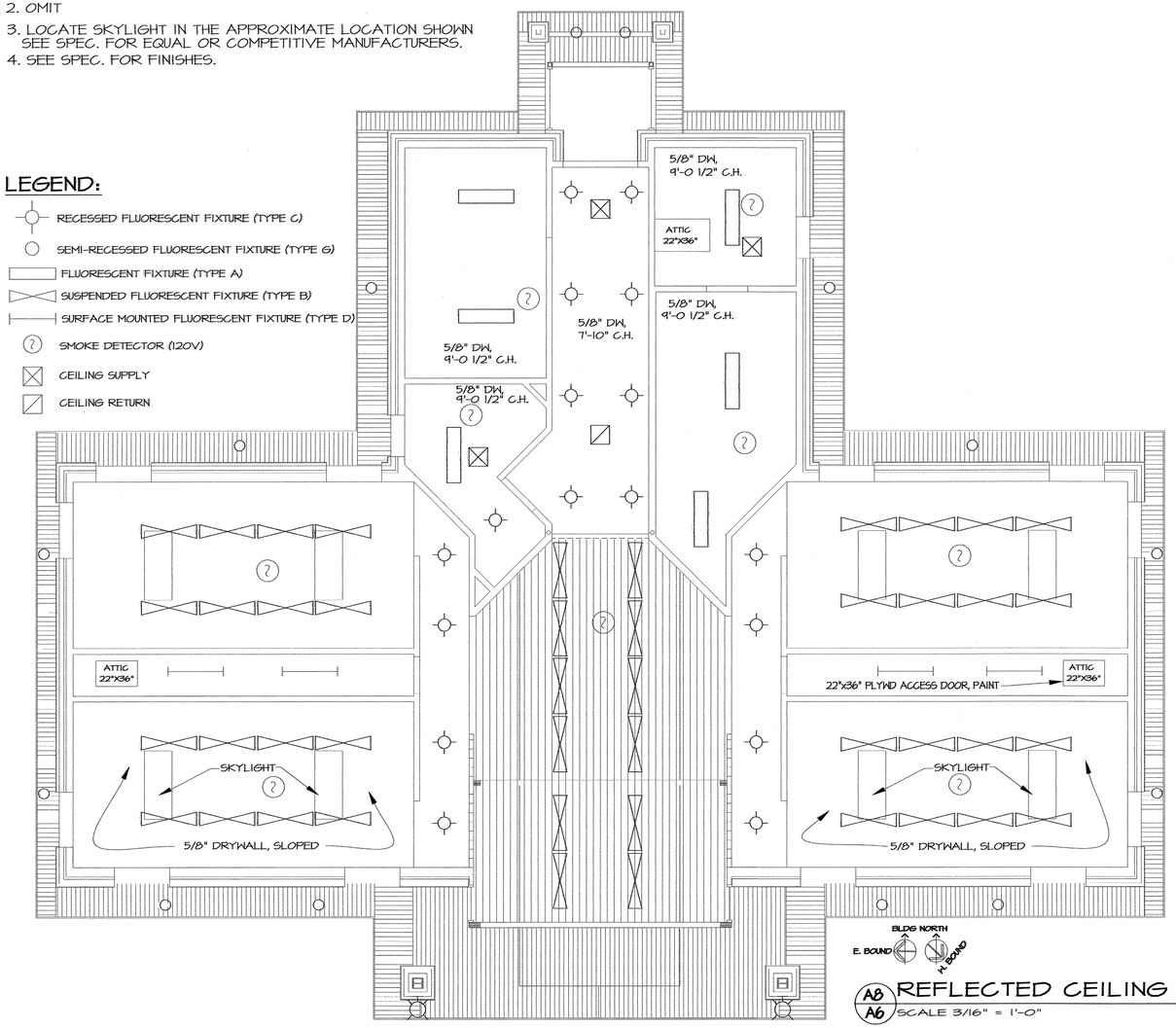
E2 A6 NORTH ELEV.- LOBBY
SCALE 1/4" = 1'-0"

GENERAL NOTES:

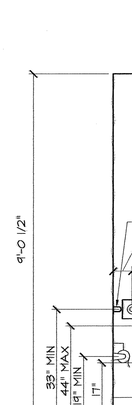
1. PROVIDE FRAMING FOR FIRE EXTINGUISHER CABINET PER MANUFACTURES RECOMMENDATIONS, SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
2. OMIT
3. LOCATE SKYLIGHT IN THE APPROXIMATE LOCATION SHOWN SEE SPEC. FOR EQUAL OR COMPETITIVE MANUFACTURERS.
4. SEE SPEC. FOR FINISHES.

LEGEND:

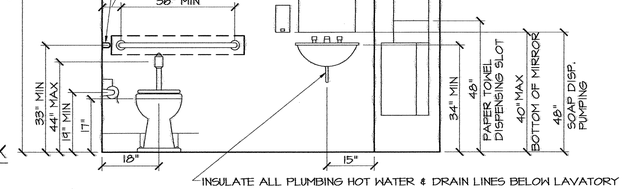
- RECESSED FLUORESCENT FIXTURE (TYPE C)
- SEMI-RECESSED FLUORESCENT FIXTURE (TYPE G)
- FLUORESCENT FIXTURE (TYPE A)
- SUSPENDED FLUORESCENT FIXTURE (TYPE B)
- SURFACE MOUNTED FLUORESCENT FIXTURE (TYPE D)
- (?) SMOKE DETECTOR (120V)
- CEILING SUPPLY
- CEILING RETURN



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

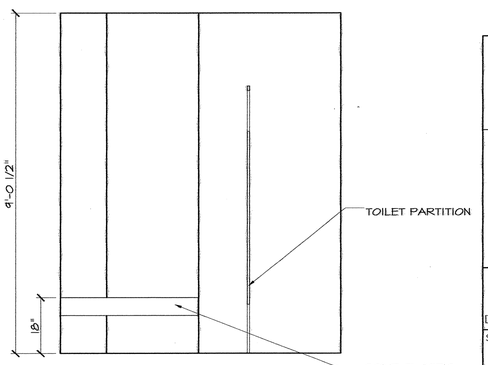


D6 A6 ENLARGED PLAN- UNISEX
SCALE 1/4" = 1'-0"



INSULATE ALL PLUMBING HOT WATER & DRAIN LINES BELOW LAVATORY
NOTE:
PROVIDE HAND DRYER 37" ABOVE THE FLOOR ON THE ADJACENT WALL

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



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

PROJECT:
I-40 REST AREA
MCDOWELL 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:
REFLECTED CEILING PLAN & DETAILS

DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

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

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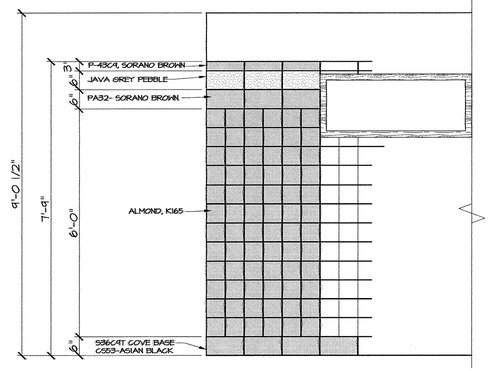
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A6
6 OF 7



FIELD 6"X 6":
DALTILE, ALMOND- K165

CORNER ENDS OF PIPECHASE WALL @ WOMENS: 104, 106
CORNER ENDS OF PIPECHASE WALL @ MENS: 112, 114

TRIM 3"X 12" (BULLNOSE):
DALTILE, P-43C4, SORANO BROWN

BORDER STRIP PIECE 6"X12":
ISLAND STONE BY DALTILE (CONTACT: G. BELL 919-846-7514)
SERIES: PERFECT PEBBLE BORDER
COLOR: JAVA GREY PEEBLE
SIZE: 6"x12" WALL MOUNTED

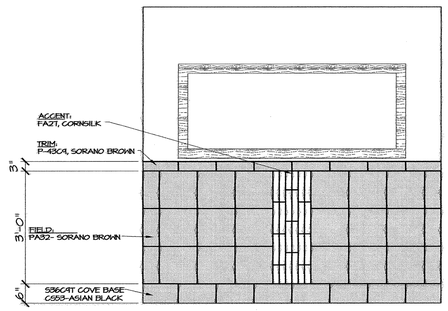
ACCENT BAND 6"X12":
DALTILE, PA32- SORANO BROWN

FIELD 6"X 6":
DALTILE, ALMOND- K165

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

F12 / A7 WOMEN # 104, 106 / RESTROOM # 107 / MEN # 112, 114
SCALE 1/2" = 1'-0"

NOTE:
1. CENTER TRIM, ACCENT BAND AND BASE ON DISPLAY CASE
2. STAGGER PATTERN AS SHOWN



TRIM 3"X 12" (BULLNOSE):
DALTILE, P-43C4, SORANO BROWN

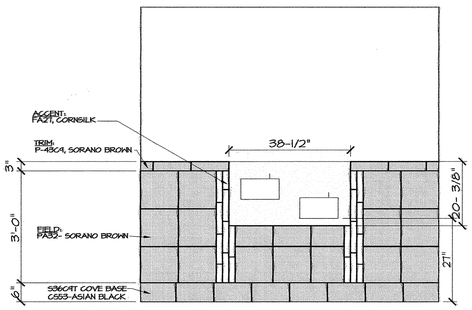
ACCENT 2"X 10" DECO:
DALTILE: FA21, CORNSILK

FIELD 12"X 12":
DALTILE, PA32- SORANO BROWN

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

D12 / A7 ANGLED WALL TILE @ LOBBE 103 (WOMEN'S SIDE)
SCALE 1/2" = 1'-0"

NOTE:
1. STAGGER PATTERN AS SHOWN



TRIM 3"X 12" (BULLNOSE):
DALTILE, P-43C4, SORANO BROWN

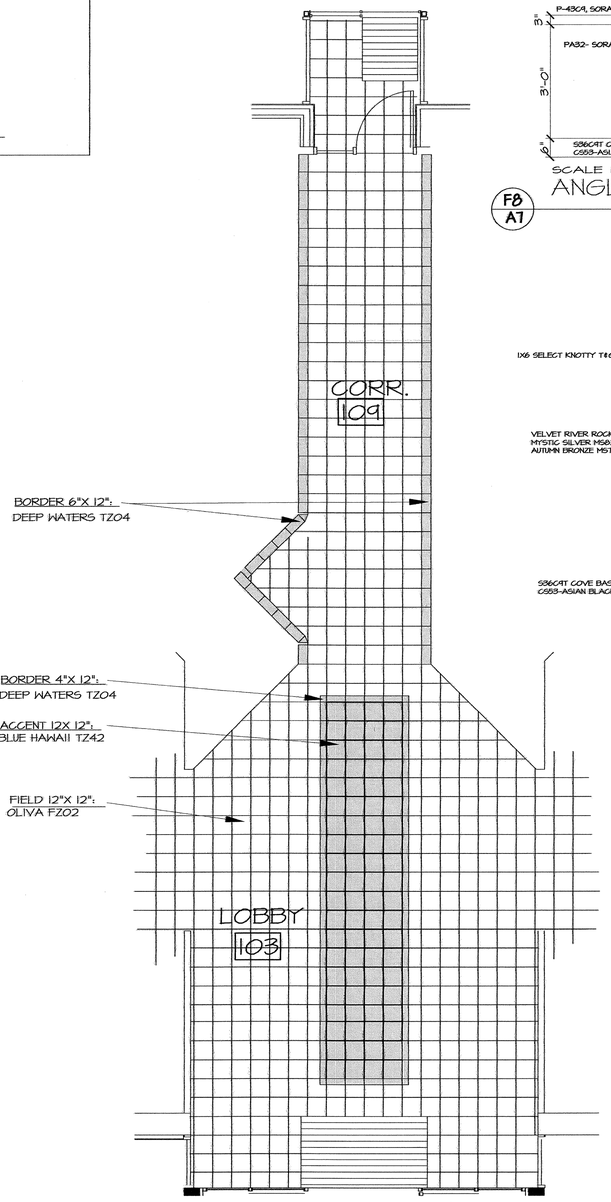
ACCENT 2"X 10" DECO:
DALTILE: FA21, CORNSILK

FIELD 12"X 12":
DALTILE, PA32- SORANO BROWN

FIELD 6"X 12":
DALTILE, PA32- SORANO BROWN

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

D8 / A7 ANGLED WALL TILE @ LOBBE 103 (MEN'S SIDE)
SCALE 1/2" = 1'-0"



A1 / A7 FLOOR TILE PATTERN
SCALE 1/4" = 1'-0"

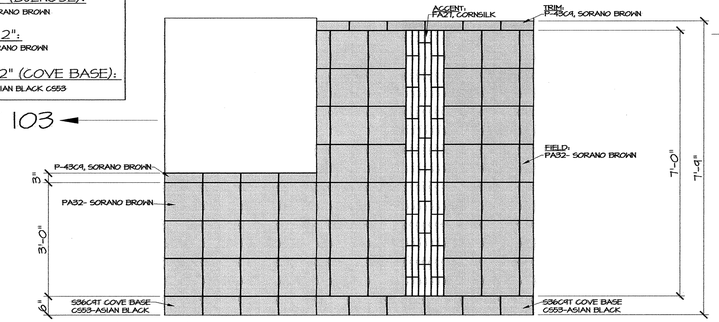
NOTE:
1. CENTER TRIM, ACCENT BAND AND BASE ON WALL
2. STAGGER PATTERN AS SHOWN

TRIM 3"X 12" (BULLNOSE):
DALTILE, P-43C4, SORANO BROWN

FIELD 12"X 12":
DALTILE, PA32- SORANO BROWN

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

LOBBY 103



WOMEN 106 & MEN 112

TRIM 3"X 12" (BULLNOSE):
DALTILE, P-43C4, SORANO BROWN

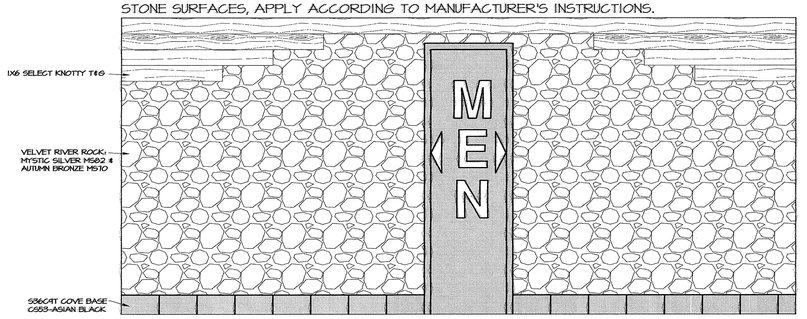
ACCENT 2"X 10" DECO:
DALTILE: FA21, CORNSILK

FIELD 12"X 12":
DALTILE, PA32- SORANO BROWN

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

SCALE 1/2" = 1'-0"
F8 / A7 ANGLED WALL LEADING INTO THE REAR MEN'S AND WOMEN'S

NOTE:
CONTRACTOR SHALL PROVIDE IMPREGNATING MASONRY SEALER FOR ALL MANUFACURED STONE SURFACES, APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.



TRIM (INSTALL AS SHOWN):
1X6 SELECT KNOTTY T&G

FIELD:
DALTILE, VELVET RIVER ROCK,
MYSTIC SILVER MS82
AUTUMN BRONZE MS70

BASE 6"X 12" (COVE BASE):
DALTILE, S-36CAT, ASIAN BLACK C553

D4 / A7 HALLWAY ENTRY TO WOMENS AND MENS
SCALE 1/2" = 1'-0"

NOTE:
1. TO LEVEL THE TILE AND ADJUST FOR THICKNESS DIFFERENCE A "MEDIUM BED THINEST MORTAR" FOR THE SETTING MATERIALS.

LOBBY 103:

BORDER 4"X 12" (HONED FINISH):
DALTILE, DEEP WATERS TZ04

ACCENT 12X 12":
DALTILE, BLUE HAWAII TZ42

FIELD 12"X 12":
DALTILE, OLIVA FZ02

CORRIDER 109:

BORDER 6"X 12" (HONED FINISH):
DALTILE, DEEP WATERS TZ04

FIELD 12"X 12":
DALTILE, OLIVA FZ02

WOMEN: 104, 106
MEN: 112, 114
RESTROOM: 107
STORAGE: 110

FIELD 12"X 12":
DALTILE, OLIVA FZ02

PROJECT:
I-40 REST AREA
MCDOWELL 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:
WALL TILE PATTERN

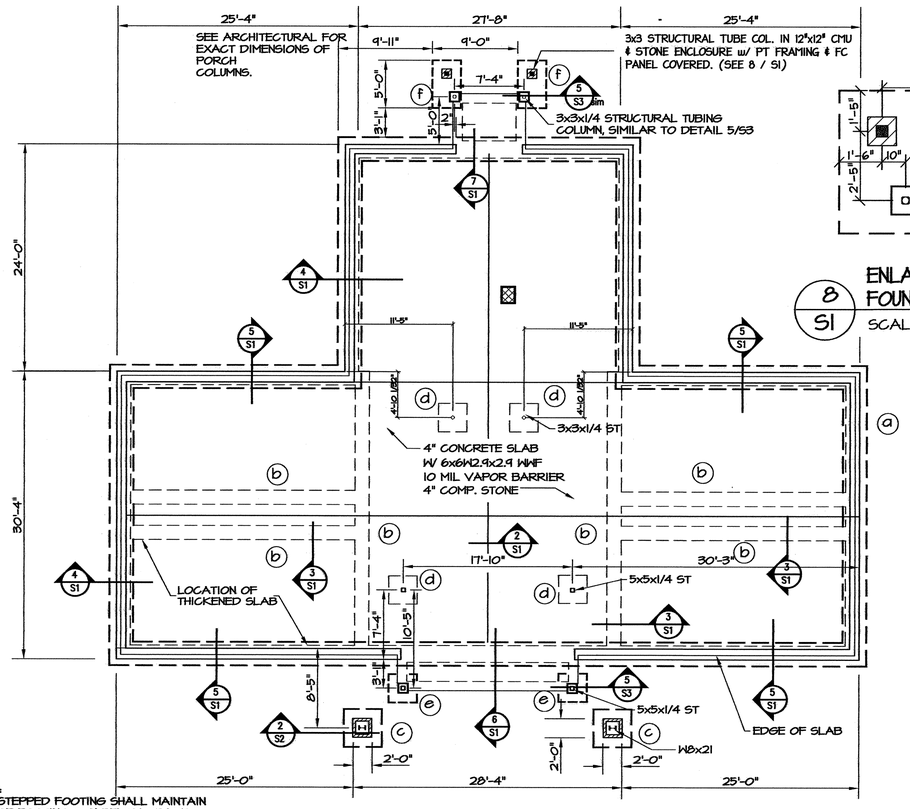
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 6-7-10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. A7 7 OF 7

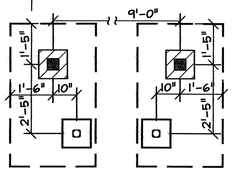


NOTE:
ANY STEPPED FOOTING SHALL MAINTAIN TOP OF FOOTING @ 2' BELOW GRADE.
REINFORCING SHALL BE INCREASED IN THIS AREA PER 4/S1 AND 5/S1.

1/S1 FOUNDATION PLAN

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

NOTE: SEE ARCHITECTURAL FOR FLOOR DRAIN LOCATIONS AND SLOPE OF REST ROOM FLOORS.



8/S1 ENLARGED REAR ENTRY FOUNDATION PLAN

SCALE: 3/8" = 1'-0"

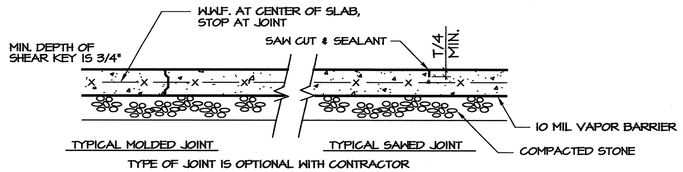
FOOTING SCHEDULE

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
ⓓ	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
ⓕ	3'-0" x 5'-0" x 1'-0" FOOTING	6 -#4'S SHORT WAY 3 -#4'S LONG WAY

NOTE: ALL FOOTINGS ARE ⓐ U.O.N.

NOTES:

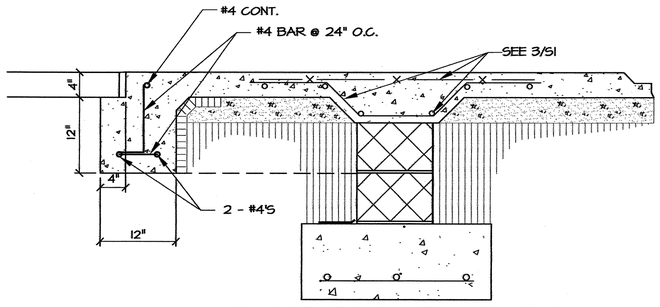
1. DESIGN SOIL BEARING CAPACITY = 2000 PSF (PRESUMPTIVE)
2. DESIGN FLOOR SLAB LIVE LOAD = 100 PSF
3. DESIGN ROOF LIVE LOAD = 20 PSF
4. DESIGN GROUND SNOW LOAD, Pg = 15 PSF
5. DESIGN WIND VELOCITY = 90 MPH, WIND EXPOSURE CAT. B.
6. COMPRESSIVE STRENGTH OF CONCRETE f'c IN FLOOR SLAB SHALL BE MIN. OF 3000 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.



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

2/S1 TYP. CONTROL JOINT

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



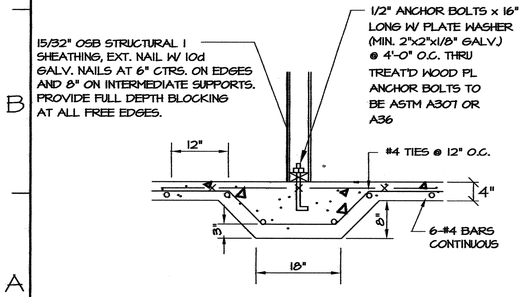
6/S1 THICKENED SLAB @ ENTRY

SCALE: 1" = 1'-0"

7/S1 THICKENED SLAB @ ENTRY

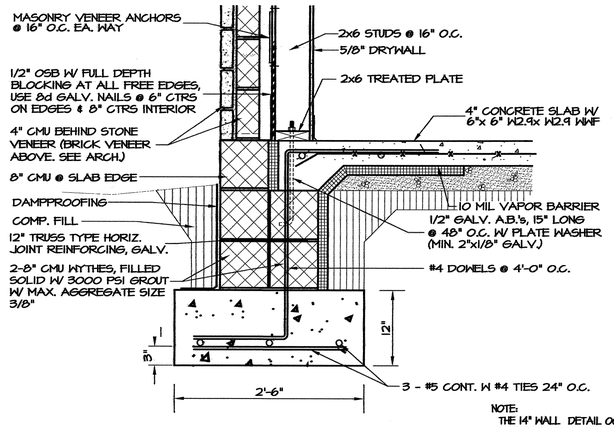
SCALE: 1" = 1'-0"

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



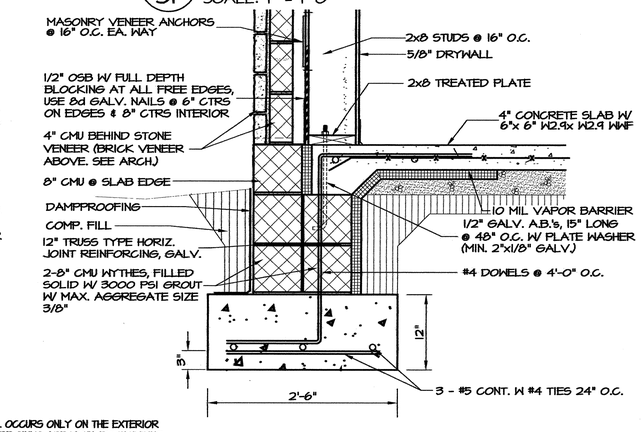
3/S1 DETAIL- INTERIOR FOOTING

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. THE 14" DIMENSION IS FROM THE INSIDE FACE OF THE FINISHED WALL TO THE OUTSIDE FACE OF THE UNIT MASONRY, NOT TO THE OUTER FACE OF THE STONE.

5/S1 14" WALL DETAIL

SCALE: 1" = 1'-0"

PROJECT:

I-40 REST AREA

MCDOWELL 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:

FOUNDATION PLAN & SECTIONS

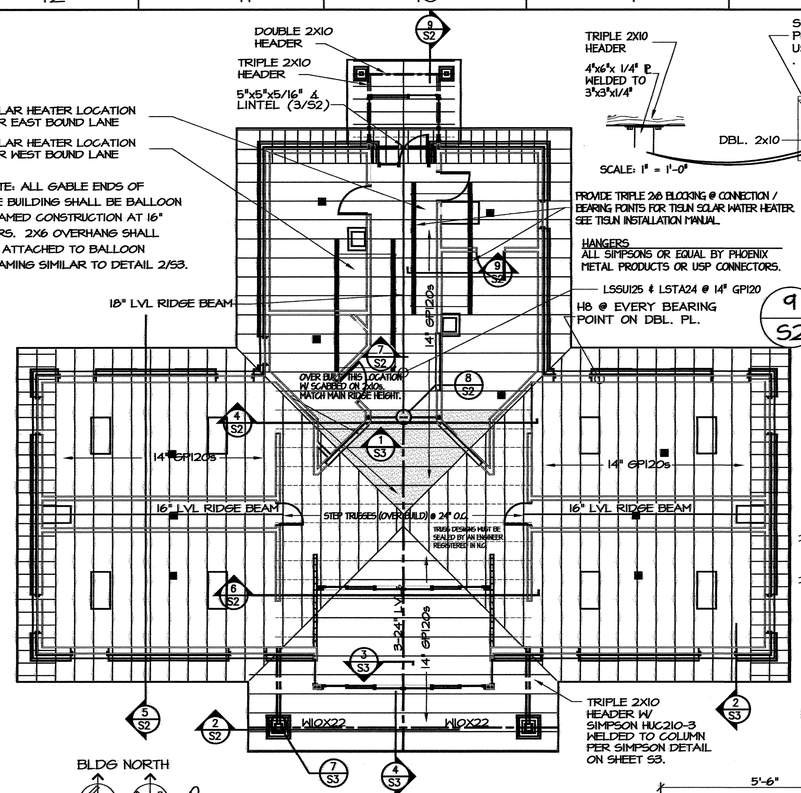
DRAWN BY: C.L.S. / R.A. CHECKED BY: W.E. RATTERREE ISSUE DATE: 27 OCTOBER 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16394 WILLIAM RATTERREE

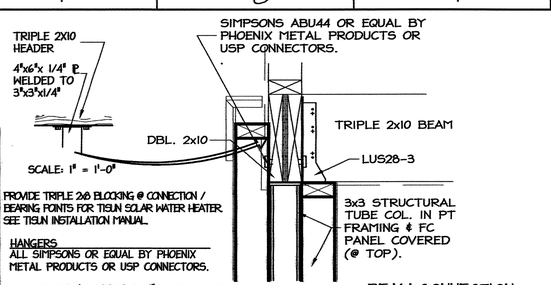
TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

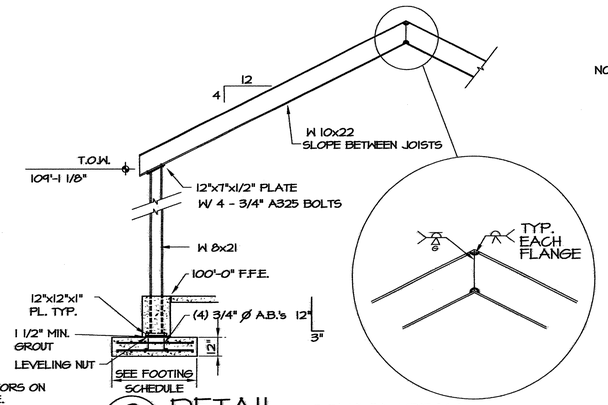
SHEET NO. **S1**



1 / S2 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

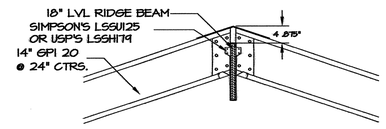


9 / S2 DETAIL- BEAM CONNECTION @ ALT. TUBE COLUMN
SCALE: 1 1/2" = 1'- 0"

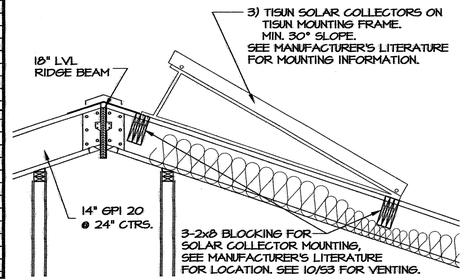


2 / S2 DETAIL- COLUMN & BEAM
SCALE: 1/4" = 1'- 0"

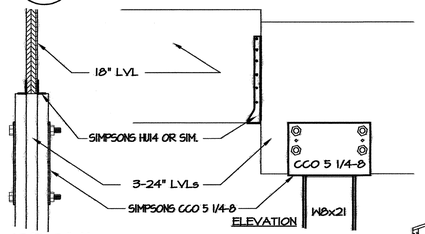
NOTE: 9'-1 1/8" BEARING HEIGHT IS BASED ON A 104 5/8" STUD LENGTH, IF STANDARD STUDS ARE SHIPPED WITH A FRACTIONAL VARIATION, IT WILL BE THE GC's RESPONSIBILITY TO MAKE THE MINOR BEARING HEIGHT ADJUSTMENTS AND INFORM THE STEEL FABRICATOR AND ANY OTHER TRADE THIS MINOR ADJUSTMENT MAY INVOLVE.



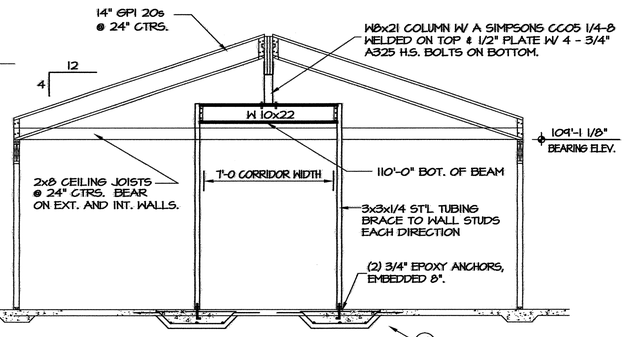
7 / S2 DETAIL- ROOF RIDGE OVER CORRIDOR
SCALE: 1/2" = 1'- 0"



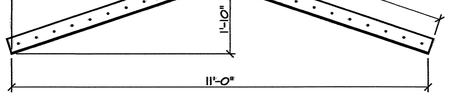
9 / S2 SECT.- THRU BLOCKING @ SOLAR COLLECTOR
SCALE: 1/2" = 1'- 0"



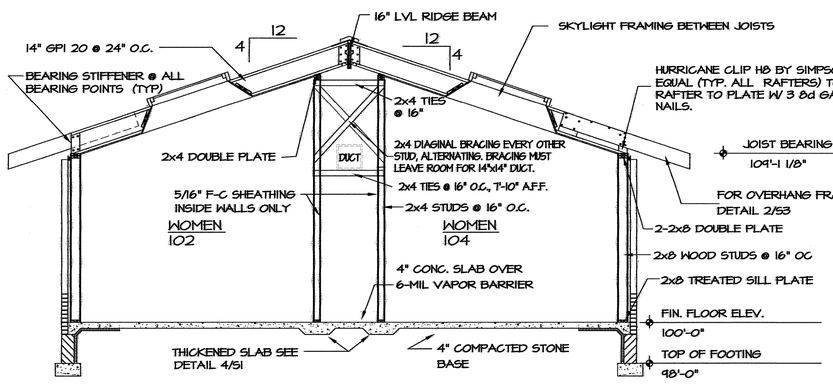
8 / S2 DETAIL- ROOF RIDGE CONNECTION
SCALE: 1" = 1'- 0"



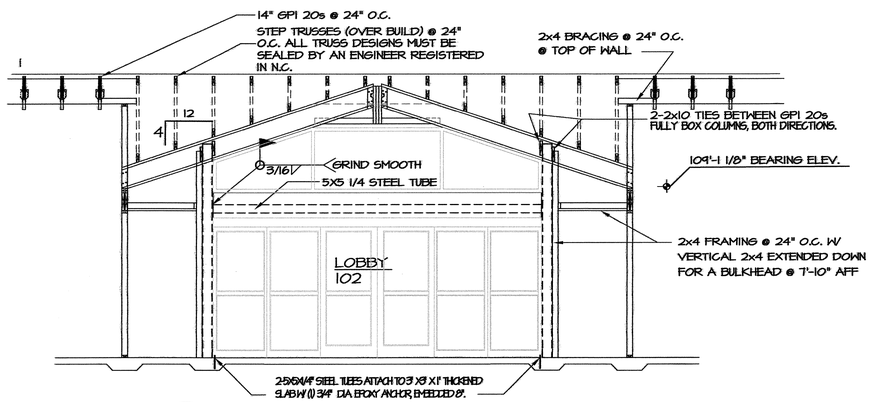
4 / S2 DETAIL- CORRIDOR COLUMN
SCALE: 1/4" = 1'- 0"



3 / 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-40 REST AREA
MCDOWELL 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:
ROOF FRAMING PLAN & SECTIONS

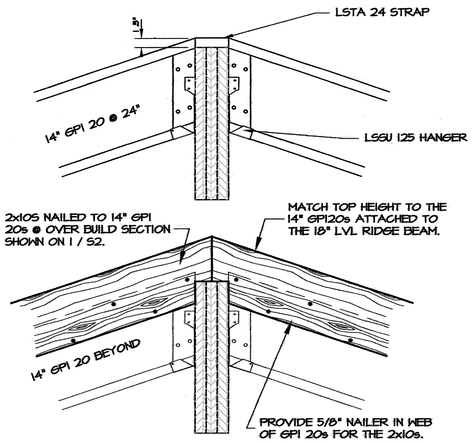
DRAWN BY: C.L.S. / R.A. CHECKED BY: W.E. RATTERREE ISSUE DATE: 27 OCTOBER 09

SEAL: NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 16394 ENGINEERING WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.1	C202206	IMS-040-2(137)83

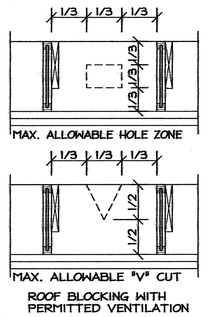
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. S2



1 / S3 RIDGE CONN., LVL BEAMS

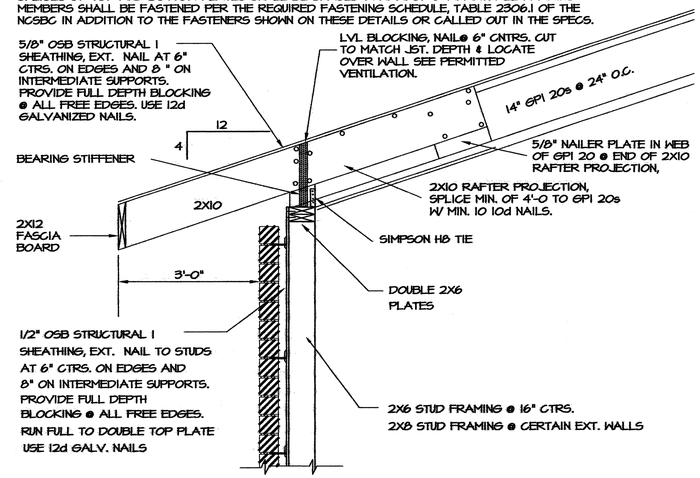
SCALE: 1" = 1'- 0"



10 / S3 PERMITTED BLOCK VENTING DETAIL

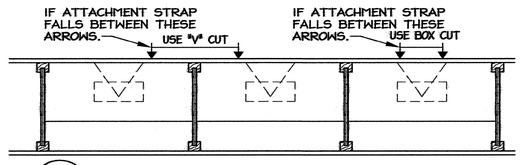
3/4" = 1'-0"

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 2306.1 OF THE NCSBC IN ADDITION TO THE FASTENERS SHOWN ON THESE DETAILS OR CALLED OUT IN THE SPECS.



2 / S3 DETAIL: TYP. EAVE SECT.

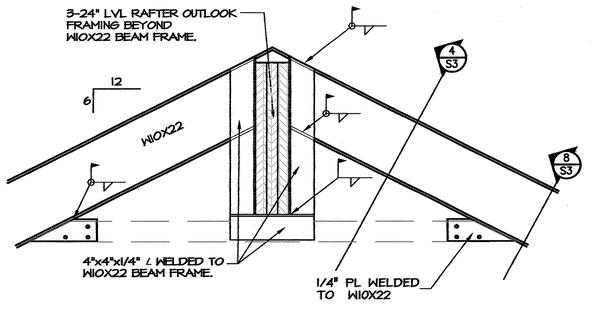
SCALE 3/4" = 1'-0"



SEE PERMITTED ROOF BLOCKING VENTILATION ON DETAIL 10/S3, FOR "V" AND BOX CUT INFORMATION.

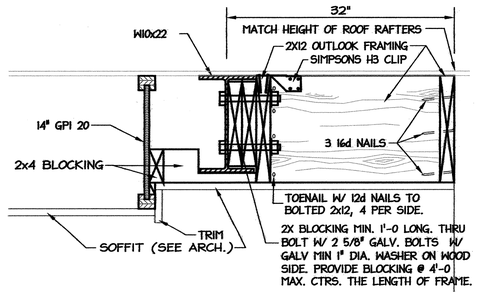
9 / S3 NEW BLOCKING VENT DETAIL

1" = 1'-0"



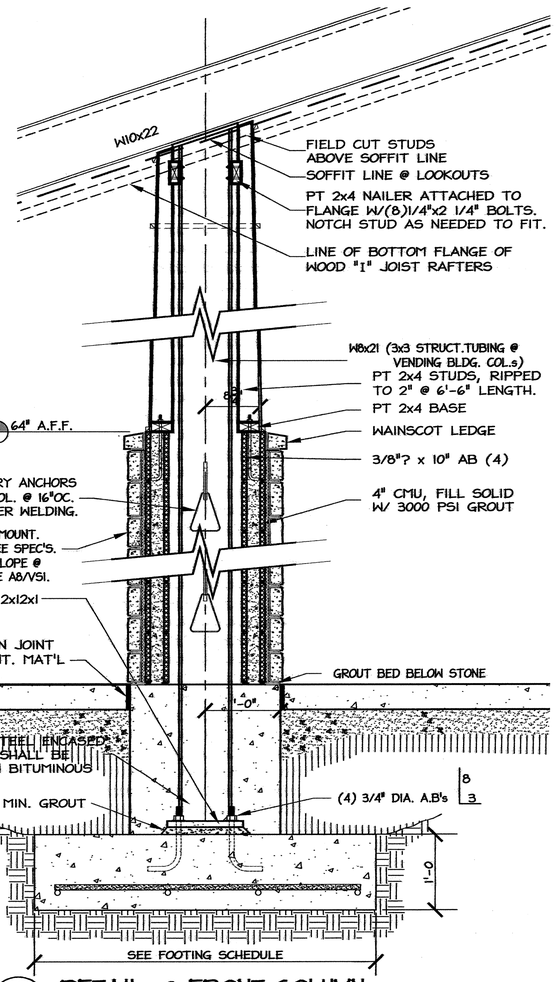
3 / S3 DETAIL: TYP. EAVE SECT.

SCALE 1" = 1'-0"



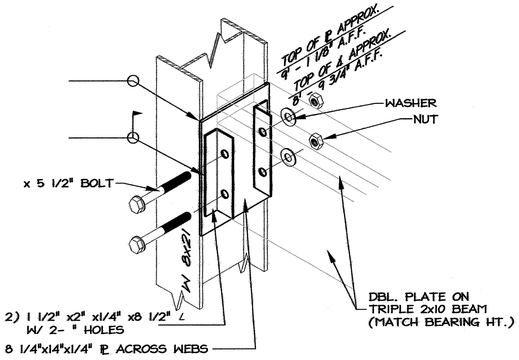
8 / S3 DETAIL: SECT. OF OVERHANG @ ENTRY

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



6 / S3 DETAIL: @ FRONT COLUMN

SCALE 1" = 1'-0"

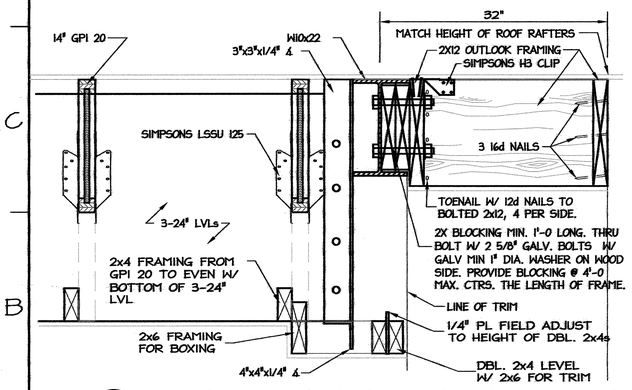


MOUNTING BRACKET @

7 / S3 DETAIL- FRONT COLUMN

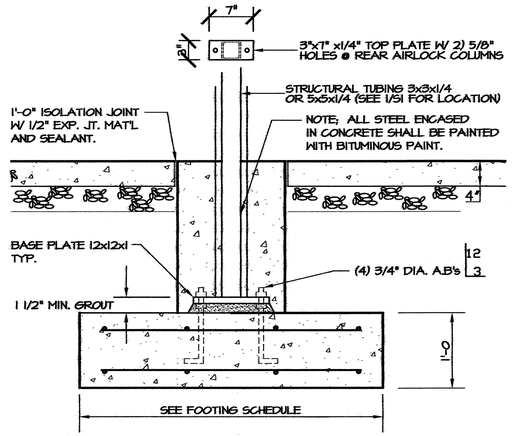
SCALE: 1 1/2" = 1'-0"

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



4 / S3 DETAIL: TYP. EAVE SECT.

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



5 / S3 DETAIL: EXT. AIRLOCK COLUMN

SCALE 1" = 1'-0"

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

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

PROJECT:

I-40 REST AREA

MCDOWELL 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

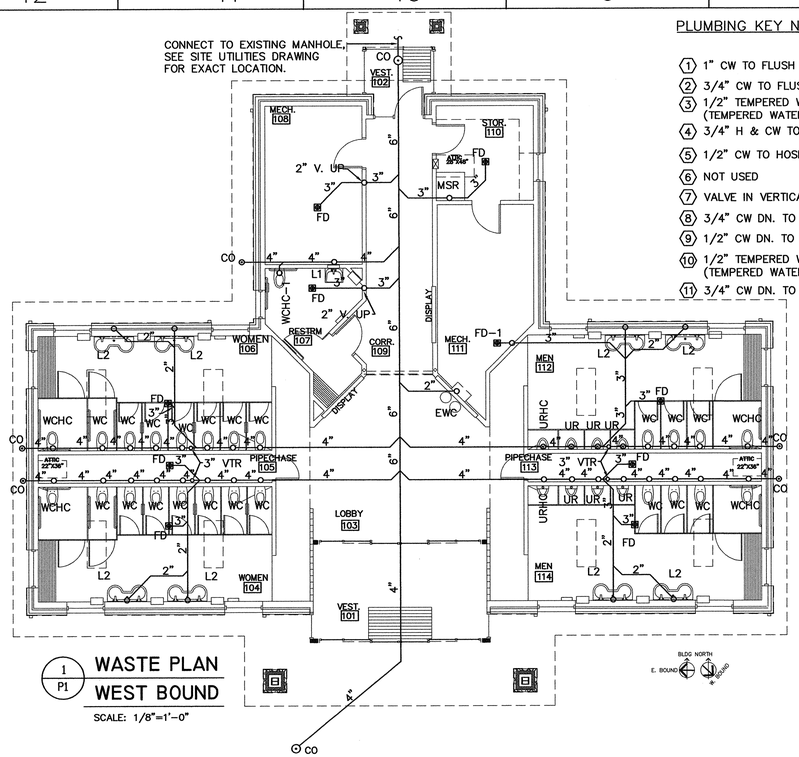
DRAWN BY: C.L.S. / R.A. CHECKED BY: W.E. RATTERREE ISSUE DATE: 27 OCTOBER 09

SEAL: SEAL 16394 ENGINEER WILLIAM RATTERREE 5-27-10

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **S3**

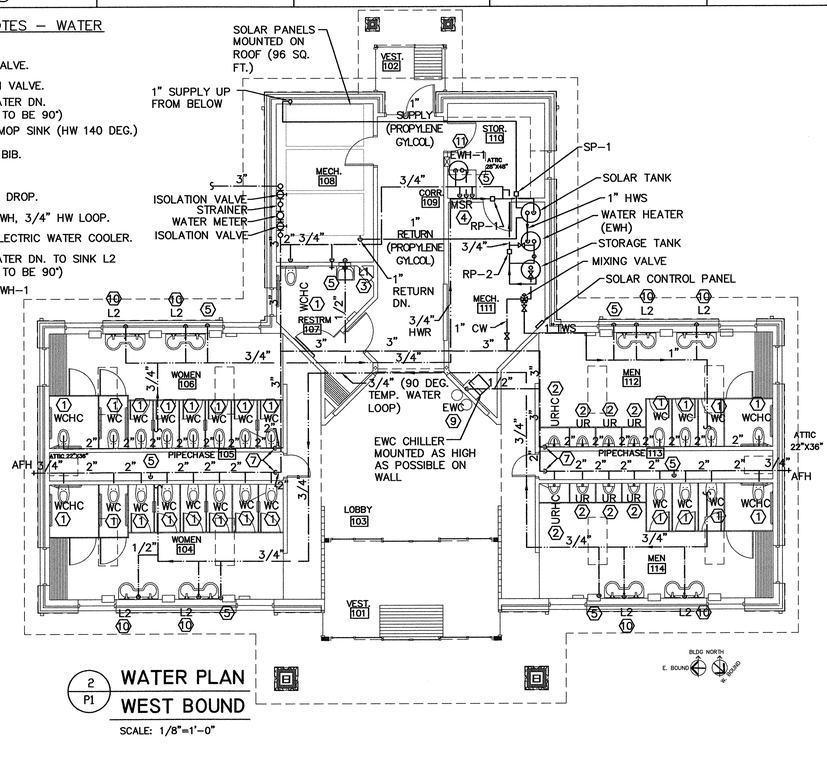


1 P1 **WASTE PLAN WEST BOUND**

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

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°)
4. 3/4" H & CW TO MOP SINK (HW 140 DEG.)
5. 1/2" CW TO HOSE BIB.
6. NOT USED
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°)
11. 3/4" CW DN. TO EWH-1



2 P1 **WATER PLAN WEST BOUND**

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

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. THESE PLANS REPRESENT THE PLUMBING DESIGN FOR McDOWELL COUNTY WAST BOUND ONLY. FOR THE SANITARY SEWER FOR THE EAST BOUND BUILDING, SEE PLUMBING SHEET P1A.
12. PLUMBING CONTRACTOR TO ESTABLISH INVERTS AND COORDINATE WASTE LINES WITH BUILDING FOOTINGS BEFORE BEGINNING THIS PROJECT.
13. SOLAR SYSTEM TO BE A CLOSED LOOP SYSTEM. HEAT TRANSFER FLUID TO BE PROPYLENE GLYCOL.

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

WASTE AND VENT LEGEND:

COLD WATER PIPE	BALL VALVE	PIPING WITH FLOW	
HOT WATER PIPE	HOSE BIBB	UNION	
NEW HOT RETURN	WATER HYDRANT	VALVE	
	NEW VENT	RELIEF VALVE	
	NEW WASTE	CHECK VALVE	
	CLEAN OUT–PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS	TEMPERATURE WELL	
	C.O.	TEMPERATURE GAUGE	
	W.C.O.	PUMP	
	WALL CLEAN OUT	TPC TRAP PRIMER CONNECTION	
	FLOOR DRAIN	CONNECT TO EXISTING	
		KEY NOTE NUMBER	
		VTR VENT THROUGH ROOF	

PLUMBING FIXTURE SCHEDULE:

SYMBOL — DESCRIPTION

WC — WATER CLOSET (See note 1 below)
AMERICAN STANDARD "AFWALL EL 1.6" # 3353.160, SIPHON JET, ELONGATED BOWL, VITROUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT AMERICAN STANDARD SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE, USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).

WCHC — WATER CLOSET (HANDICAPPED) (See note 1 below)
AMERICAN STANDARD "AFWALL EL 1.6" # 3353.160, SIPHON JET, ELONGATED BOWL, VITROUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT AMERICAN STANDARD SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE, USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).

UR — URINAL (See note 1 below)
AMERICAN STANDARD "WASHBROOK FLOWISE" .5 GPF, #6515.005 SIPHON JET, VITREOUS CHINA, 3/4" CONCEALED URNIAL BACK SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE HYDROTECH H-8000C-D1T-WB FLUSH VALVE AND TRANSFORMER(S)

URHC — URINAL (HANDICAPPED) (See note 1 below)
AMERICAN STANDARD "WASHBROOK FLOWISE" .5 GPF, #6515.005 SIPHON JET, VITREOUS CHINA, 3/4" CONCEALED URNIAL BACK SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE HYDROTECH H-8000C-D1T-WB FLUSH VALVE AND TRANSFORMER(S)

L1 — LAVATORY (HANDICAPPED WALL HUNG) (See note 1 below)
AMERICAN STANDARD "LUCERNE" # 0355.012 WHITE WITH CONCEALED ARM CARRIER. FURNISH WITH AUTOMATIC SENSOR FAUCET (HYDROTECH HB-2603C & TRANSFORMER(S)), TEMPERED VALVE FOR 90T AND DRAIN ASSEMBLY. WALL OR CHASE LAVATORIES IN ALL BATHROOMS SHALL BE EQUIPED W/WIRING ENCASED IN METAL FLEX CONDUIT TO AVOID VANDALISM.

L2 — 2– STATION LAVATORY (HANDICAPPED) (See note 1 below)
SLOAN MODEL ELS-42000-SS, DOUBLE STATION SOLID SURFACE, SAND. WITH SLOAN OPTIMA SYSTEM ETF-80 SENSOR ACTIVATED FAUCET.

MSR — MOP SINK (See note 1 below)
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.

FD — FLOOR DRAIN (See note 3 below)
ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER.

FD-1 — FLOOR DRAIN (See note 3 below)
ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER.

AFH — ANTI-FREEZE HOSEBIBB (See note 4 below)
ZURN Z-1315-5, 3/4" NON FREEZE WALL HYDRANT WITH VACUUM BREAKER. INCLUDE KEYED OPERATION.

EWC — ELECTRIC WATER COOLER (See note 5 below)
HALSEY TAYLOR MODEL OVL-II SEBP DUAL SST DRINKING FOUNTAIN, BARRIER FREE WALL HUNG, WITH HALSEY TAYLOR MODEL SJ8-Q REMOTE CHILLER, 120V/1PH/60HZ, 325 W, FLA=3.5

RP-1, RP-2, SP-1 — CIRCULATING PUMP (See note 7 below)
BELL & GOSSET, SERIES 100 IN-LINE HOT WATER PUMP, 1/12 HP, 115 VAC, FLA=1.75 1 Ph., 3/4" CONN., WITH A MINIMUM OF 13 GPM AND 8' TDH. PUMP TO BE ALL BRONZE CONSTRUCTION, COORDINATE WITH ELEC. CONTRACTOR FOR POWER FEED. PROVIDE DISCONNECT SWITCH.

WS — WATER CLOSET SUPPORTS (See note 8 below)
SMITH MODEL# 0209Y, HORIZONTAL NO HUB.

US — URINAL SUPPORTS (See note 8 below)
SMITH MODEL# 0637

MTR — WATER METER (OR EQUAL) (See note 6 below)
NEPTUNE, 3", MODEL TRU/FLO (OR EQUAL). METER INDICATION SHALL BE WITH BOTTOM OF GAUGE TOWARD FLOOR.

HB — HOSE BIBB (See note 4 below)
WOODFORD MODEL 67B, 3/4" LOCKABLE BOX HOSE BIBB W/ VACUUM BREAKER. KEY OPERATION.

EWH — ELECTRIC WATER HEATER (See note 2 below)
A.O. SMITH MODEL #ECRT-80, 80 GALLON, 4500 WATT/208V/SINGLE PHASE

EWH-1 — ELECTRIC WATER HEATER (See note 2 below)
STATE WATER # ES630DORS, 30 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.

S-1 — SOLAR TANK (See note 11 below)
A.O. SMITH MODEL #SUNX-80, 76 GALLON, 4500 WATT, 208V/SINGLE PHASE, HEAT EXCHANGER COOL MODEL #SUNX-80. TUBE I.D. 1.3", 16 SQ. FT TOTAL SURFACE AREA, 2.8 GALLONS CAPACITY. 40.8" TUBE LENGTH

ST-1 — STORAGE TANK (See note 10 below)
A.O. SMITH MODEL #TJ-80A, 80 GALLON.

SCP — SOLAR CONTROL PANEL (See note 12 below)
THERMOMAX MODEL #SMT-400
220-240V/SINGLE PHASE

TPV — TRAP PRIMER VALVE (See note 9 below)
PPP INC. MODEL# PR-500, 1/2" INLET, 1/2" OUTLET

APPROVED EQUALS:

1. Or equal by Kohler, Zurn orToto
   Toilet and Flush Valve:
   Kohler Kingston #K-4329.
   Toto #TET2GN31 Flush Valve.
   Zurn #Z5617 With Zurn #ZEMS6252PEV Flush Valve.
   Urinal and Flush Valve:
   Zurn #Z5799 With Integrated Flush Valve.
   Toto #UT447EV With Toto #TEU2LN11 Flush Valve.
   Mop Sink: With Accessories
   Florestone Mop Sink #92 With Speakman #MR-371 Faucet, Hose and Mop Hanger.
   Crane Mop Sink #TSB-3002 with #830-AA
   #889-CC Mop Hanger, #E-77-AA Bumper Guard, and Stainless Steel Splash Guard.
   Lavatory with Faucet (L1)
   Kohler Greenwich #K-2032 With American Standard Battery Sensor Faucet, #832-AA Hose, #1453-BB Strainer, Faucet #6055.205.
   Eljer Murry II #051-0244 With Zurn Battery Sensor Faucet #Z6915.
   Lavatory with Faucet (L2)
   Sloan Sloanstone #ELS-42000 With Sloan Battery Sensor Faucet #EBF-187.
   Acorn Meridian #3792-1-SO-BAT With Integreated Battery Sensor Faucets.
2. Electriac Water Heater (EWH)
   AO Smith #DEL-50.
   Amtrol ST-5-C Expansion Tank.
   Bradford White #LD-50S3-3.
   AO Smith PMC-2 Expansion Tank.
   LOCHINVARSSS081
3. Electriac Water Heater (EWH-1)
   Rheem #81VP10S.
   Amtrol ST-5-C Expansion Tank.
   Bradford White #M-1-10U6SS.
   AO Smith PMC-2 Expansion Tank.
4. Floor Drains
   Josam #30000A.
   Josam #30000E1.
   Jay R. Smith #2005-A.
   Jay R. Smith #2005-F37.
5. Hose Bibbs and Anti Freeze Hose Bibbs
   Jay R. Smith #5509QT.
   Watts #HY-330.
   Watts HY-725.
   Jay R. Smith #5509QT.
6. Electric Water Cooler
   Halsey Taylor #OVL-II SEBPFR Fountain With Halsey Taylor #SJ8-Q Remote Chiller.
   Elkay #EDFP217C Fountain With Elkay #ECH8 Remote Chiller.
7. Water Meter
   Park Environmental Equip. 2" Turbine.
   Hersey Horizon 2" Turbine.
8. Circulating Pump
   Taco Model #110.
   Armstrong Model #S-25.
9. Water Closet Supports
   Zurn #1204
   Josam STD. 4" No Hub, 2" Vent.
10. Urinal Supports
    Zurn #1221.
    Josam #17550.
11. Trap Primer Valve
    Watts #A200.
    Josam #88300.
10. STORAGE TANK
    CEMLINE CORPORATION
    PVI
    LOCHINVAR
11. SOLAR TANK
    CEMLINE CORPORATION
    PVI
    LOCHINVAR
12. SOLAR CONTROL PANEL
    CEMLINE CORPORATION
    TEKMAR
    SIEMENS

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-8107
Fax 919-678-8109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

PROJECT:
I-40 REST AREA
MCDOWELL 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

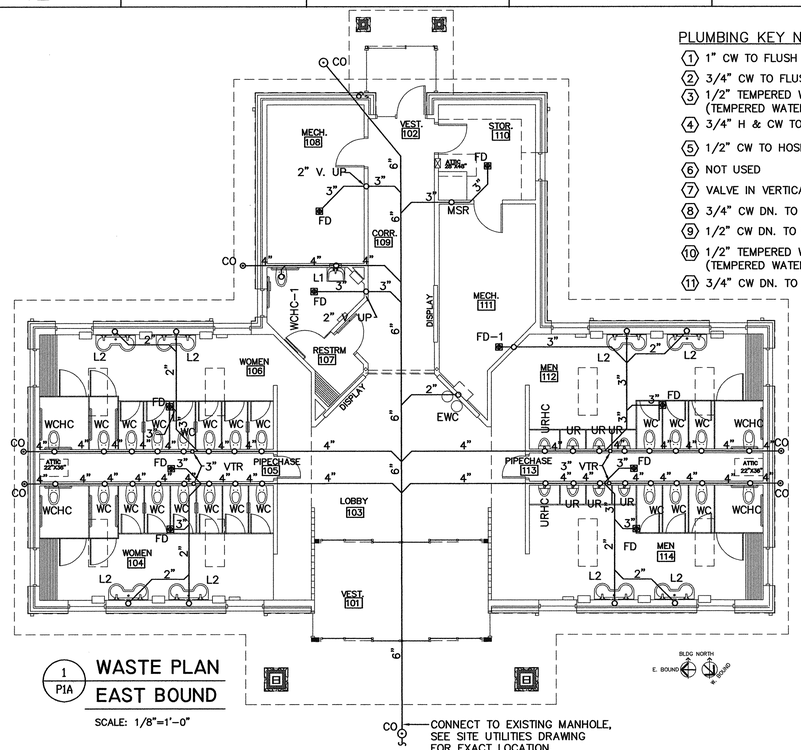
DRAWING TITLE:
PLUMBING PLAN

DRAWN BY: MEW | CHECKED BY: MEW/ JMH | ISSUE DATE: 11 MAY 2010

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. P1 OF 5

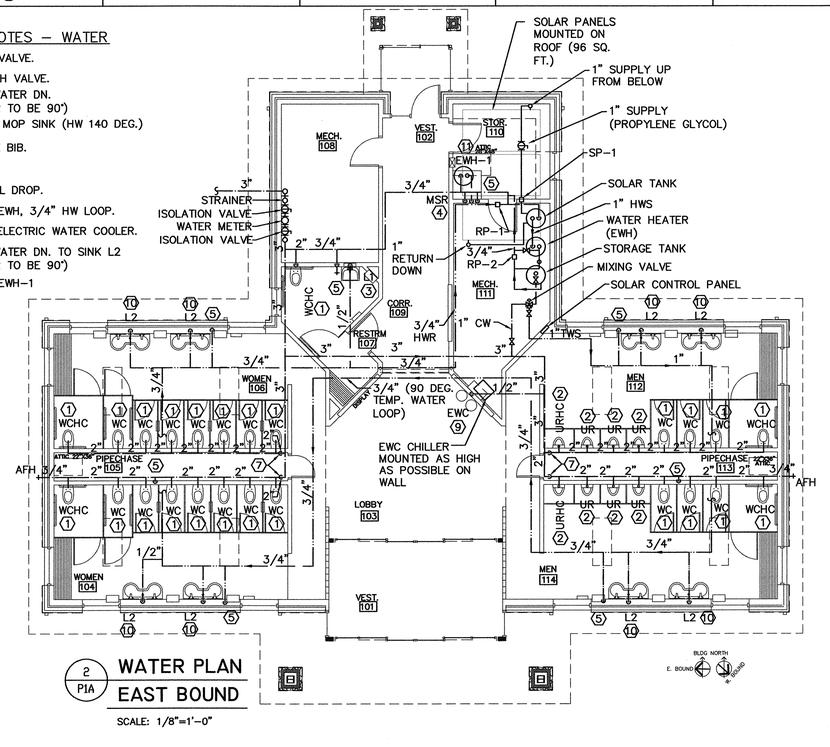


1 P1A **WASTE PLAN EAST BOUND**

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

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°)
4. 3/4" H & CW TO MOP SINK (HW 140 DEG.)
5. 1/2" CW TO HOSE BIB.
6. NOT USED
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°)
11. 3/4" CW DN. TO EWH-1



2 P1A **WATER PLAN EAST BOUND**

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

GENERAL NOTES - PLUMBING

1. PREPLAN ALL WORK PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY PART OF THE WORK DESCRIBED BY THIS DRAWING.
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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. THESE PLANS REPRESENT THE PLUMBING DESIGN FOR McDOWELL COUNTY WAST BOUND ONLY. FOR THE SANITARY SEWER FOR THE EAST BOUND BUILDING, SEE PLUMBING SHEET P1A.
12. PLUMBING CONTRACTOR TO ESTABLISH INVERTS AND COORDINATE WASTE LINES WITH BUILDING FOOTINGS BEFORE BEGINNING THIS PROJECT.
13. SOLAR SYSTEM TO BE A CLOSED LOOP SYSTEM. HEAT TRANSFER FLUID TO BE PROPYLENE GLYCOL.

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

PLUMBING FIXTURE SCHEDULE:

SYMBOL	DESCRIPTION
WC	WATER CLOSET (See note 1 below) AMERICAN STANDARD "AFWALL EL 1.6" # 3353.160, SIPHON JET, ELONGATED BOWL, VITROUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT AMERICAN STANDARD SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE, USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).
WCHC	WATER CLOSET (HANDICAPPED) (See note 1 below) AMERICAN STANDARD "AFWALL EL 1.6" # 3353.160, SIPHON JET, ELONGATED BOWL, VITROUS CHINA, AND 1 1/2" BACK SPUD. PROVIDE OPEN FRONT AMERICAN STANDARD SEAT, AND CONCEALED WALL MOUNTED SENSOR W/ MANUAL OVERRIDE, USE HYDROTECH H-8000C-C FLUSH VALVE AND TRANSFORMER(S).
UR	URINAL (See note 1 below) AMERICAN STANDARD "WASHBROOK FLOWISE" .5 GPF, #6515.005 SIPHON JET, VITREOUS CHINA, 3/4" CONCEALED URNIAL BACK SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE HYDROTECH H-8000C-D1T-WB FLUSH VALVE AND TRANSFORMER(S)
URHC	URINAL (HANDICAPPED) (See note 1 below) AMERICAN STANDARD "WASHBROOK FLOWISE" .5 GPF, #6515.005 SIPHON JET, VITREOUS CHINA, 3/4" CONCEALED URNIAL BACK SPUD, AND WALL SENSOR W/ MANUAL OVERRIDE HYDROTECH H-8000C-D1T-WB FLUSH VALVE AND TRANSFORMER(S)
L1	LAVATORY (HANDICAPPED WALL HUNG) (See note 1 below) AMERICAN STANDARD "LUCERNE" # 0355.012 WHITE WITH CONCEALED ARM CARRIER. FURNISH WITH AUTOMATIC SENSOR FAUCET (HYDROTECH HB-2603C (BATTERY) & TRANSFORMER(S)), TEMPERED VALVE FOR 90°F AND DRAIN ASSEMBLY. WALL OR CHASE LAVATORIES IN ALL BATHROOMS SHALL BE EQUIPED W/WIRING ENCASED IN METAL FLEX CONDUIT TO AVOID VANDALISM.
L2	2- STATION LAVATORY (HANDICAPPED) (See note 1 below) SLOAN MODEL ELS-42000-SS, DOUBLE STATION SOLID SURFACE, SAND. WITH SLOAN OPTIMA SYSTEM ETF-80 SENSOR ACTIVATED FAUCET.
MSR	MOP SINK (See note 1 below) 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.
FD	FLOOR DRAIN (See note 3 below) ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER.
FD-1	FLOOR DRAIN (See note 3 below) ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER.
AFH	ANTI-FREEZE HOSEBIBB (See note 4 below) ZURN Z-1315-5, 3/4" NON FREEZE WALL HYDRANT WITH VACUUM BREAKER. INCLUDE KEYED OPERATION.
EWC	ELECTRIC WATER COOLER (See note 5 below) HALSEY TAYLOR MODEL OVL-II SEBP DUAL SST DRINKING FOUNTAIN, BARRIER FREE WALL HUNG, WITH HALSEY TAYLOR MODEL SJ8-Q REMOTE CHILLER, 120V/1PH/60HZ, 325 W, FLA=3.5
RP-1, RP-2, SP-1	CIRCULATING PUMP (See note 7 below) BELL & GOSSET, SERIES 100 IN-LINE HOT WATER PUMP, 1/12 HP, 115 VAC, FLA=1.75 1 Ph., 3/4" CONN., WITH A MINIMUM OF 13 GPM AND 8' TDH. PUMP TO BE ALL BRONZE CONSTRUCTION, COORDINATE WITH ELEC. CONTRACTOR FOR POWER FEED. PROVIDE DISCONNECT SWITCH.
WS	WATER CLOSET SUPPORTS (See note 8 below) SMITH MODEL# 0209Y, HORIZONTAL NO HUB.
US	URINAL SUPPORTS (See note 8 below) SMITH MODEL# 0637
MTR	WATER METER (OR EQUAL) (See note 6 below) NEPTUNE, 3", MODEL TRU/FLO (OR EQUAL). METER INDICATION SHALL BE WITH BOTTOM OF GAUGE TOWARD FLOOR.
HB	HOSE BIBB (See note 4 below) WOODFORD MODEL 67B, 3/4" LOCKABLE BOX HOSE BIBB W/ VACUUM BREAKER. KEY OPERATION.
EWH	ELECTRIC WATER HEATER (See note 2 below) A.O. SMITH MODEL #ECRT-80, 80 GALLON, 4500 WATT/208V/SINGLE PHASE
EWH-1	ELECTRIC WATER HEATER (See note 2 below) STATE WATER # ES630DORS, 30 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.
S-1	SOLAR TANK (See note 11 below) A.O. SMITH MODEL #SUNX-80, 76 GALLON, 4500 WATT, 208V/SINGLE PHASE, HEAT EXCHANGER COOL MODEL #SUNX-80. TUBE I.D. 1.3", 16 SQ. FT TOTAL SURFACE AREA, 2.8 GALLONS CAPACITY. 40.8" TUBE LENGTH
ST-1	STORAGE TANK (See note 10 below) A.O. SMITH MODEL #TJ-80A, 80 GALLON.
SCP	SOLAR CONTROL PANEL (See note 12 below) THERMOMAX MODEL #SMT-400 220-240V/SINGLE PHASE
TPV	TRAP PRIMER VALVE (See note 9 below) PPP INC. MODEL# PR-500, 1/2" INLET, 1/2" OUTLET

APPROVED EQUALS:

1. Or equal by Kohler, Zurn orToto
   Toilet and Flush Valve:
   Kohler Kingston #K-4329.
   Toto #TET2GN31 Flush Valve.
   Zurn #Z5617 With Zurn #ZEMS6252PEV Flush Valve.
   Urinal and Flush Valve:
   Zurn #Z5799 With Integrated Flush Valve.
   Toto #UT447EV With Toto #TEU2LN11 Flush Valve.
   Mop Sink: With Accessories
   Florestone Mop Sink #92 With Speakman #MR-371 Faucet, Hose and Mop Hanger.
   Crane Mop Sink #TSB-3002 with #830-AA
   #889-CC Mop Hanger, #E-77-AA Bumper Guard, and Stainless Steel Splash Guard.
   Lavatory with Faucet (L1)
   Kohler Greenwich #K-2032 With American Standard Battery Sensor Faucet, #832-AA Hose, #1453-BB Strainer, Faucet #6055.205.
   Eljer Murry II #051-0244 With Zurn Battery Sensor Faucet #Z6915.
   Lavatory with Faucet (L2)
   Sloan Sloanstone #ELS-42000 With Sloan Battery Sensor Faucet #EBF-187.
   Acorn Meridian #3792-1-SO-BAT With Integreated Battery Sensor Faucets.
2. Electriac Water Heater (EWH)
   AO Smith #DEL-50.
   Amtrol ST-5-C Expansion Tank.
   Bradford White #LD-50S3-3.
   AO Smith PMC-2 Expansion Tank.
   LOCHINVARSSS081
3. Electriac Water Heater (EWH-1)
   Rheem #81VP10S.
   Amtrol ST-5-C Expansion Tank.
   Bradford White #M-1-10U6SS.
   AO Smith PMC-2 Expansion Tank.
4. Floor Drains
   Josam #30000A.
   Josam #30000E1.
   Jay R. Smith #2005-A.
   Jay R. Smith #2005-F37.
5. Hose Bibbs and Anti Freeze Hose Bibbs
   Jay R. Smith #5509QT.
   Watts #HY-330.
   Watts HY-725.
   Jay R. Smith #5509QT.
6. Electric Water Cooler
   Halsey Taylor #OVL-II SEBPFR Fountain With Halsey Taylor #SJ8-Q Remote Chiller.
   Elkay #EDFP217C Fountain With Elkay #ECH8 Remote Chiller.
7. Water Meter
   Park Environmental Equip. 2" Turbine.
   Hersey Horizon 2" Turbine.
8. Circulating Pump
   Taco Model #110.
   Armstrong Model #S-25.
9. Water Closet Supports
   Zurn #1204
   Josam STD. 4" No Hub, 2" Vent.
10. Urinal Supports
    Zurn #1221.
    Josam #17550.
11. Trap Primer Valve
    Watts #A200.
    Josam #88300.
10. STORAGE TANK
    CEMLINE CORPORATION
    PVI
    LOCHINVAR
11. SOLAR TANK
    CEMLINE CORPORATION
    PVI
    LOCHINVAR
12. SOLAR CONTROL PANEL
    CEMLINE CORPORATION
    TEKMAR
    SIEMENS

WASTE AND VENT LEGEND:

COLD WATER PIPE	PIPING WITH FLOW
HOT WATER PIPE	UNION
NEW HOT RETURN	VALVE
BALL VALVE	RELIEF VALVE
HOSE BIBB	CHECK VALVE
WATER HYDRANT	TEMPERATURE WELL
NEW VENT	TEMPERATURE GAUGE
NEW WASTE	PUMP
CLEAN OUT-PROVIDE CONCRETE RING FOR EXTERIOR CLEANOUTS	TPC TRAP PRIMER CONNECTION
C.O.	CONNECT TO EXISTING
W.C.O.	KEY NOTE NUMBER
WALL CLEAN OUT	VENT THROUGH ROOF
FLOOR DRAIN	

PROJECT:
I-40 REST AREA
MCDOWELL 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

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBS

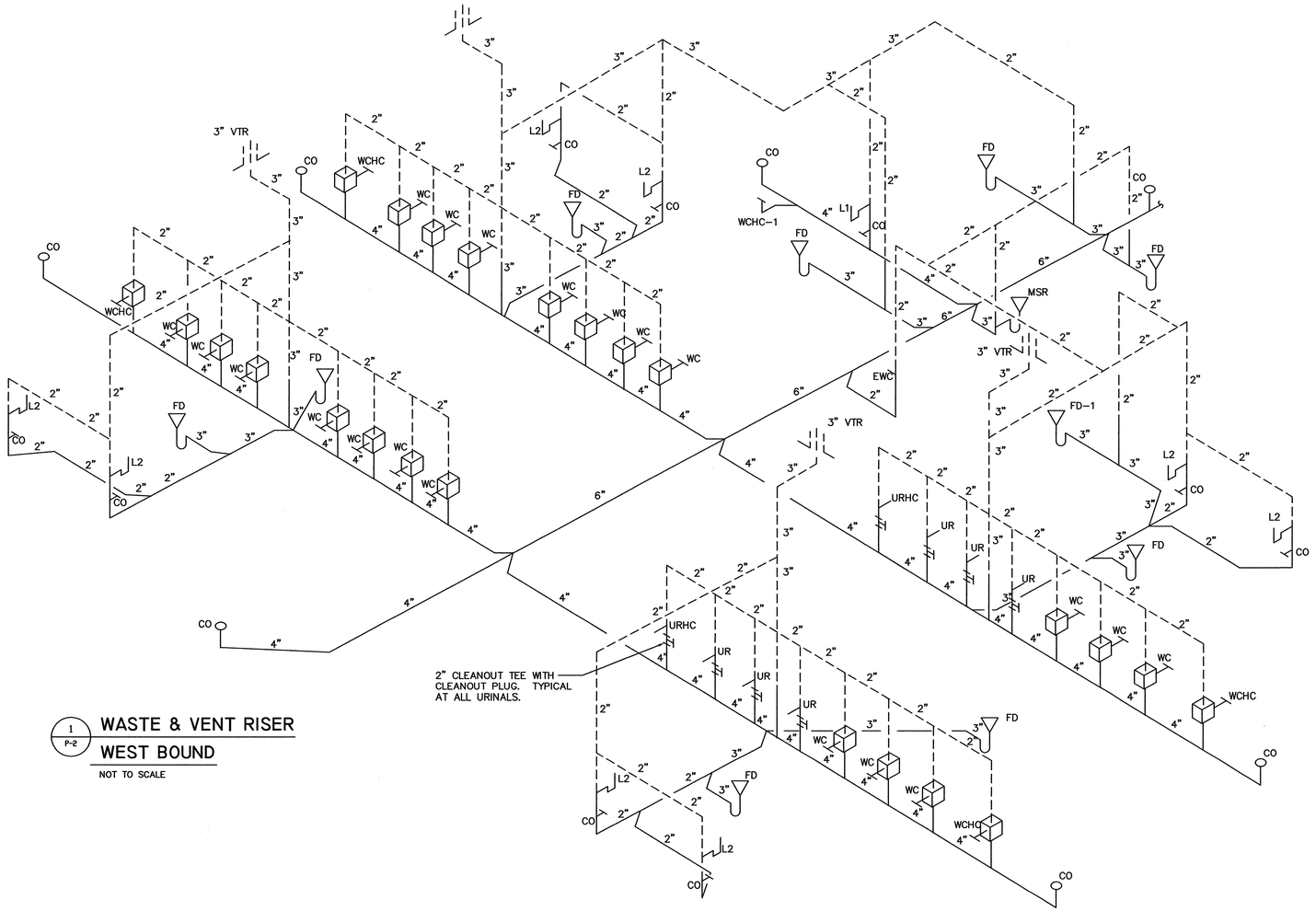
DRAWING TITLE: **PLUMBING PLAN**

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

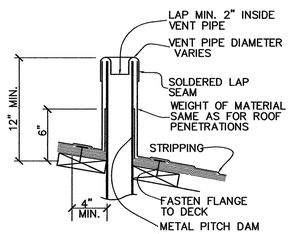
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **P1A** OF 5



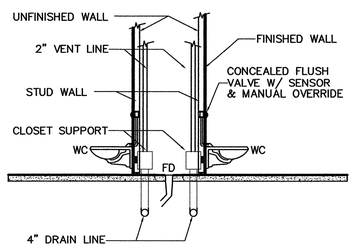
1 P-2 **WASTE & VENT RISER WEST BOUND**

NOT TO SCALE



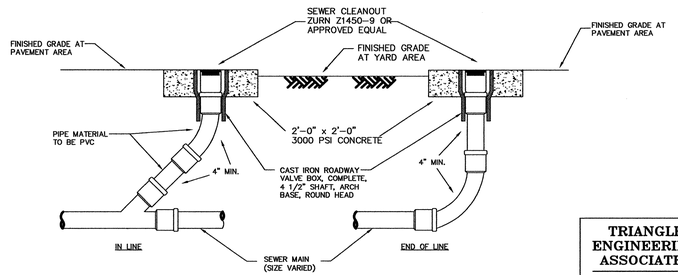
2 P-2 **VTR DETAIL**

SCALE: NTS



3 P-2 **WATER CLOSET DETAIL**

SCALE: NTS



4 P-2 **GRAVITY SEWER CLEANOUT**

NOT TO SCALE

PROJECT:

I-40 REST AREA

MCDOWELL 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:

PLUMBING WASTE RISER DIAGRAM & DETAILS

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES

MECHANICAL ELECTRICAL CONSULTING ENGINEERS

1320 SE Maynard Rd. Suite 201, Cary, NC 27511

919-678-6107 Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 7911 5/11/10 JOEL M. HOBBY

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

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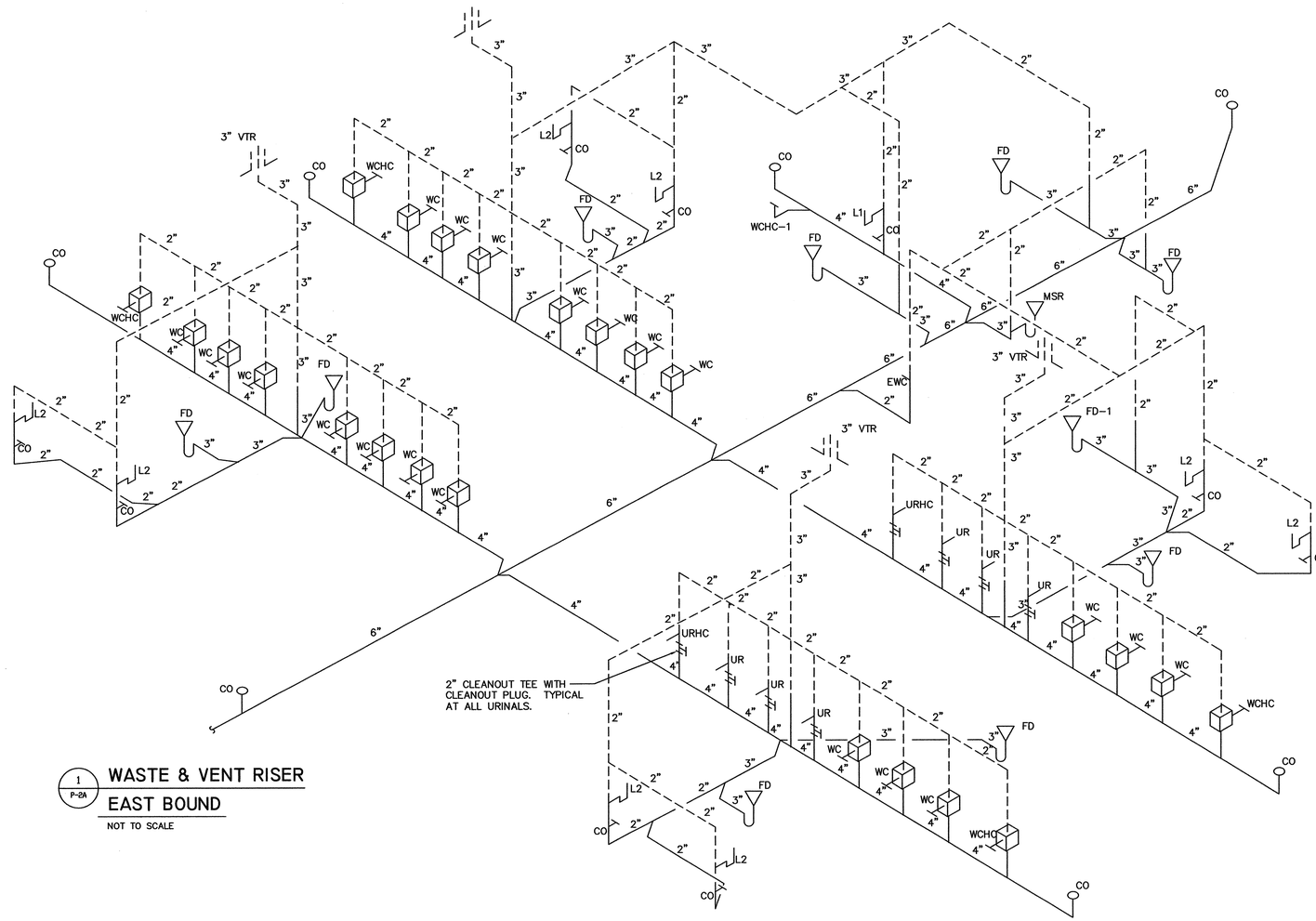
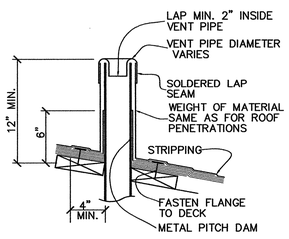
SHEET NO. P2 OF 5



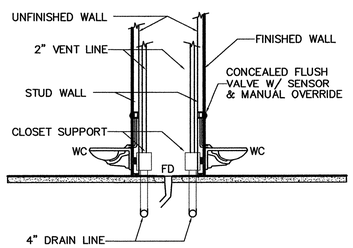
1 P-2A **WASTE & VENT RISER EAST BOUND**

NOT TO SCALE



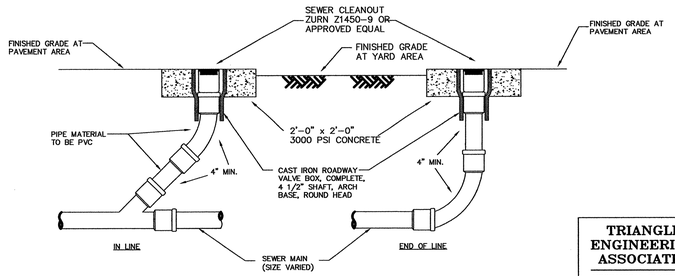
2 P-2A **VTR DETAIL**

SCALE: NTS



3 P-2A **WATER CLOSET DETAIL**

SCALE: NTS



4 P-2A **GRAVITY SEWER CLEANOUT**

NOT TO SCALE

PROJECT:

I-40 REST AREA

MCDOWELL 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:

PLUMBING WASTE RISER DIAGRAM & DETAILS

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES

MECHANICAL ELECTRICAL CONSULTING ENGINEERS

1320 SE Maynard Rd. Suite 201, Cary, NC 27511

919-678-8107 Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

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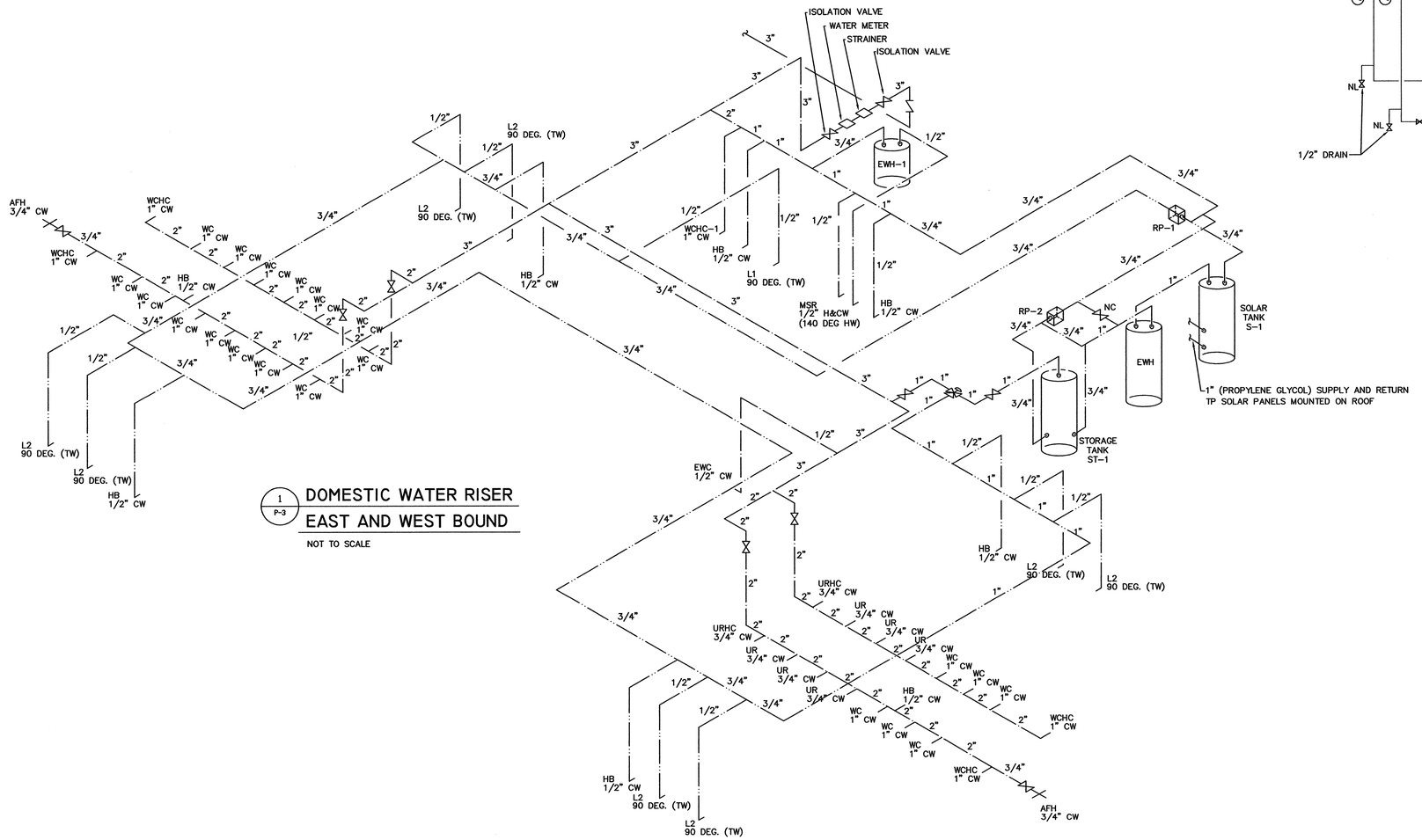
SHEET NO. P2A OF 5



1" (PROPYLENE GLYCOL) SUPPLY AND RETURN TP SOLAR PANELS MOUNTED ON ROOF

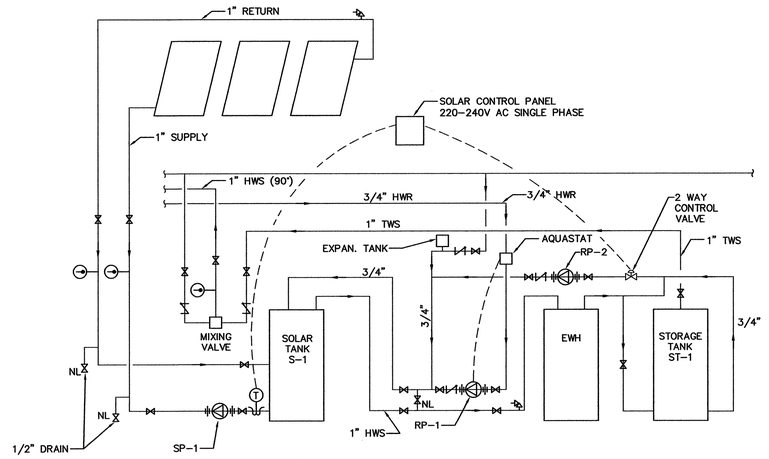
1 / P-3 DOMESTIC WATER RISER EAST AND WEST BOUND

NOT TO SCALE

SOLAR HOT WATER HEATING SYSTEM SEQUENCE OF OPERATIONS

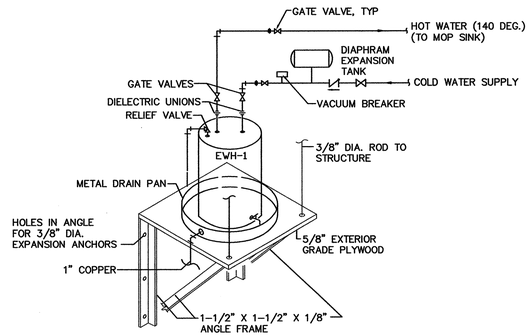
The solar panel pump "SP-1" shall be programmed to operate from 7am to 6pm November through February, 7am to 8pm March and April, 6am to 8:30pm May through July and 7am to 7:30pm August and September.

The building circulation pump "RP-1" shall operate continuously. The Storage tank circulation pump "RP-2" shall be energized if the temperature in Solar Tank "S-1" exceeds 180° F or if the temperature in Storage Tank "ST-1" falls below 90° F. The hot water two position control valve shall open when pump "RP-2" is energized.



2 / P-4 SOLAR WATER HEATING SCHEMATIC

NOT TO SCALE



3 / P-4 DOMESTIC WATER HEATER PIPING SCHEMATIC

NOT TO SCALE

PROJECT:

I-40 REST AREA

MCDOWELL COUNTY — NORTH CAROLINA

ARCHITECT/ENGINEERS:

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

DRAWING TITLE:

PLUMBING WATER RISER DIAGRAM & DETAILS

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

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K-4909	39977.3.ST1	C202206	STM-040-2(150)83

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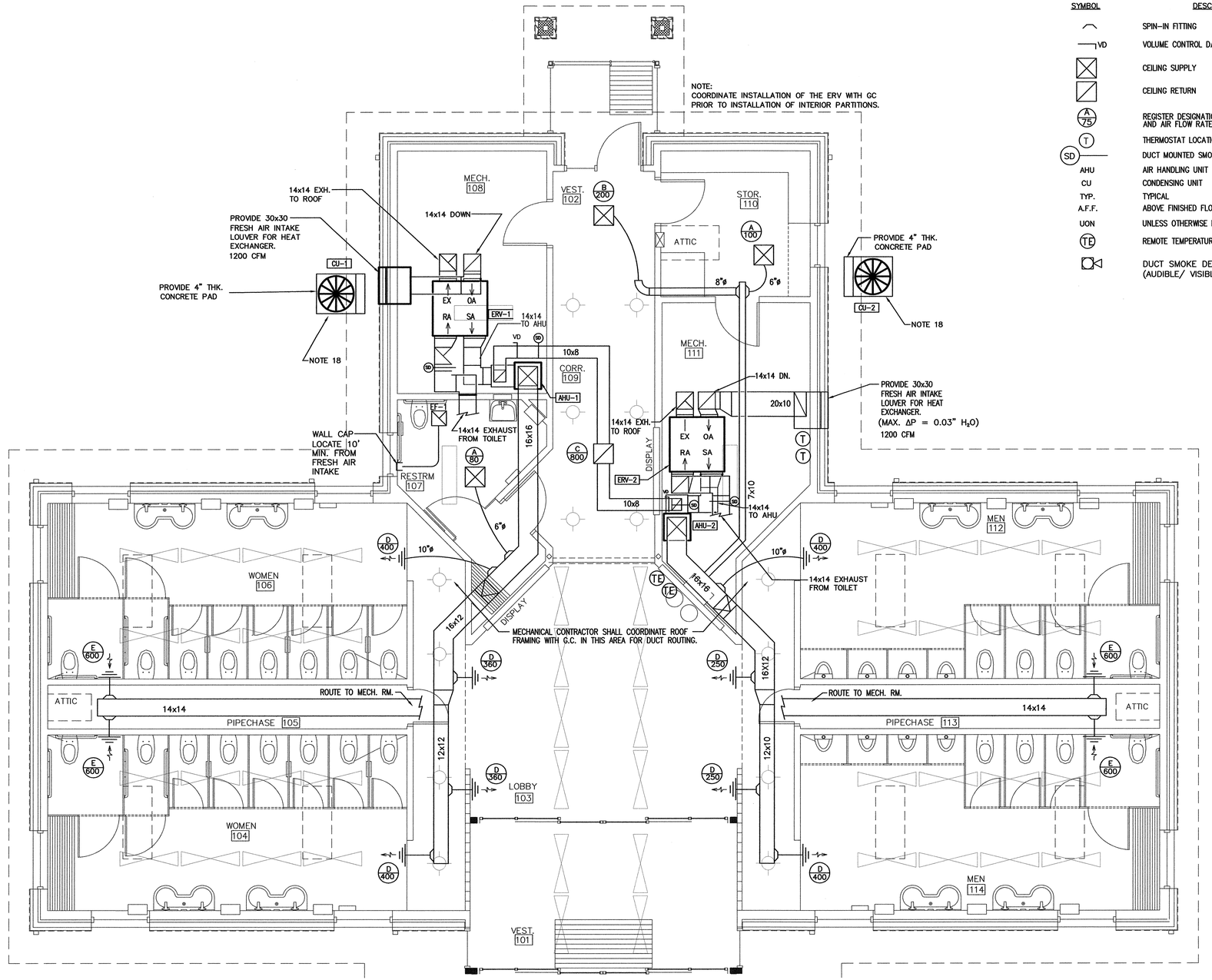
SHEET NO. P3 OF 5



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

BLDG NORTH
E. BOUND
W. BOUND

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"ø	ALUM	SUPPLY	1,2
B	PRICE – ASCD CARNES – SFAB METALAIRE – 5800 AL	12x12	8"ø	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	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 RADIUSED ELBOWS 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. HVAC EQUIPMENT IS NOT TO SCALE (NTS). HE–1/2 AND AHU–1/2 ARE SHOWN LARGER THAN ACTUAL. LOCATION AND GENERAL ARRANGEMENT OF CONDENSORS SHALL BE AS SHOWN.

PROJECT:
I–40 REST AREA
MCDOWELL 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:
MECHANICAL PLAN & NOTES

DRAWN BY: RK CHECKED BY: RK ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919–678–6107
Fax 919–678–6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 16447 ENGINEER RICHARD R. KEIL

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4909	39977.3.ST1	C202206	STM–040–2(150)83

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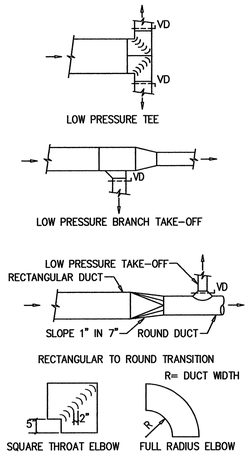
SHEET NO. M1 OF 2

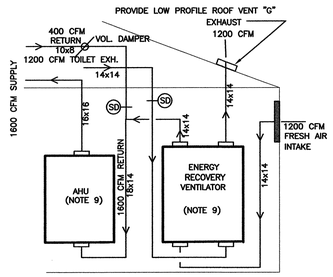
ENERGY RECOVERY UNIT SCHEDULE

		FANS / MOTORS							THERMAL PERFORMANCE						
									ENERGY RECOVERY (THERMAL) CAPACITY		INLET / OUTLET CONDITIONS				
EQUIP. NUMBER	MODEL NO.	FLOW	STATIC PRESSURE (EXTERNAL)	FAN MOTORS FAN MOTORS	F.L.A. (FOR UNIT SINGLE POINT)	VOLTS/ PHASE/ HZ	MCA	FUSE/CB MAX	COOLING CAPACITY (MBH / TON)	HEATING CAPACITY (MBH)	OUTSIDE AIR TEMP(F) & HUMIDITY (DB) / (WB OR RH)		ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH)		NOTES:
									TOTAL	TOTAL	SUMMER	WINTER	SUMMER	WINTER	
ERV-1 & 2	MICROMETL EVDGCCC690000A	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

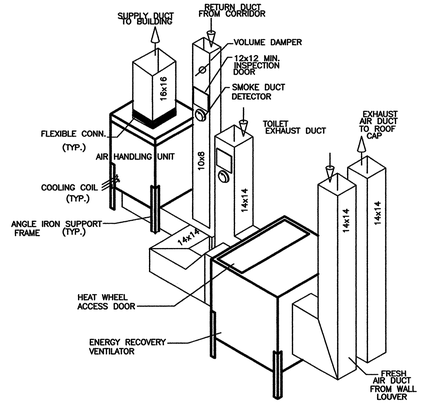
NOTES:
1. FLOW & LOADS BASED ON ARI-1060 PERFORMANCE & CERTIFIED CORE.
2. SHUT DOWN ALL FANS ON DUCT SMOKE DETECTOR ALARM CONDITION.
3. VENTILATION TYPE: ERV WHEEL, HEAT & HUMIDITY TRANSFER.
4. INCLUDE INTEGRAL DISPOSABLE FILTERS (OUTSIDE AND ROOM AIR) WITH MERV8 OR BETTER RATING.
5. INCLUDE SINGLE POINT 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

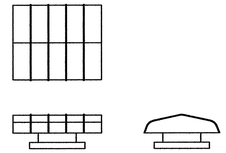


2 M2 HVAC DIAGRAM
SCALE: NOT TO SCALE



3 M2 HVAC EQUIP. DETAIL
SCALE: NOT TO SCALE

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.



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

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE:

PRESCRIPTIVE ☒ ENERGY COST BUDGET ☐

THERMAL ZONE	8
EXTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	10° F
SUMMER DRY BULB	87° F (72° F WB)
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	72° F
SUMMER DRY BULB	75° F
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@47° F, 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	MODEL NO.	TYPE	CFM	TSP IN H_2O	SONES	RPM	HP	VOLTAGE	SERVES
EF-1	GREENHECK	SP-B80-QD	CEILING MOUNTED	80	0.125	1.9	900	54 WATTS	120/1	UNISEX BATHROOM

REMARKS:
1. 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.
4. OR EQUAL BY POWERLINE OR CARNES FANS.

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	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

REMARKS:
1. PROVIDE WITH DISCONNECT SWITCH, TIME DELAY RELAY, FILTER RACK WITH FILTERS, 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. OR EQUAL BY TRANE OR YORK
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.

* OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TEC3048B1000AA, YORK/AHP48C
** OTHER ACCEPTABLE MANUFACTURERS/MODELS: TRANE/4TWB3042A1, YORK/E1D042S06

PROJECT:
I-40 REST AREA
MCDOWELL 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:
MECHANICAL DETAILS & NOTES

DRAWN BY: RK CHECKED BY: RK ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 16543 ENGINEER RICHARD R. KELLY

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL-AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

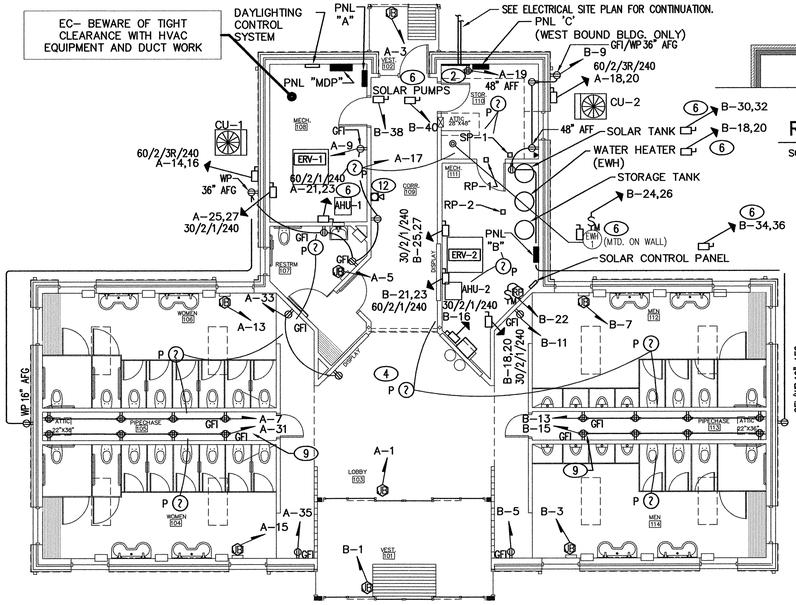
SHEET NO. M2 OF 2

ELECTRICAL GENERAL NOTES

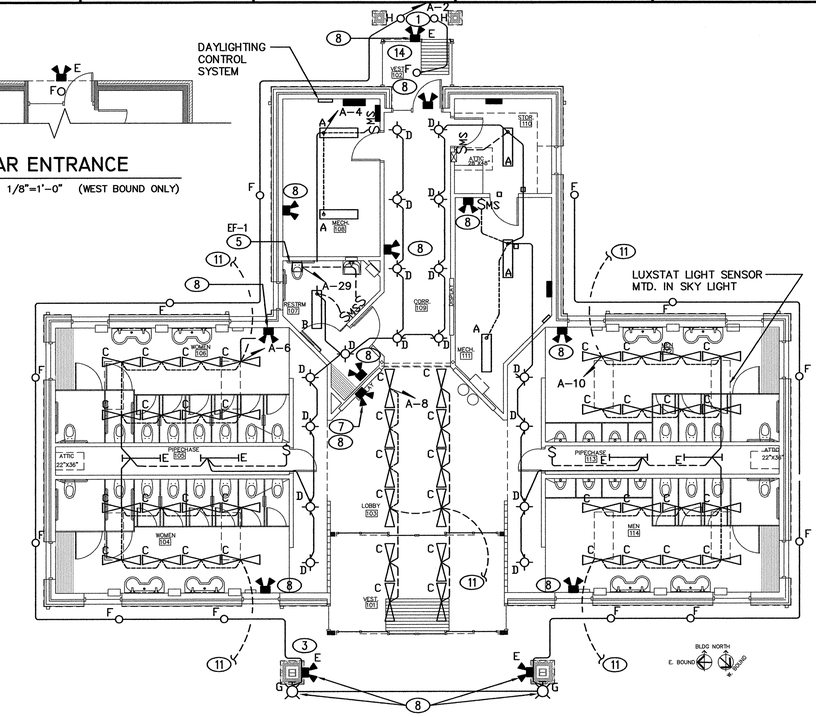
1. WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
2. MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY A TESTING AGENCY APPROVED BY THE AUTHORITY HAVING JURISDICTION, WHERE SUCH LISTING EXISTS.
3. 20 AMP, 120 VOLT CIRCUITS LONGER THAN 100 FEET IN TOTAL CONDUIT LENGTH SHALL BE #10 AWG MINIMUM.
4. CONDUCTORS ARE SIZED PER THE COPPER, 75° CELSIUS TABLES IN THE NEC.
5. CONDUITS ARE SIZED PER THE THWN/THHN INSULATION TABLES IN THE NEC.
6. 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.
7. INSTALL A NEC SIZED GROUND WIRE IN ALL RACEWAYS, UNLESS OTHERWISE NOTED. GROUNDING CONDUCTORS ARE NOT REQUIRED IN TELEDATA CONDUITS.
8. INDICATE CIRCUITS IN PANELS, SERVING EMERGENCY AND EXIT LIGHTS.
9. REVIEW ARCHITECTURAL DRAWINGS AND ELEVATIONS TO LOCATE RECEPTACLES, SWITCHES, & FIRE ALARM DEVICES, MUST COMPLY WITH NEC & NFPA.
10. ITEMS USED AS SERVICE ENTRANCE EQUIPMENT SHALL BE LISTED AND LABELED FOR THAT PURPOSE.
11. BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 0.90.
12. MINIMUM WIRE SIZE SHALL BE #12 AWG, UON.
13. 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 BE COORDINATED WITH THE ELECTRICAL ENGINEER.
14. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE. PROVIDE NEMA 3R WHERE LOCATED OUTSIDE & WHERE OTHERWISE NOTED.
15. PROVIDE A MINIMUM OF 10% EXTRA FUSES FOR EACH SIZE & CLASS, WITH A MINIMUM OF AT LEAST ONE SET OF EACH.
16. PROVIDE HAND-OFF-AUTO SWITCHES FOR ALL LIGHTING CONTACTORS.
17. PROVIDE MAGNETIC TRACER RIBBON FOR ALL UNDER GROUND UTILITIES BURIED 12" BELOW FINISH GRADE.
18. RUN #6 CU GROUND TO PHONE/DATA FROM BUILDING SERVICE GROUNDING POINT. PROVIDE 8' OF CONDUCTOR AT TELEPHONE BOARD.
19. COORDINATE LOCATION OF SMOKE DETECTORS WITH THE MECHANICAL CONTRACTOR. POSITION ALL SMOKE DETECTORS MIN. 3 FT. FROM SUPPLY DIFFUSERS & RETURN GRILLES.
20. AIC RATINGS SHOWN ON THE PANEL SCHEDULES ARE BASED ON FULLY RATED PANELS & CIRCUIT BREAKERS.
21. 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.

ELECTRICAL NOTES

1. SWITCH WITH PHOTO CELL.
2. 4x4x3/4" FIRE RATED TELEPHONE EQUIPMENT 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. SEE MECHANICAL PLANS FOR STOP/START SWITCH AT FLOOR LEVEL.
6. EQUIPMENT SHOWN OUT OF POSITION FOR PLAN CLARITY.
7. CENTER FIXTURE ABOVE OAK BOARD BAND, (APPROX. 9'-6" TO CENTER OF JB, SEE A6)
8. SEE ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING LOCATION ON A2.
9. GFI PROTECTED QUAD OUTLET IN PIPE CHASE FOR AUTOMATIC FLUSH VALVE SENSOR. COORDINATE EXACT ROUGH-IN WITH P.C.
10. EMERGENCY LIGHT MOUNTED DIRECTLY ABOVE WALL SCONCE.
11. CONNECT TO DAYLIGHTING CONTROLS.
12. CEILING MTD. HORN/ STROBE FOR DUCT DETECTOR- MANUFACTURER SYSTEM SENSOR #D4120 AC/DC 120 VOLT WITH REMOTE STATION HORN/STROBE MODEL #RTS2-AOS EQUALS BY EST & NOTIFIER.
13. 20A CIRCUIT FOR FOUNTAIN WEST BOUND ONLY-2#10, #10 EGC., 1" C. INSTALL GFI/WP OUTLET IN PIT SEE SHEET L2.
14. BACK ENTRY VESTIBULE ON EAST BOUND LANE ONLY.



2 / E-1 POWER PLAN-NEW BUILDING
SCALE: 1/8"=1'-0" (EQUIP. IS NOT TO SCALE)



1 / E-1 LIGHTING PLAN-NEW BUILDING
SCALE: 1/8"=1'-0" (EQUIP. IS NOT TO 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 (RJ45)
- 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)
- JB — 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.
- FLUORESCENT FIXTURE
- SUSPENDED FLUORESCENT FIXTURE
- SURFACE MOUNTED FLUORESCENT FIXTURE
- RECESSED FIXTURE
- SEMI-RECESSED FIXTURE
- S — SINGLE-POLE WALL SWITCH. 48" TO TOP, UON.
- S3 — THREE WAY WALL SWITCH. 48" TO TOP, UON.
- SM — SINGLE-POLE MOTOR RATED SWITCH.
- SMS — MOTION SENSOR SWITCH
- 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 (7) — 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

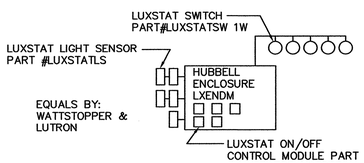
MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	TURRENT INDUSTRIAL	COLUMBIA CSR4-232-*-EU-CSRWG4	HOLOPHANE HSM SERIES LEGION 2600 SERIES	120 V	2-32W T8	WITH WIRE GUARD & REFLECTOR	64
B	1x4 SURFACE MOUNT	COLUMBIA SM14-232-FSA12-EU	HOLOPHANE LS SERIES LEGION 41 SERIES		2-32W T8	"	64
C	SUSPENDED FLUORESCENT	ALERA ALS-2T8*/*-CM*-LD-EU-MW	LITECONTROL LC94 SERIES DAYOLITE AD3510-DI SERIES		2-32W T8	"	64
D	6" LED RECESSED CAN	PRESCOLITE D6LED4	EDISON PRICE LED-RD SERIES PRIMA 8749 SERIES	120/277			
E	4' STRIP	COLUMBIA CS4-132-EU-CSWG4	PROGRESS P7267 SERIES LEGION 350 SERIES	120 V	2-32W T8	(1)	64
F	6" LED RECESSED CAN	PRESCOLITE D6LED4	EDISON PRICE LED-RD SERIES PRIMA 8749 SERIES	120/277			
G	WALL SCONCE	LUMINAIRE SPC818***-2PLC26-***-DP-BRZ-WET	FAILSAFE VR SERIES MORLITE LPL SERIES	120 V	2-26W CF	(1)	52
H	6" LED RECESSED CAN	PRESCOLITE D6LED4	EDISON PRICE LED-RD SERIES PRIMA 8749 SERIES	120/277			
J	POST TOP LED	KIM WARP9 TYPE V PATTERN	GE EAMT SERIES GARDCO RL SERIES	240V	140W LED	FA414-4125 STRAIGHT ALUMINUM POLE W/HANDHOLE,MATCH EXIST. POLE COLOR	140
K	(SAME AS 'J' WITHOUT POLE)	KIM WARP9 TYPE V PATTERN	GE EAMT SERIES GARDCO RL SERIES	240V	140W LED		140

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

	EMERGENCY LIGHT	ASTRALITE EU-MR-3R	DUALITE N SERIES CHLORIDE RHYNO SERIES	120 V		WHITE BODY	
E	EMERGENCY LIGHT EXTERIOR	DUAL LITE PGZ-HTR	MULE MAKO-3-CW HIGH LITES PLURALUX SERIES				
	NOT USED						
P (7)	SMOKE DETECTOR	KIDDE MODEL 1235E	EST ADEM CO			CEILING MNT. NFPA 72 IONIZATION TYPE, LOCAL ALARMS, FDR	<5

LIGHT FIXTURE NOTES

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



DAYLIGHTING CONTROL SYSTEM
SCALE: NTS

PROJECT:
I-40 REST AREA
MCDOWELL 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: ELECTRICAL PLANS & DETAILS

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd. Suite 201, Cary, NC 27511
919-678-8107 Fax 919-678-8109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HICKEY 5/21/10

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E1 OF 5

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
EXTERIOR LIGHTS	1120		30	1		2	.	.	.	.
–		1120	30	3		4	.	.	.	.
EXTERIOR LIGHTS	800		30	5		6	.	.	.	.
–		800	30	7		8	.	.	.	.
EXTERIOR LIGHTS	620		30	9		10	.	.	.	.
–		620	30	11		12	.	.	.	.
EXTERIOR LIGHTS	940		30	13		14	.	.	.	.
–		940	30	15		16	.	.	.	.
EXTERIOR LIGHTS	350		30	17		18	.	.	.	.
–		350	30	19		20	.	.	.	.
FLAG POLE LIGHT	300		20	21		22	.	.	.	.
LIGHTING CONTROLS		–	20	23		24	.	.	.	.
.	.		.	25		26	.	.	.	.
.				27		28				
				29		30				
	.	.		TOTAL VA PER PHASE				.	.	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [ ] NO
RATING N/A
BUS 100
LUG 100
MINIMUM AIC (K AMPS) 10 SN 100

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT. * NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ①	KVA DEMAND
GENERAL LIGHTING ②		.	.	.	125%	.
GENERAL USE RECEPTACLES		.	.	.	≤10KVA@100% / >10KVA@50%	.
MOTORS AND	LARGEST	.	.	.	125%	.
EQUIPMENT	ALL OTHERS	.	.	.	100%	.
WATER HEATERS		.	.	.	125%	.
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	.	.	100%	.
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXISTING EXTERIOR LIGHTS		8.0		8.0	125%	10
PANEL/FEEDER (TOTAL KVA)						10
(TOTAL KVA) X 1000 / VOLTS = TOTAL AMPS						43.5

NEW PANEL "C"
(WEST BOUND REST AREA BUILDING ONLY)

NOTES: (1) PHOTO-CELL CONTROLLED LIGHTS

WEST BOUND
MAIN CIRCUIT BREAKER [ ] YES [X] NO
SERVICE ENTR. RATED [ ] YES [X] NO

EAST BOUND
MAIN CIRCUIT BREAKER [X] YES [ ] NO
SERVICE ENTR. RATED [X] YES [ ] NO

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
AUTO. SLIDING DOOR-GFI (FRONT INNER)	600		20	1		2	20	806		LIGHTS-EXTERIOR
AUTO. SLIDING DOOR-GFI (REAR)		600	20	3		4	20		412	LIGHTS
HAND DRYER	1500		20	5		6	20	1256		LIGHTS
FLUSH VALVE SENSORS		720	20	7		8	20		768	LIGHTS
RECEPTS.	1080		25	9		10	20	1256		LIGHTS
SPARE		.	20	11		12		.		
HAND DRYER	1500		20	13		14	40	3312		HVAC, CU-1
HAND DRYER		1500	20	15		16	40		3312	2#10, #10 EGC., 1/2" C.
SMOKE DETECTORS (BREAKER LOCK)	100		20	17		18	40	3312		HVAC, CU-2
RECEPTS.-MTP (PHONE)		360	20	19		20	40		3312	2#10, #10 EGC., 1/2" C.
HVAC, AHU-1	6084		60	21		22	.	.		.
2#6, #10 G., 3/4" C.		6084	60	23		24	.		.	.
ERV-1	853		15	25		26	.	.		.
2#12, #12 G., 1/2" C.		853	15	27		28	.		.	.
EXHAUST FAN, EF-1	54		20	29		30	.			.
FLUSH VALVE SENSORS		720	20	31		32	.			.
RECEPT.	360		20	33		34	.			.
RECEPT.		180	20	35		36	.			.
.			.	37		38	.			.
.			.	39		40	.			.
.			.	41		42	.			.
	13181	12067		TOTAL VA PER PHASE				9942	7804	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [ ] NO
RATING 225
BUS 225
LUG 225
MINIMUM AIC (K AMPS) 22 SN 225

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT. * NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ①	KVA DEMAND
GENERAL LIGHTING ②		.	4.4	4.4	125%	5.6
GENERAL USE RECEPTACLES		.	1.6	1.6	≤10KVA@100% / >10KVA@50%	1.6 / –
MOTORS AND	LARGEST	.	6.6	6.6	125%	8.3
EQUIPMENT	ALL OTHERS	.	23.3	23.3	100%	23.3
WATER HEATERS		.	.	.	125%	.
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	10.0	10.0	100%	10.0
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXTERIOR LIGHTS		.	.	.	125%	.
PANEL/FEEDER (TOTAL KVA)						48.8
(TOTAL KVA) X 1000 / VOLTS = TOTAL AMPS						203

NEW PANEL "A"
(REST AREA BLDG.)

WEST BOUND
MAIN CIRCUIT BREAKER [ ] YES [X] NO
SERVICE ENTR. RATED [ ] YES [X] NO

EAST BOUND
MAIN CIRCUIT BREAKER [X] YES [ ] NO
SERVICE ENTR. RATED [X] YES [ ] NO

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
AUTO. SLIDING DOOR-GFI (FRONT OUTER)	600		20	1		2	20	.		SPARE
HAND DRYER		1500	20	3		4	20		.	SPARE
RECEPTS.	180		20	5		6	.	.		.
HAND DRYER		1500	20	7		8	.		.	.
RECEPTS.	900		20	9		10	.	.		.
RECEPTS.		180	20	11		12	.		.	.
FLUSH VALVE SENSORS	720		20	13		14	.	.		.
FLUSH VALVE SENSORS		720	20	15		16	*20*		600	EWC (GFI BREAKER)
SPARE	.		20	17		18	30	2250		EWH
SPARE		.	20	19		20	30		2250	2#10, #10 G., 1/2" C.
HVAC, AHU-2	6084		60	21		22	20	300		RECIRC PUMP
2#6, #10 G., 3/4" C.		6084	60	23		24	30		2250	EWH-1
ERV-2	853		15	25		26	30	2250		–
2#12, #12 G., 1/2" C.		853	15	27		28	20		600	FOUNTAIN (WEST BOUND ONLY)
.	.		.	29		30	30	2250		SOLAR TANK W/HEATER
.		.	.	31		32	30		2250	2#10, #10 G., 1/2" C.
.	.		.	33		34	20	100		SOLAR CONTROL PANEL
.		.	.	35		36	20		100	2#12, #12 G., 1/2" C.
.	.		.	37		38	20	100		SOLAR PUMP
.		.	.	39		40	20		100	SOLAR PUMP
.	.		.	41		42		.		
	.	.		TOTAL VA PER PHASE				.	.	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [ ] NO
RATING 225
BUS 225
LUG 225
MINIMUM AIC (K AMPS) 22 SN 225

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT. * NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

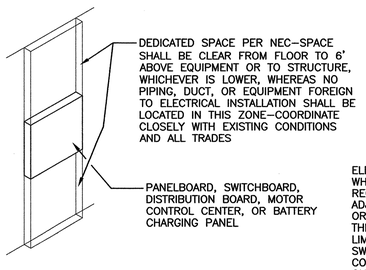
LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ①	KVA DEMAND
GENERAL LIGHTING ②		.	.	.	125%	.
GENERAL USE RECEPTACLES		.	1.3	1.3	≤10KVA@100% / >10KVA@50%	1.3 / .
MOTORS AND	LARGEST	.	3.8	3.8	125%	4.8
EQUIPMENT	ALL OTHERS	.	11.1	11.1	100%	11.1
WATER HEATERS		.	13.5	13.5	125%	16.9
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	10.0	10.0	100%	10.0
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXTERIOR LIGHTS		.	.	.	125%	.
PANEL/FEEDER (TOTAL KVA)						44.1
(TOTAL KVA) X 1000 / VOLTS = TOTAL AMPS						184

* * GFI BREAKER

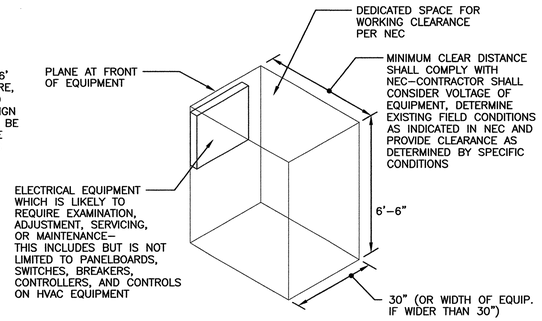
NEW PANEL "B"
(REST AREA BLDG.)

WEST BOUND
MAIN CIRCUIT BREAKER [ ] YES [X] NO
SERVICE ENTR. RATED [ ] YES [X] NO

EAST BOUND
MAIN CIRCUIT BREAKER [X] YES [ ] NO
SERVICE ENTR. RATED [X] YES [ ] NO

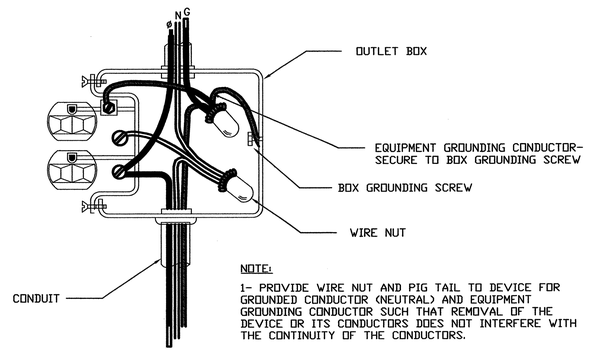


DEDICATED SPACE REQUIREMENTS



WORKING CLEARANCE REQUIREMENTS

ELECTRICAL EQUIPMENT DEDICATED SPACE AND WORKING CLEARANCE
SCALE: NOT TO SCALE



NOTE:

1- PROVIDE WIRE NUT AND PIG TAIL TO DEVICE FOR GROUNDED CONDUCTOR (NEUTRAL) AND EQUIPMENT GROUNDING CONDUCTOR SUCH THAT REMOVAL OF THE DEVICE OR ITS CONDUCTORS DOES NOT INTERFERE WITH THE CONTINUITY OF THE CONDUCTORS.

2- EQUIPMENT GROUNDING CONDUCTOR SHALL BE CONTINUOUS THROUGH BOX.

3- PROVIDE 4x4 ROUGH-IN BOX WITH 2x4 ADAPTER RING

RECEPTACLE WIRING DETAIL
SCALE: NOT TO SCALE

PROJECT:
I–40 REST AREA
MCDOWELL 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:
ELECTRICAL PANELS & RISERS

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

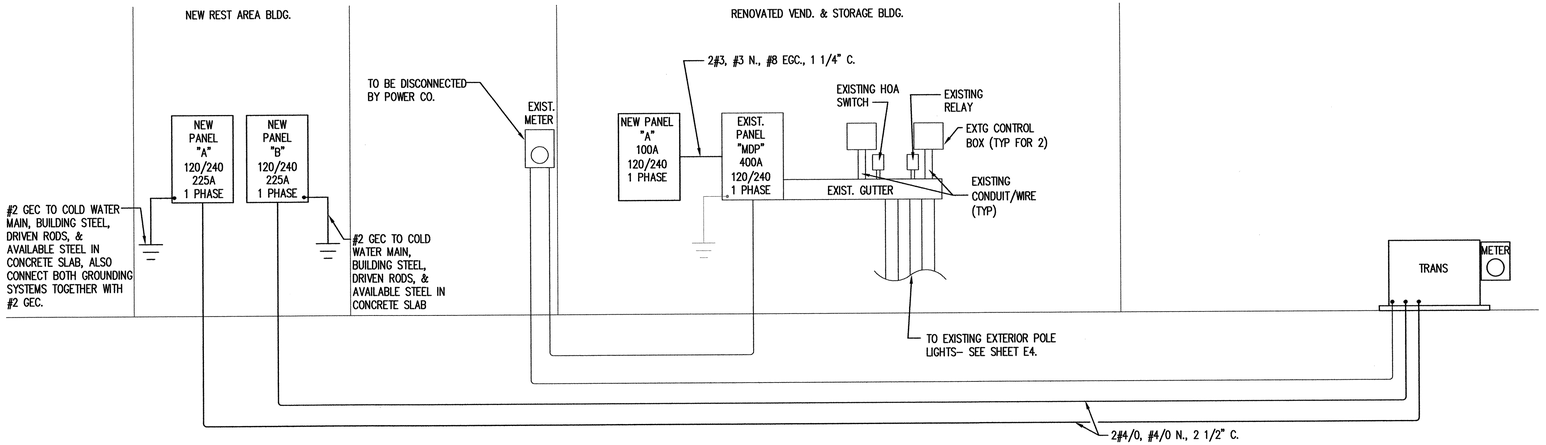
TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 79115 ENGINEER JOEL M. HASSEY 5/11/10

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E2 OF 5



2 / E-3 ELECTRICAL RISER-EAST BOUND

SCALE: NTS
NOTE: BURY ALL NEW CONDUITS MIN. 30" DEEP

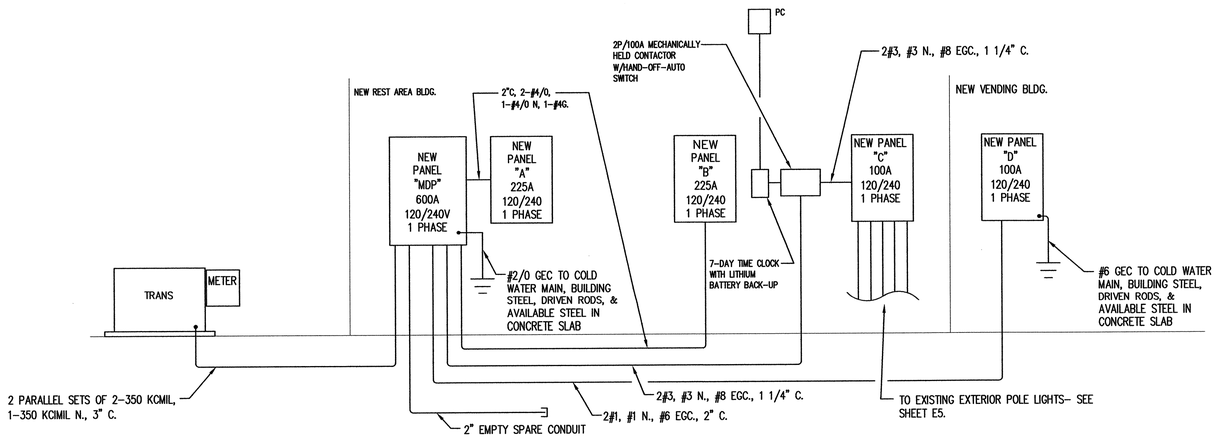
LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
PNL 'A'	23123		225	1		2	100	4400		PNL 'C' (EXTERIOR LIGHTS)
		19811	225	3		4	100		4500	–
PNL 'B'	12937		225	5		6	100	4188		PNL 'D'
–		16987	225	7		8	100		3836	–
SPACE	.	.	.	9		10	.	.	.	SPACE
–		.	.	11		12	.		.	–
	39800	39258			TOTAL VA PER PHASE			8588	8336	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [·] NO
MAIN CIRCUIT BREAKER [·] YES [X] NO RATING N/A
SERVICE ENTR. RATED [X] YES [·] NO BUS 600
MINIMUM AIC (K AMPS) 22 LUG 600
SN 600

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220–3(a) OR CONNECTED LOAD.
③ NEC TABLE 220–20.
④ NEC 220–15.
⑤ NEC 220–12, 200 VA/LINEAR FT.
* NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

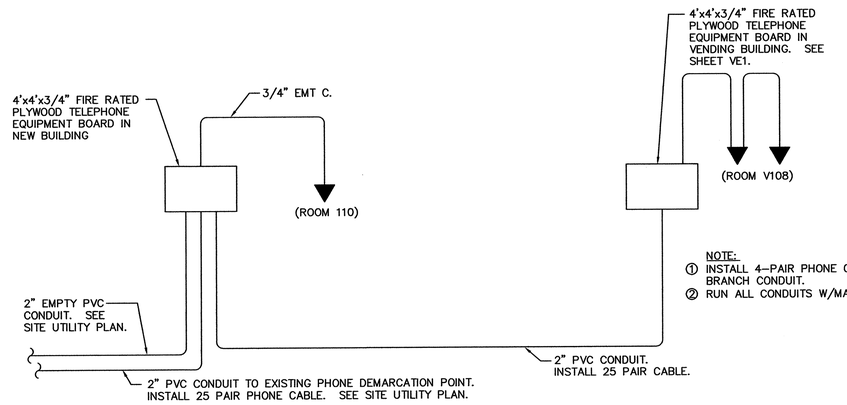
LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ①	KVA DEMAND
GENERAL LIGHTING ②		.	4.9	4.9	125%	6.1
GENERAL USE RECEPTACLES		.	4.5	4.5	≤10KVA@100% / >10KVA@50%	4.5
MOTORS AND EQUIPMENT	LARGEST	.	6.6	6.6	125%	8.2
	ALL OTHERS	.	38.2	38.2	100%	38.2
WATER HEATERS		.	13.5	13.5	125%	16.9
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	20.0	20.0	100%	20.0
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXTERIOR LIGHTS		8.9	.	8.9	125%	11.1
PANEL/FEEDER (TOTAL KVA)						105
(TOTAL KVA) X 1000 / VOLTS = TOTAL AMPS						438

NEW PANEL "MDP" (WEST BOUND)



1 / E-3 ELECTRICAL RISER-WEST BOUND

SCALE: NTS
NOTE: BURY ALL NEW CONDUITS MIN. 30" DEEP



PHONE RISER

SCALE: NTS

PROJECT:
I–40 REST AREA
MCDOWELL 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

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DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

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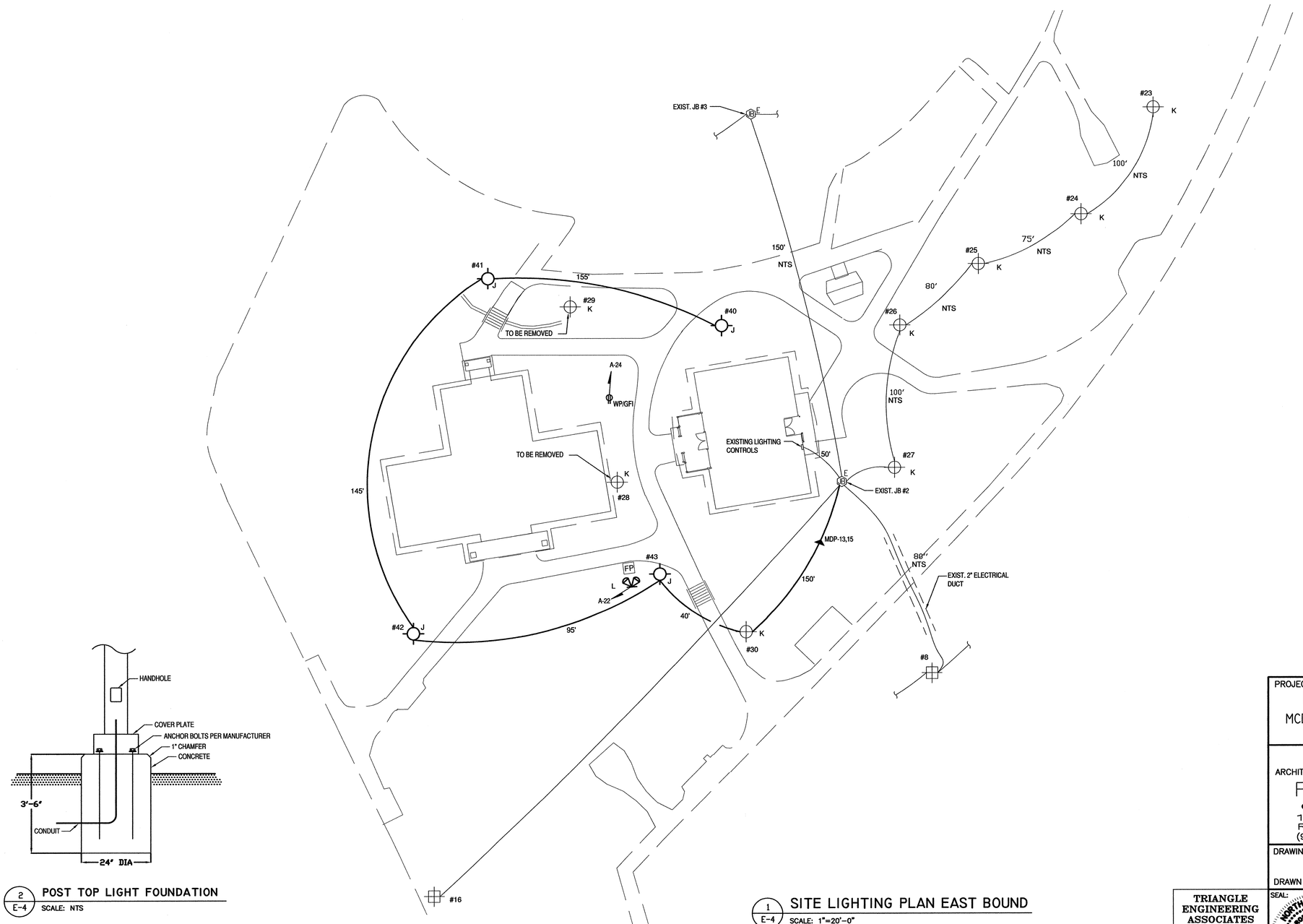
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919–678–8107
Fax 919–678–8109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY 5/14/10

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4909	39977.3.ST1	C202206	STM–040–2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E3 OF 5



1 / E-4 SITE LIGHTING PLAN EAST BOUND
SCALE: 1"=20'-0"

2 / E-4 POST TOP LIGHT FOUNDATION
SCALE: NTS

SYMBOL LEGEND

- HOMERUN – 120V, 2-#12, 1-#12G, 3/4"C, UON
- HOMERUN – 230V, CIRCUIT WIRES AS INDICATED
- EXISTING 1" PVC CONDUITS TO BE RE-USED UNLESS OTHERWISE NOTED
- NEW CIRCUIT IN 1" PVC CONDUIT
- GF — DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER.
- WP — DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF COVER

CONSTRUCTION NOTES

1. J — NEW TYPE 'J' LED FIXTURE & POST & BASE. SEE DETAIL THIS SHEET. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS IN FIELD WITH OWNER.
2. K — EXISTING POST LIGHT. INSTALL NEW TYPE 'J' LED FIXTURE. RE-USE EXISTING POST & BASE. NUMBERS REFER TO THE FIXTURE NUMBERS NOTED ON THE ORIGINAL EXISTING POLES.
3. EXISTING ROADWAY LIGHT TO REMAIN. 250 WATT, 240 VOLT. NUMBERS REFER TO THE FIXTURE NUMBERS NOTED ON THE POLES.
4. JB E — EXISTING JUNCTION BOX.
5. NTS-NOT TO SCALE. DIMENSIONS ARE SHOWN FOR APPROXIMATE QUANTITY TAKE-OFF. CONTRACTOR SHALL VERIFY EXACT LINEAR DIMENSIONS & LOCATIONS IN FIELD.
6. RUN NEW CONDUCTORS FROM THE LIGHTING CONTROLS IN THE BUILDING TO THE FIRST POLE FIXTURE FOR EACH EXISTING 230 VOLT LIGHTING CIRCUIT. MAXIMUM CONDUCTOR SIZE SHALL BE #6 THHN/THWN WITH #6 EGC.
7. INSTALL NEW TYPE THHN/THWN CONDUCTORS FOR THE NEW TYPE 'J' LED FIXTURES. RUN 2#8, #8 EGC., IN 1" PVC CONDUIT.
8. DO NOT ROUTE NEW LIGHTING CIRCUIT CONDUITS UNDER THE NEW BUILDING.
9. FOR EACH CIRCUIT (NEW & REPLACED) INSTALL AN EQUIPMENT GROUNDING CONDUCTOR SAME SIZE AS THE BRACH CIRCUIT CONDUCTORS.
10. PRIOR TO BEGINNING HIS WORK, THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND CIRCUITS (LIGHTING & FEEDERS) & JUNCTION BOXES. HE SHALL VERIFY THE CONNECTED LOAD OF THE EXISTING & NEW LIGHTING CIRCUIT USING EITHER PERMANENT OR TEMPORARY 230 VOLT SINGLE PHASE POWER. COORDINATE WITH OWNER & ENGINEER AS REQUIRED TO MAXIMIZE THE BALANCE BETWEEN CIRCUITS.

PROJECT:
I-40 REST AREA
MCDOWELL 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:
ELECTRICAL PLANS & DETAILS

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

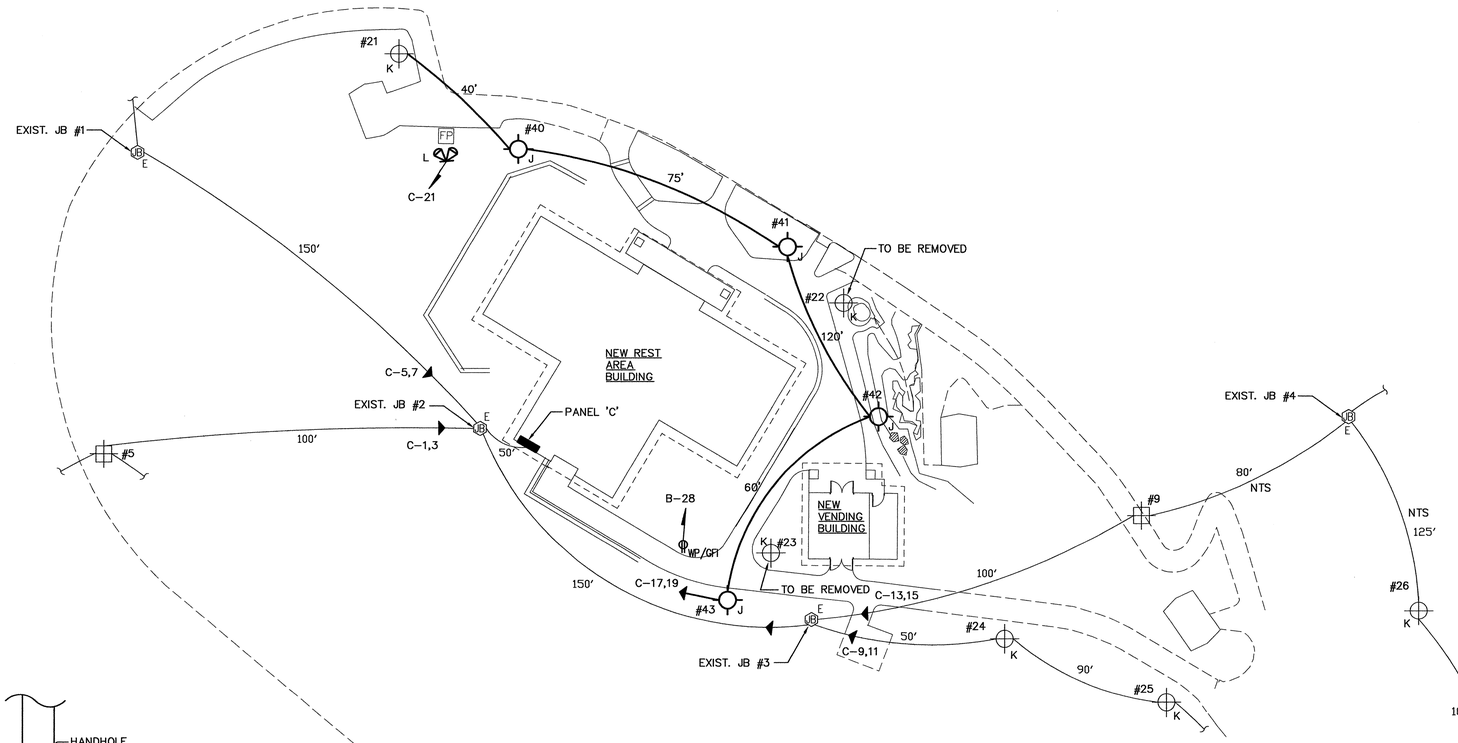
TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 79115 ENGINEER JOEL W. HOSEY

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL-AID NO.
K-4909	3997.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E4 OF 5

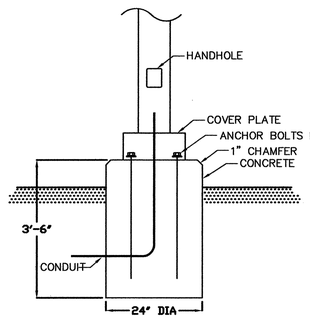


SYMBOL LEGEND

- HOMERUN – 120V, 2–#12, 1–#12G, 3/4"C, UON
- HOMERUN – 230V, CIRCUIT WIRES AS INDICATED
- EXISTING 1" PVC CONDUITS TO BE RE–USED UNLESS OTHERWISE NOTED
- NEW CIRCUIT IN 1" PVC CONDUIT
- GF — DUPLEX RECEPTACLE, NEMA 5–20R, GROUND FAULT CIRCUIT INTERRUPTER.
- WP — DUPLEX RECEPTACLE, NEMA 5–20R, GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF COVER

CONSTRUCTION NOTES

1. NEW TYPE 'J' LED FIXTURE & POST & BASE. SEE DETAIL THIS SHEET. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS IN FIELD WITH OWNER.
2. EXISTING POST LIGHT. INSTALL NEW TYPE 'J' LED FIXTURE. RE–USE EXISTING POST & BASE. NUMBERS REFER TO THE FIXTURE NUMBERS NOTED ON THE ORIGINAL EXISTING POLES.
3. EXISTING ROADWAY LIGHT TO REMAIN. 250 WATT, 240 VOLT. NUMBERS REFER TO THE FIXTURE NUMBERS NOTED ON THE POLES.
4. EXISTING JUNCTION BOX.
5. NTS–NOT TO SCALE. DIMENSIONS ARE SHOWN FOR APPROXIMATE QUANTITY TAKE–OFF. CONTRACTOR SHALL VERIFY EXACT LINEAR DIMENSIONS & LOCATIONS IN FIELD.
6. RUN NEW CONDUCTORS FROM THE LIGHTING CONTROLS IN THE BUILDING TO THE FIRST POLE FIXTURE FOR EACH EXISTING 230 VOLT LIGHTING CIRCUIT. MAXIMUM CONDUCTOR SIZE SHALL BE #6 THHN/THWN WITH #6 EGC.
7. INSTALL NEW TYPE THHN/THWN CONDUCTORS FOR THE NEW TYPE 'J' LED FIXTURES. RUN 2#8, #8 EGC., IN 1" PVC CONDUIT.
8. DO NOT ROUTE NEW LIGHTING CIRCUIT CONDUITS UNDER THE NEW BUILDING.
9. FOR EACH CIRCUIT (NEW & REPLACED) INSTALL AN EQUIPMENT GROUNDING CONDUCTOR SAME SIZE AS THE BRACH CIRCUIT CONDUCTORS.
10. PRIOR TO BEGINNING HIS WORK, THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND CIRCUITS (LIGHTING & FEEDERS) & JUNCTION BOXES. HE SHALL VERIFY THE CONNECTED LOAD OF THE EXISTING & NEW LIGHTING CIRCUIT USING EITHER PERMANENT OR TEMPORARY 230 VOLT SINGLE PHASE POWER. COORDINATE WITH OWNER & ENGINEER AS REQUIRED TO MAXIMIZE THE BALANCE BETWEEN CIRCUITS.



2 / E-5 POST TOP LIGHT FOUNDATION
SCALE: NTS

1 / E-5 SITE LIGHTING PLAN WEST BOUND
SCALE: 1"=20'-0"

PROJECT:
I–40 REST AREA
MCDOWELL COUNTY NORTH CAROLINA

ARCHITECT/ENGINEERS:
FACILITIES DESIGN
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RALEIGH, NORTH CAROLINA 27601
(919) 715–0400 FAX (919) 715–0399

DRAWING TITLE:
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DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

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1320 SE Maynard Rd.
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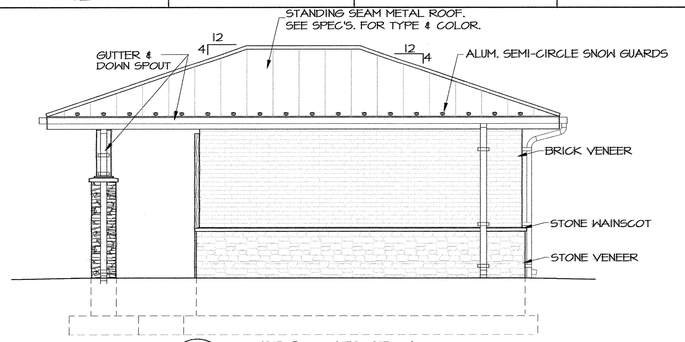
919–678–6107
Fax 919–678–6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

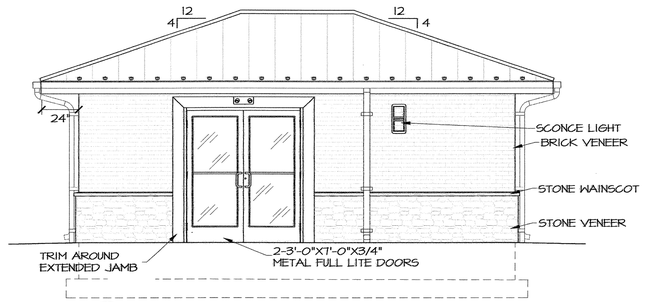
TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL– AID NO.
K–4909	3997.3.ST1	C202206	STM–040–2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. E5 OF 5

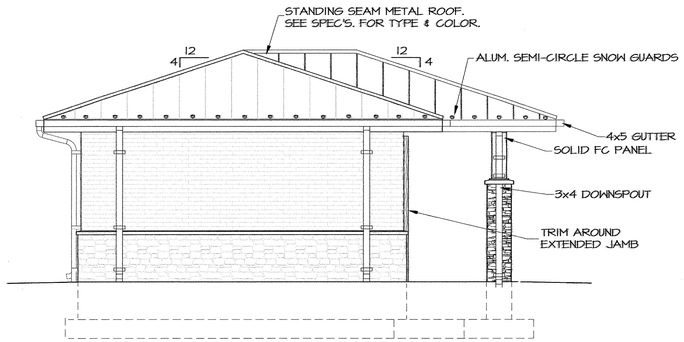


F12 VA1 **WEST ELEV.** (WEST BOUND)
SCALE 1/4" = 1'-0"

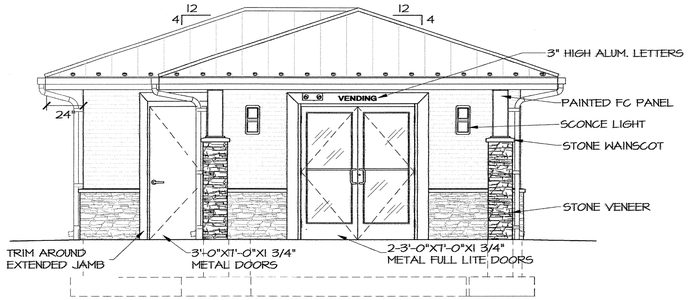


F7 VA1 **SOUTH ELEV.** (WEST BOUND)
SCALE 1/4" = 1'-0"

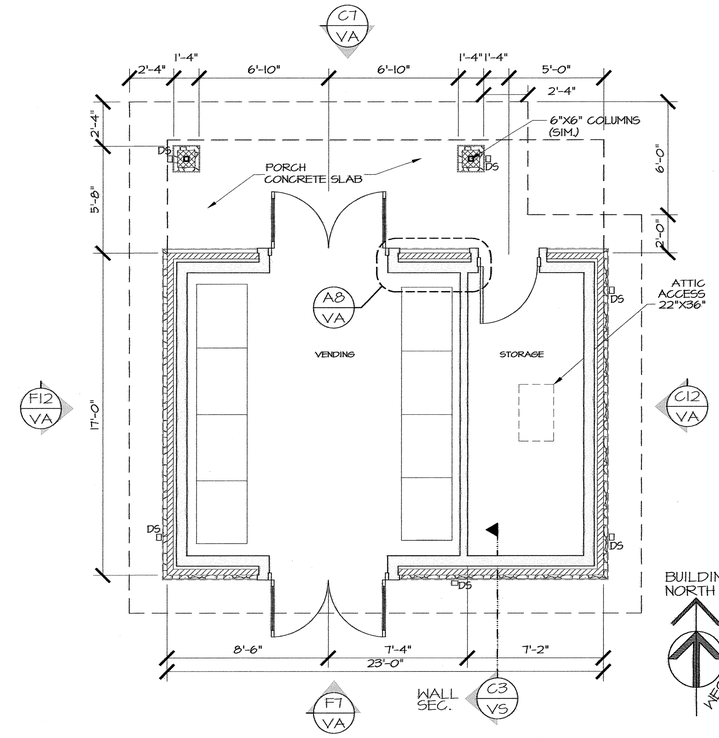
NOTE: SEE SPEC. FOR DOOR SCHEDULE



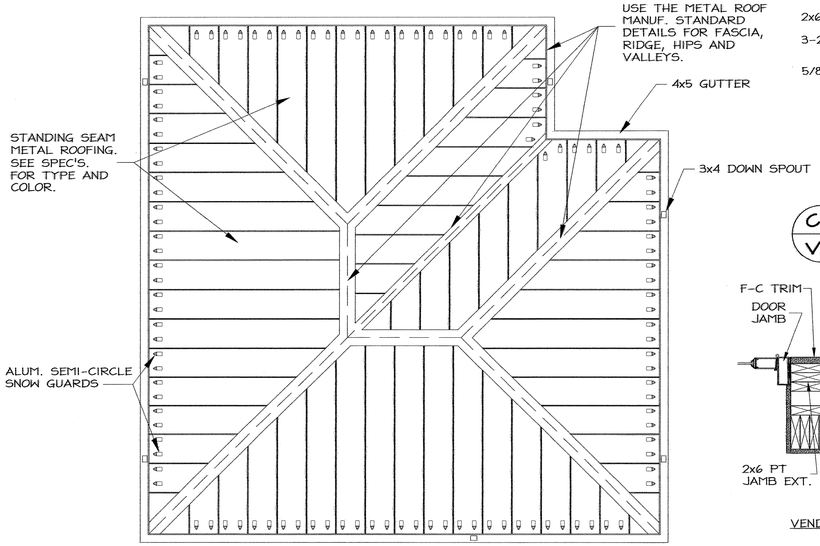
C12 VA1 **EAST ELEV.** (WEST BOUND)
SCALE 1/4" = 1'-0"



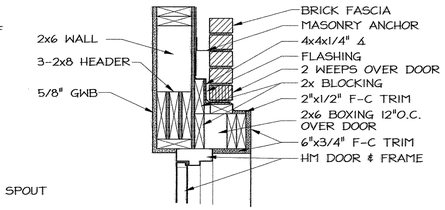
C7 VA1 **NORTH ELEV.** (WEST BOUND)
SCALE 1/4" = 1'-0"



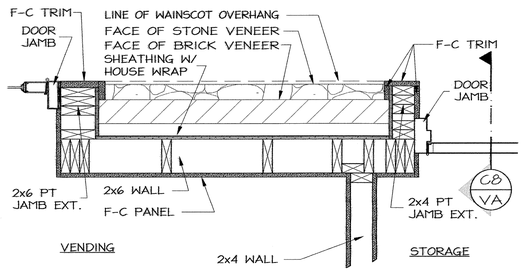
E3 VA **FLOOR PLAN** (WEST BOUND)
SCALE 1/4" = 1'-0"



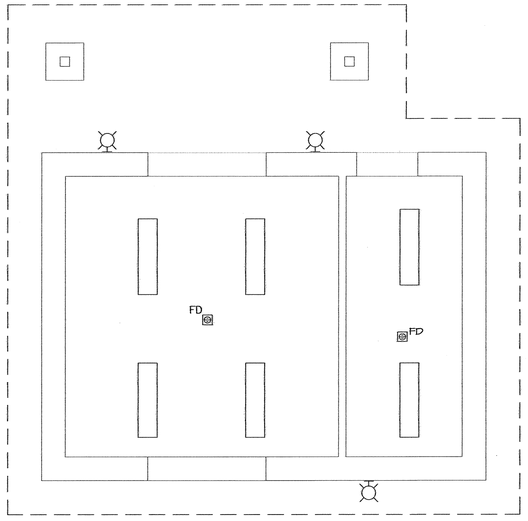
A11 VA **ROOF PLAN** (WEST BOUND)
SCALE 1/4" = 1'-0"



C8 VA **ENLARGED PLAN @ DOOR HEAD**
SCALE 1" = 1'-0"



A8 VA **ENLARGED PLAN @ DOOR JAMBS**
SCALE 1" = 1'-0"



A5 VA **REF. CEILING PLAN** (WEST BOUND)
SCALE 1/4" = 1'-0"

LEGEND

WALL SCONCE

1X4 SURFACE MOUNT

PROJECT:
I-40 REST AREA
MCDOWELL 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 & ELEVATIONS**

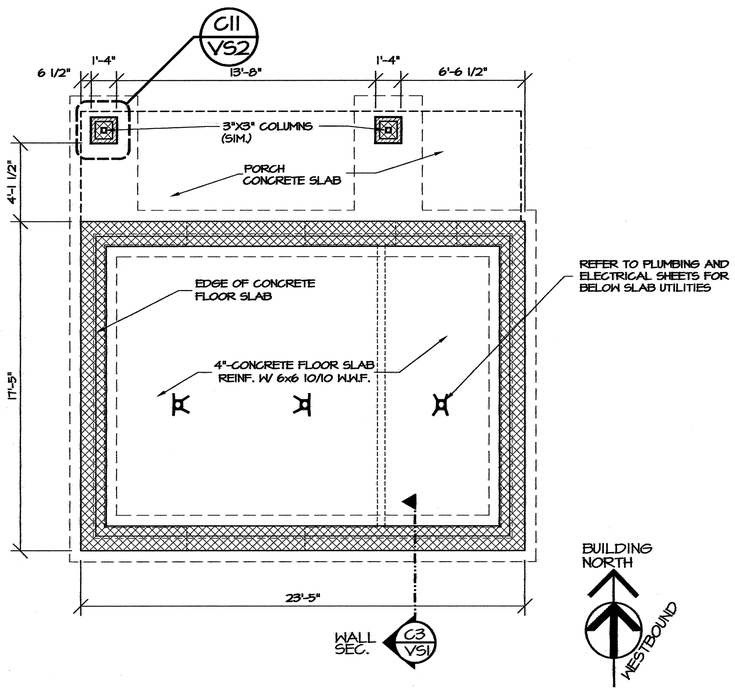
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4249 9-11-10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

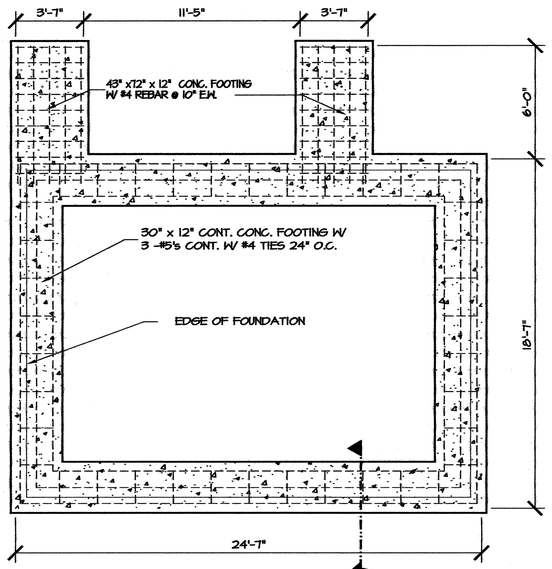
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VA OF 1



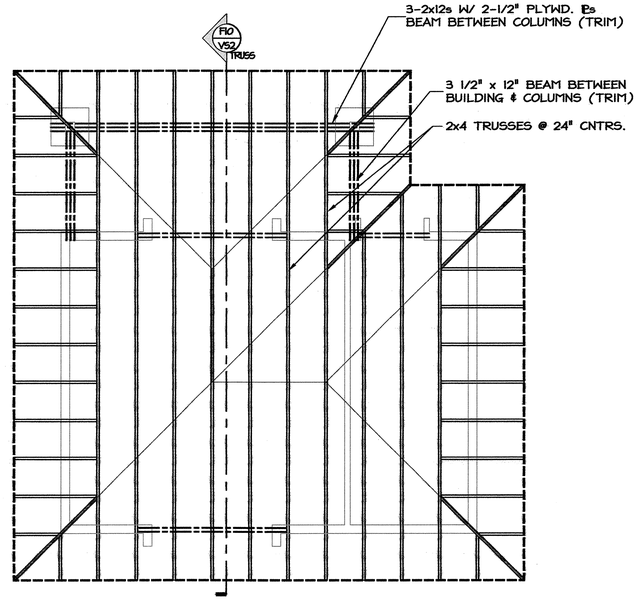
D12 / VS1 **FOUNDATION PLAN**

SCALE 1/4" = 1'-0"



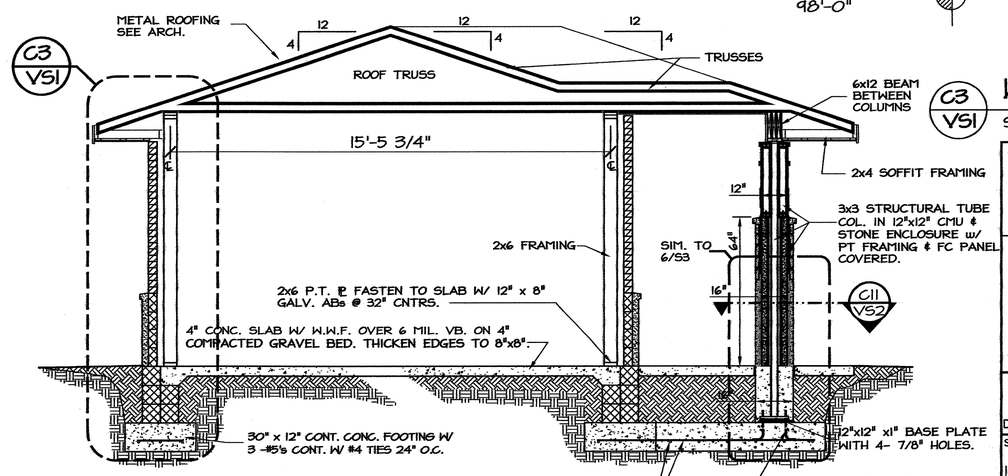
A12 / VS1 **FOOTING PLAN**

SCALE 1/4" = 1'-0"



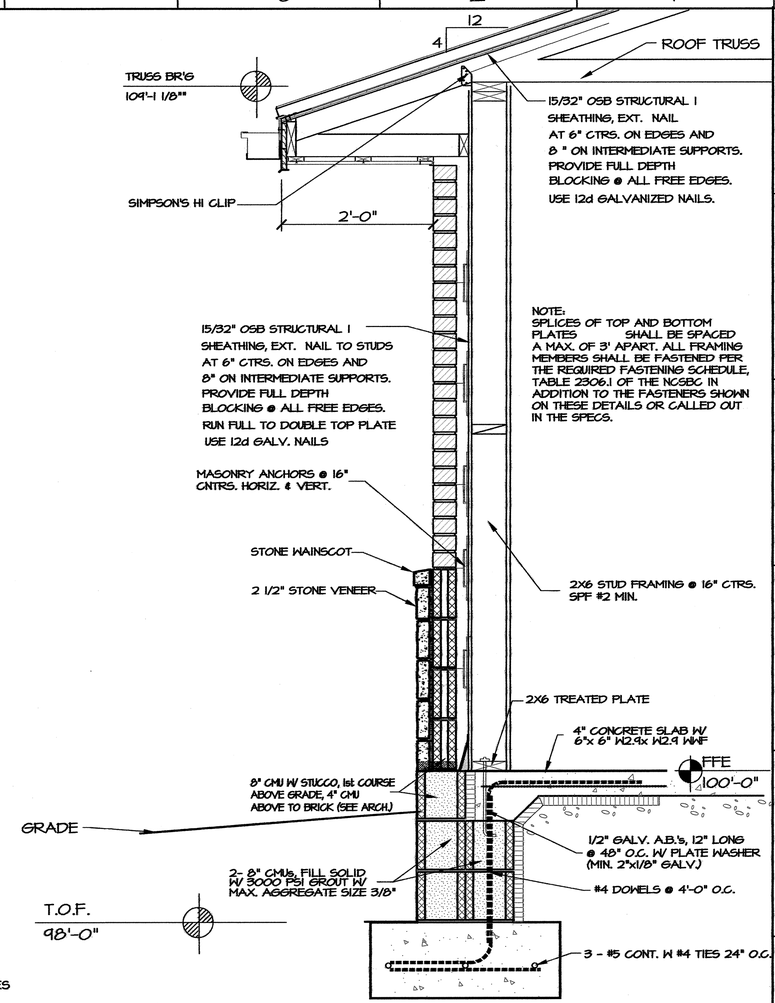
E1 / VS1 **ROOF FRAMING PLAN**

SCALE 1/4" = 1'-0" (WEST BOUND)



A8 / VS1 **BUILDING SECTION**

SCALE 3/8" = 1'-0"



C3 / VS1 **WALL SECTION**

SCALE 1" = 1'-0"

PROJECT:

I-40 REST AREA

MCDOWELL 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:

STRUCTURAL PLANS & SECTIONS

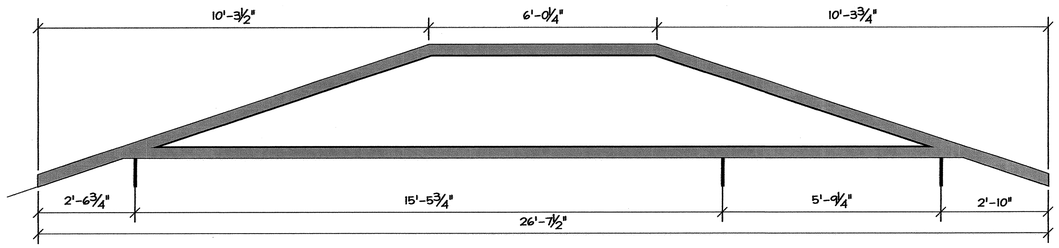
DRAWN BY: C.L.S. / R.A. CHECKED BY: W.E. RATTERREE ISSUE DATE: 27 OCTOBER 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16934 A. WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

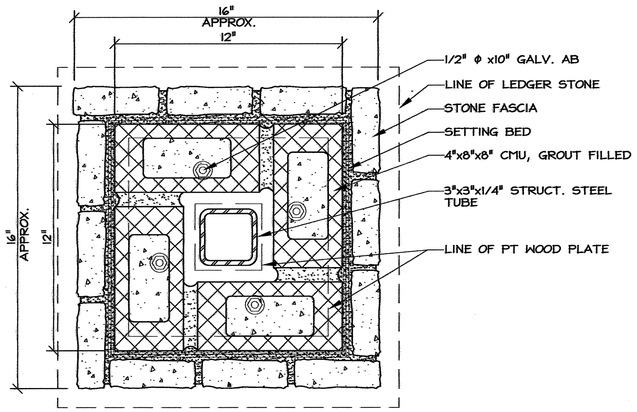
SHEET NO. **VS1** OF 2



NOTE:
1. TRUSS WEBS NOT SHOWN FOR CLARITY.
2. SHOP DRAWINGS FOR THE PRE-ENGINEERED ROOF TRUSSES MUST BEAR THE SEAL OF A PROFESSIONAL ENGINEER CURRENTLY LICENSED TO PRACTICE IN NORTH CAROLINA

F10 / VS2 **TRUSS**

SCALE 1/2" = 1'-0"

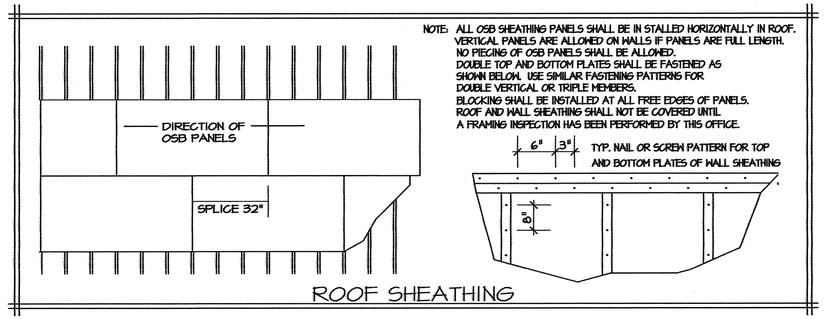


C11 / VS2 **COLUMN PLAN**

SCALE 3" = 1'-0"

ROOF FRAMING NOTES:

1. ROOF TRUSS FABRICATOR SHALL FURNISH SHOP DRAWINGS, ENGINEERING DESIGN COMPUTATIONS, ALL CONNECTIONS AND DETAILS, ALL BRIDGING AND BRACING FOR TRUSSES AS SHOWN IN PROFILE, ALL BEARING THE SEAL OF A REGISTERED ENGINEER SHOWING REGISTRATION IN THE STATE OF NORTH CAROLINA. THE PLACEMENT OF THE ENGINEER'S SEAL WITH THE ENGINEER'S SIGNATURE AND DATE SEALED AND SIGNED CERTIFIES THAT THE WORK HAS BEEN DESIGNED AND CHECKED BY THE ENGINEER AND THAT THE DESIGN AND WORK MEETS THE SPECIFIED REQUIREMENTS AND THE NORTH CAROLINA STATE BUILDING CODE. TRUSS LATERAL X-BRACING, TOP & BOTTOM CHORD LATERAL BRACING SHALL BE AS DEFINED IN HIB-91 FOR PITCHED ROOFS. BRACING SHALL BE SYP #2 (MIN. 2x4's) AND NAILED AT EACH CONNECTION W/ A MINIMUM OF 2-16d GALVANIZED NAILS.
2. DESIGN LOADS
   ROOF TRUSSES:
   DEAD LOAD = 10 PSF
   LIVE LOAD = 20 PSF
   SNOW LOAD = 15 PSF
   COLLATERAL DEAD LOAD 3 PSF (DUCTWORK, & ELEC.)
   USE DEAD LOAD AND COLLATERAL DL TO CALCULATE NET UPLIFT
3. PROVIDE THE REQUIRED CAMBER IN EACH ROOF TRUSS SO THAT THE D.L. AND L.L. DEFLECTION SHALL BE THE SAME IN ALL PLANES. CAMBER FOR LONG TERM DEAD LOAD DEFLECTION.
4. ALL WOOD MEMBERS USED SHALL BEAR THE IDENTIFICATION GRADE AS CALLED FOR IN THE FABRICATOR'S ENGINEERED AND SEALED DESIGN COMPUTATIONS.
5. LUMBER SHALL NOT BE LESS THAN GRADE NO. 2 SOUTHERN YELLOW PINE OR AS ALLOWED BY FABRICATOR'S ENGINEERED AND SEALED DESIGN COMPUTATIONS.
6. LUMBER SHALL BE GRADED AND MARKED BY SOUTHERN PINE INSPECTION BUREAU.
7. THE ERECTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE BRACING TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
8. THE ERECTOR SHALL INSTALL ALL BRIDGING AND BRACING AS CALLED FOR BY THE SEALED SHOP DRAWINGS AND COMPUTATIONS.
9. ANCHORS FOR ROOF TRUSSES SHALL BE AS MANUFACTURED BY SIMPSON STRONG TIE CO., OR APPROVED EQUAL. (HARLON METAL PRODUCTS INC., OR HUGHES, OR USP)



ROOF SHEATHING

NOTE: ALL OSB SHEATHING PANELS SHALL BE IN STALLED HORIZONTALLY IN ROOF. VERTICAL PANELS ARE ALLOWED ON WALLS IF PANELS ARE FULL LENGTH. NO PIECING OF OSB PANELS SHALL BE ALLOWED. DOUBLE TOP AND BOTTOM PLATES SHALL BE FASTENED AS SHOWN BELOW. USE SIMILAR FASTENING PATTERNS FOR DOUBLE VERTICAL OR TRIPLE MEMBERS. BLOCKING SHALL BE INSTALLED AT ALL FREE EDGES OF PANELS. ROOF AND WALL SHEATHING SHALL NOT BE COVERED UNTIL A FRAMING INSPECTION HAS BEEN PERFORMED BY THIS OFFICE.

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 2306.1 OF THE NCSBC IN ADDITION TO THE FASTENERS SHOWN ON THESE DETAILS OR CALLED OUT IN THE SPECS.

PROJECT:
I-40 REST AREA
MCDOWELL COUNTY — NORTH CAROLINA

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

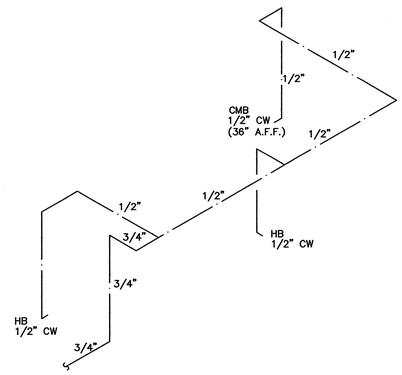
DRAWING TITLE:
STRUCTURAL PLANS & SECTIONS
DRAWN BY: C.L.S. / R.A. CHECKED BY: W.E. RATTERREE ISSUE DATE: 27 OCTOBER 09

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16394 ENGINEER WILLIAM RATTERREE

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

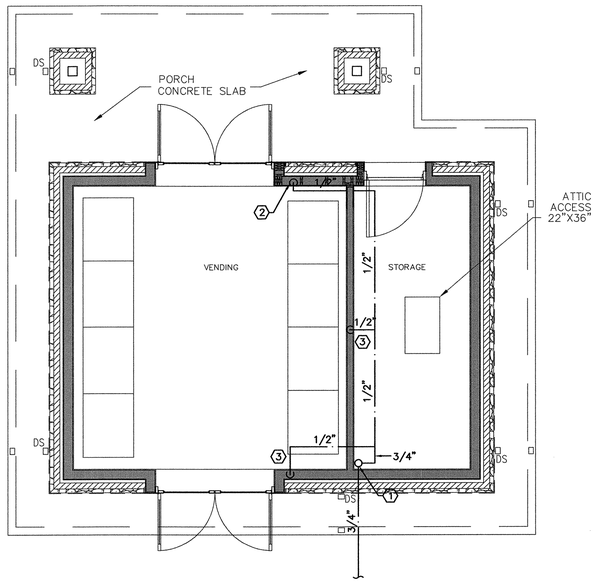
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **VS2** OF 2



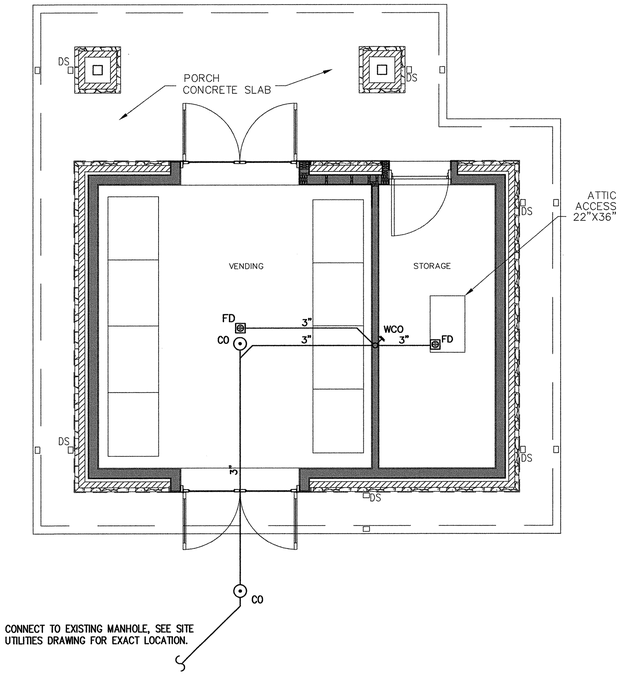
4 VP1 **DOMESTIC WATER RISER**

NOT TO SCALE



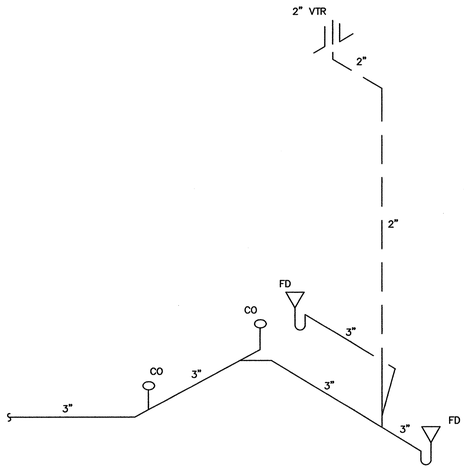
1 VP-1 **PLUMBING PLAN- WATER-NEW VENDING BLDG.**

SCALE: 1/4" = 1'-0" **(WEST BOUND)**



1 VP-1 **PLUMBING PLAN- WASTE-NEW VENDING BLDG.**

SCALE: 1/4" = 1'-0" **(WEST BOUND)**



3 VP1 **WASTE RISER**

NOT TO SCALE

FOR DEMO SEE SHEET VA4

PLUMBING LOAD SUMMARY
WASTE FIXTURE UNITS = 6
WATER FIXTURE UNITS = 5
TOTAL DEMAND G.P.M. = 10

PLUMBING KEY NOTES – WATER

1. 3/4" CW UP
2. 1/2" CW DN TO COFFEE MAKER BOX. MOUNT 36" A.F.F.
3. 1/2" CW DOWN TO HB

FIXTURE SCHEDULE - PLUMBING

HB HOSE BIBB (See note 4 below)
WOODFORD MODEL 24B, 3/4" STANDARD BRONZE HOSE BIBB W/ VACUUM BREAKER. INCLUDE KEYED OPERATION.

FD FLOOR DRAIN (See note 3 below)
ZURN ZN-415 PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER.

FD-1 FLOOR DRAIN (See note 3 below)
ZURN ZN-415 PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER. WITH TRAP PRIMER CONNECTION

APPROVED EQUALS:

3. Floor Drains
   - Josam #30000A.
   - Josam #30000E1.
   - Jay R. Smith #2005-A.
   - Jay R. Smith #2005-F37.
4. Hose Bibbs and Anti Freeze Hose Bibbs
   - Jay R. Smith #5509QT.
   - Watts #HY-330.

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, JUNCTION BOXES, 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.

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

BUILDING NORTH

WESTBOUND

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

PROJECT:
I-40 REST AREA
MCDOWELL 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:
PLUMBING PLAN

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VP1 OF 2

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, JUNCTION BOXES, 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.
12. FOR DEMO NOTES, SEE SHEET VA4.

PLUMBING FIXTURE SCHEDULE:

HB HOSE BIBB (See note 4 below)
WOODFORD MODEL 24B, 3/4" STANDARD BRONZE HOSE BIBB W/ VACUUM BREAKER. INCLUDE KEYED OPERATION.

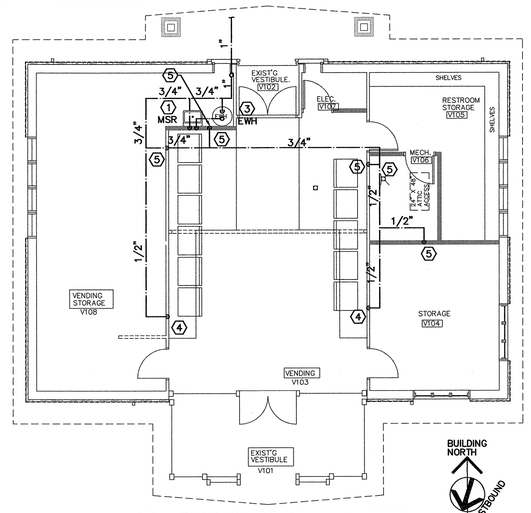
EWH ELECTRIC WATER HEATER (See note 2 below)
STATE WATER # ES630DOLS, 29 GALLONS, 4500W, 3/4" INLET AND OUTLET, ELECTRIC, 240V, 1 PHASE, MODEL# ETC-2X EXPANSION TANK.

MSR MOP SINK (See note 1 below)
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.

FD FLOOR DRAIN (See note 3 below)
ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "B" STRAINER.

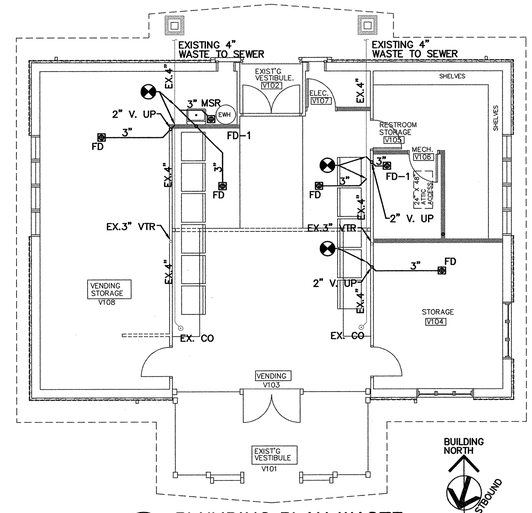
FD-1 FLOOR DRAIN (See note 3 below)
ZURN ZN-415-P. PROVIDE WITH DEEP SEAL P-TRAP, AND TYPE "I" STRAINER.

APPROVED EQUALS:
1. Or equal by Kohler, Zurn orToto
   Mop Sink: With Accessories
   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.
2. Electriac Water Heater (EWH)
   Rheem #81VP10S.
   Amtrol ST-5-C Expansion Tank.
   Bradford White #M-1-10U6SS.
   AO Smith PMC-2 Expansion Tank.
3. Floor Drains
   Josam #30000A.
   Josam #30000E1.
   Jay R. Smith #2005-A.
   Jay R. Smith #2005-F37.
4. Hose Bibbs and Anti Freeze Hose Bibbs
   Jay R. Smith #5509QT.
   Watts #HY-330.

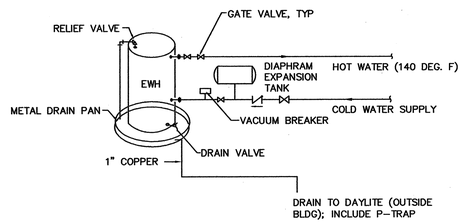


2 VP2 PLUMBING PLAN-WATER
SCALE: 1/8"=1'-0"

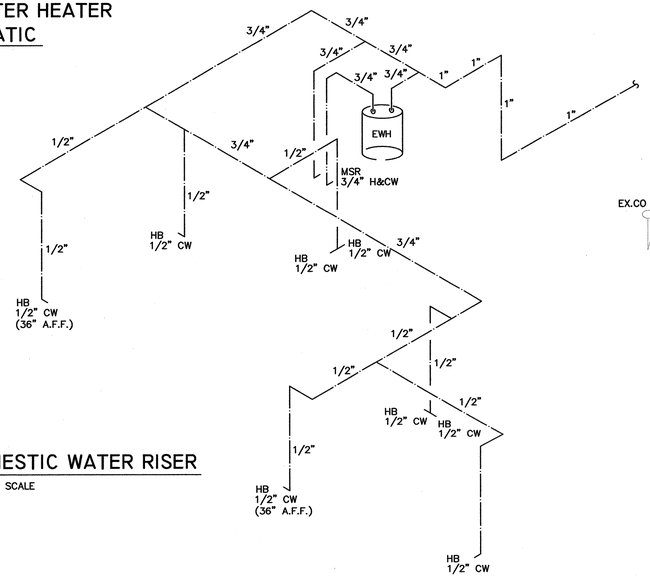
FOR DEMO SEE SHEET VA4



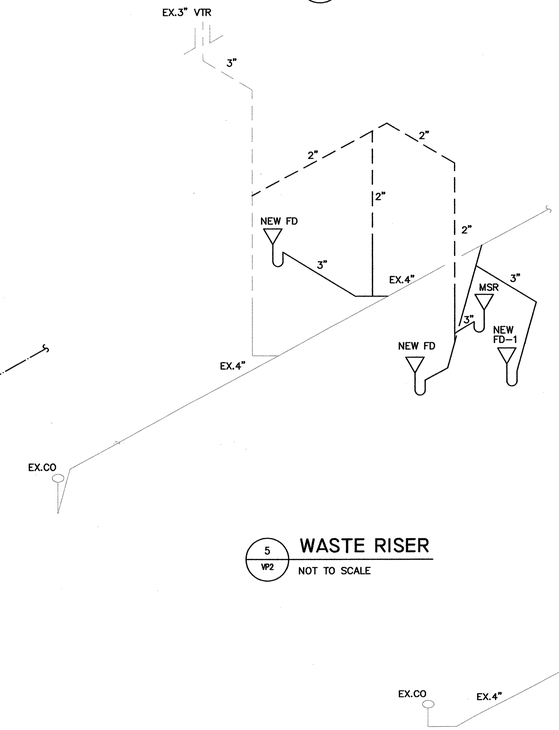
1 VP2 PLUMBING PLAN-WASTE
SCALE: 1/8"=1'-0"



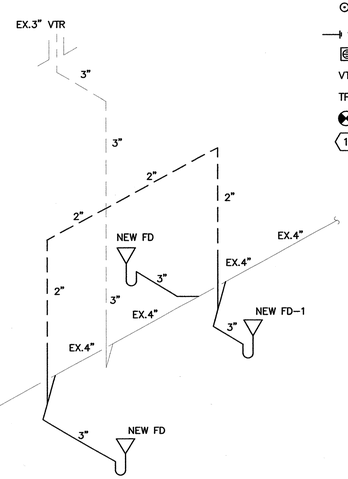
3 VP2 DOMESTIC WATER HEATER PIPING SCHEMATIC
NOT TO SCALE



4 VP2 DOMESTIC WATER RISER
NOT TO SCALE



5 VP2 WASTE RISER
NOT TO SCALE



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

PLUMBING KEY NOTES - WATER

1. 3/4" H&CW DN. TO MSR (HW 140 DEG. F)
2. 1/2" CW DN. TO TRAP PRIMER VALVE
3. 3/4" CW DN TO EWH
4. 1/2" CW DN TO COFFEE MAKER BOX. MOUNT 36" A.F.F.
5. 1/2" CW DOWN TO HB

PLUMBING LOAD SUMMARY
WASTE FIXTURE UNITS = 10
WATER FIXTURE UNITS = 10
TOTAL DEMAND G.P.M. = 15

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER MICHAEL M. HOBBY

PROJECT:
I-40 REST AREA
MCDOWELL COUNTY NORTH CAROLINA

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

DRAWING TITLE:
PLUMBING PLAN

DRAWN BY: MEW CHECKED BY: MEW/ JMH ISSUE DATE: 11 MAY 2010

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VP2 OF 2

WALL MOUNTED HEAT PUMP SCHEDULE

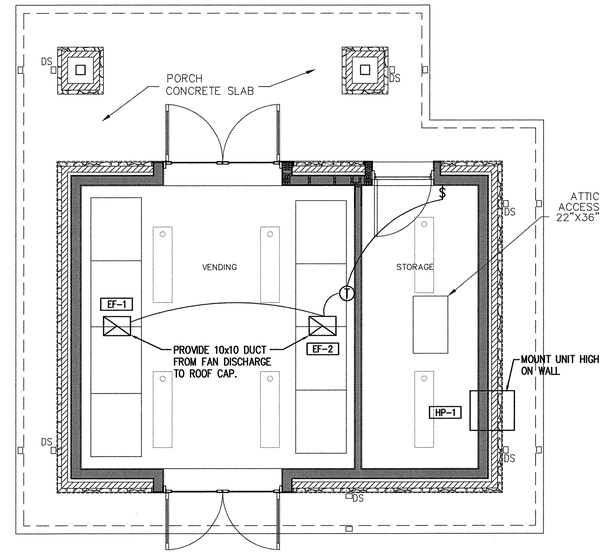
DESIGNATION	MANUF.	MODEL NO.	CFM	COOLING CAPACITY					HEATING CAPACITY		ELECTRICAL DATA		
				MIN. TOTAL BTUH	MIN. SENS. BTUH	EAT (°F) DB/WB	AMBIENT (°F)	EER	MIN. BTUH	EER	VOLTAGE	AMPS	MOCP
HP-1	FRIEDRICH	YS09J10A	–	9000	–	80/67	95	11.5	8300	11.0	115/1ø	7.2	15

REMARKS:
1. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.
2. OR EQUAL BY GE: #AJHS08, CARRIER: # 52MQU093, FRIGIDAIRE, AMANA OR OTHER APPROVED EQUAL.

EXHAUST FAN SCHEDULE

DESIG.	MANUFACTURER	MODEL NO.	TYPE	CFM	TSP IN H₂0	SONES	RPM	WATTS	VOLTAGE
EF-1/2	COOK	GC-720	CEILING MOUNTED	500	0.25	4.4	1114	198	120/1

REMARKS:
1. FAN CONTROLLED BY WALL MOUNTED THERMOSTAT.
2. PROVIDE PREFABRICATED ROOF CURB AND ROOF CAP SUITABLE FOR STANDING SEAM ROOF. SEE ARCHITECTURAL DRAWINGS.
3. PROVIDE N.E.C. RATED U.L. APPROVED STARTER/DISCONNECT.
4. PROVIDE WITH BIRD SCREEN AND GRAVITY BACKDRAFT DAMPER.
5. PROVIDE FAN SPEED CONTROLLER TO BALANCE FAN.
6. OR EQUAL BY GREENHECK: # SP-A710, BROAN: L500. FOR OTHER MANUFACTURER'S, SEE SPECIFICATIONS



1 / VM-1 HVAC PLAN- NEW VENDING BLDG. (WEST BOUND)
SCALE: 1/4" = 1'-0"

BUILDING NORTH / WESTBOUND

FOR DEMO SEE SHEET VA4

GENERAL NOTES

1. PROVIDE LOCKING COVER FOR THERMOSTAT.

LEGEND	
Ⓣ	THERMOSTAT

PROJECT:
I-40 REST AREA
MCDOWELL 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:
MECHANICAL PLAN

DRAWN BY: RK CHECKED BY: RK ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 16343 ENGINEER RICHARD R. KEIL

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VM1 OF 2

SPLIT SYSTEM HEAT PUMP SCHEDULE

DESIGNATION	MANUFACTURER	INDOOR UNIT	OUTDOOR UNIT	FAN DATA			COOLING CAPACITY					HEATING CAPACITY		AUX. ELECTRICAL HEAT CAPACITY		ELECTRICAL DATA				
																MCA		MOCP		VOLTAGE
				CFM	E.S.P.	HP	TOTAL MBH	SENS. MBH	EAT (°F) DB/WB	AMBIENT (°F)	SEER	MBH	COP	TOTAL KW	NO. OF STAGES	AHU	CU	AHU	CU	
AHU-1/CU-1	TRANE	2TEC3F48*	2TWB3048**	1600	0.3	1/2	45.5	32.8	80/67	95	13	43.5	3.5	9.6	1	53	25	60	40	240/1ø

REMARKS:

1. PROVIDE PROGRAMMABLE THERMOSTAT.
2. PROVIDE SINGLE POINT ELECTRICAL CONNECTION.
3. PROVIDE SIDE RETURN UNIT STAND FOR BOTTOM RETURN. (SUPPORTING AIR HANDLING UNIT WITH DUCT IS NOT ACCEPTABLE.)
4. PROVIDE VERTICAL AIR HANDLER UNIT WITH BOTTOM RETURN AND FILTER RACK.
5. PROVIDE CONCRETE EQUIPMENT PAD FOR OUTSIDE CONDINSING UNIT (SIZE PER EQUIPMENT MANUF. RECOMENDATIONS).

* OTHER ACCEPTABLE MANUFACTURERS/MODELS: CARRIER: FX4BNF048, YORK/AHP48C

** OTHER ACCEPTABLE MANUFACTURERS/MODELS: CARRIER: 25HBA348, YORK/E1D048S06

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

AIR DISTRIBUTION SCHEDULE

DESIGNATION	MANUFACTURER – MODEL NO.	TYPE	PANEL SIZE	NECK SIZE	MAX CFM	MAX NC	REMARKS
A	PRICE – ASCD CARNES – SFAB METALAIRE – S800 AL	CEILING SUPPLY	12 x 12	8"ø	200	30	GYP. CEILING
B	PRICE – ASCD CARNES – SFAB METALAIRE – S800 AL	CEILING SUPPLY	24 x 24	10"ø	400	30	GYP. CEILING
C	PRICE – PDDR CARNES – SPRB224 METALAIR – 7300 R	RETURN GRILLE	16 x 16	8"ø	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

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
AHU/CU	MITSUBISHI*	MSZ09UN	297	8800	12	12300	0.5	15	120/1	14	15	208/1

* OTHER ACCEPTABLE MANUFACTURERS/MODELS: SANYO/09KH571
CARRIER/40MVQ009–3–01 (INDOOR UNIT),38MVQ009–3–01 (OUTDOOR UNIT)

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE:

PRESCRIPTIVE ☒ ENERGY COST BUDGET ☐

THERMAL ZONE 8

EXTERIOR DESIGN CONDITIONS
- WINTER DRY BULB 10° F
- SUMMER DRY BULB 87° F

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

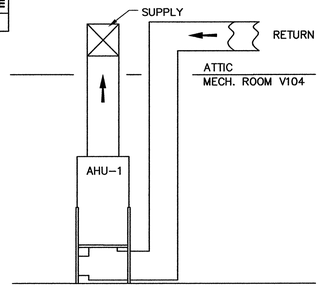
MECHANICAL SPACE CONDITIONING SYSTEM
SPLIT SYSTEM

AHU–1/CU–1

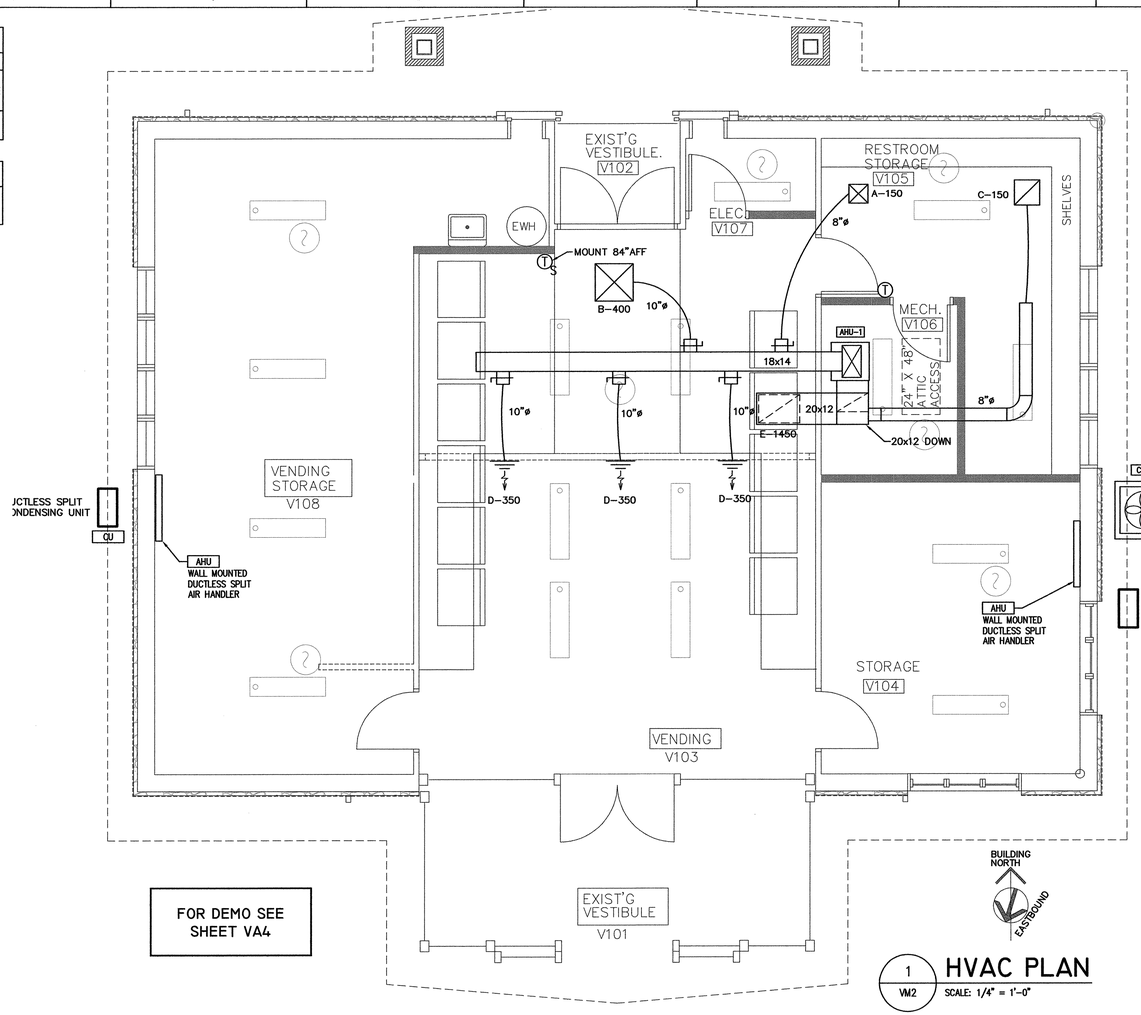
DESCRIPTION OF UNIT	SPLIT SYSTEM HEAT PUMP
HEATING EFFICIENCY	COP = 3.5
COOLING EFFICIENCY	SEER = 13.0
HEAT OUTPUT OF UNIT	43.5 MBH
COOLING OUTPUT OF UNIT	45.5 MBH

LIST EQUIPMENT EFFICIENCIES
EFFICIENCIES ARE LISTED ON EQUIPMENT SCHEDULES

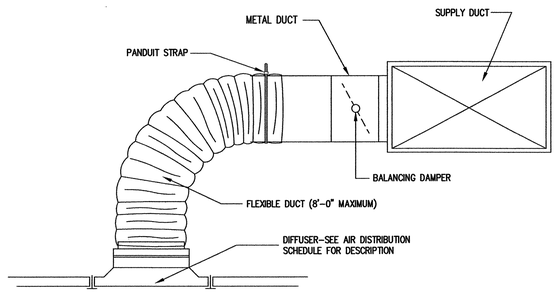
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)
MOTORS USED IN THIS PROJECT ARE INCLUDED IN THE EFFICIENCY RATING OF THE UNITS



3 VM2 AHU-I DETAIL
SCALE: NTS



1 VM2 HVAC PLAN
SCALE: 1/4" = 1'–0"



2 VM2 DIFFUSER DETAIL
SCALE: NTS

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
Ⓣ	THERMOSTAT
T_S	REMOTE TEMPERATURE SENSOR

PROJECT:
I–40 REST AREA
MCDOWELL COUNTY NORTH CAROLINA

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RALEIGH, NORTH CAROLINA 27601
(919) 715–0400 FAX (919) 715–0399

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MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919–678–6107
Fax 919–678–6109

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16342 RICHARD R. SITTLER

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4909	39977.3.ST1	C202206	STM–040–2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VM2 OF 2

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
VENDING	500		*20*	1		2	20	156		LIGHTING
VENDING		500	*20*	3		4	20		256	LIGHTING
VENDING	500		*20*	5		6	20	128		LIGHTING
VENDING		500	*20*	7		8	20		198	EF-2
VENDING	500		*20*	9		10	.	.		.
VENDING		500	*20*	11		12	.		.	.
VENDING	500		*20*	13		14	.	.		.
VENDING		500	*20*	15		16	.		.	.
HP-1	864		15	17		18	.	.		.
EF-1		198	20	19		20	.		.	.
RECEPTS.	540		20	21		22	.	.		.
RECEPTS.		720	20	23		24	.		.	.
VENDING	500		*20*	25		26	.	.		.
VENDING		500	*20*	27		28	.		.	.
.			.	29		30	.	.		.
	3904	3580			TOTAL VA PER PHASE			284	256	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [ ] NO
MAIN CIRCUIT BREAKER [ ] YES [X] NO RATING 100
SERVICE ENTR. RATED [ ] YES [X] NO BUS 100
MINIMUM AIC (K AMPS) 10 LUG 100
SN 100

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT.
* NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

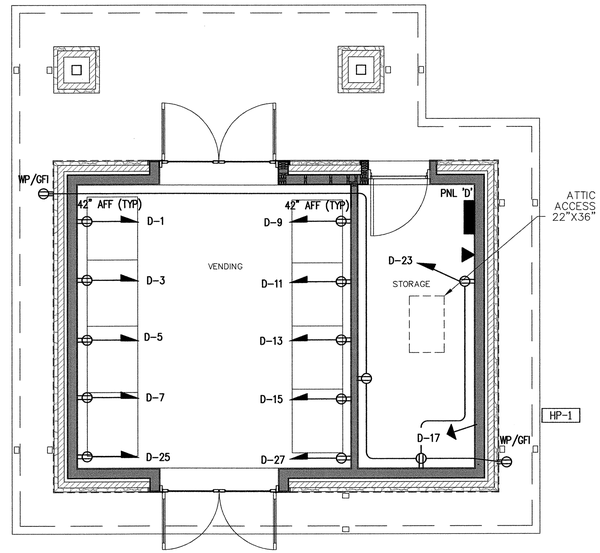
NEW PANEL "D"
(NEW VENDING BLDG. WEST BOUND)

LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ①	KVA DEMAND
GENERAL LIGHTING ②		.	0.5	0.5	125%	0.7
GENERAL USE RECEPTACLES		.	1.6	1.6	≤10KVA@100% >10KVA@50%	1.6 .
MOTORS AND EQUIPMENT	LARGEST	.	0.9	0.9	125%	1.1
	ALL OTHERS	.	5.0	5.0	100%	5.0
WATER HEATERS		.	.	.	100%	.
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	.	.	100%	.
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXISTING EXTERIOR LIGHTS		.	.	.	125%	.
PANEL/FEEDER (TOTAL KVA)						8.4
(TOTAL KVA) X 1000 = TOTAL AMPS / VOLTS						35

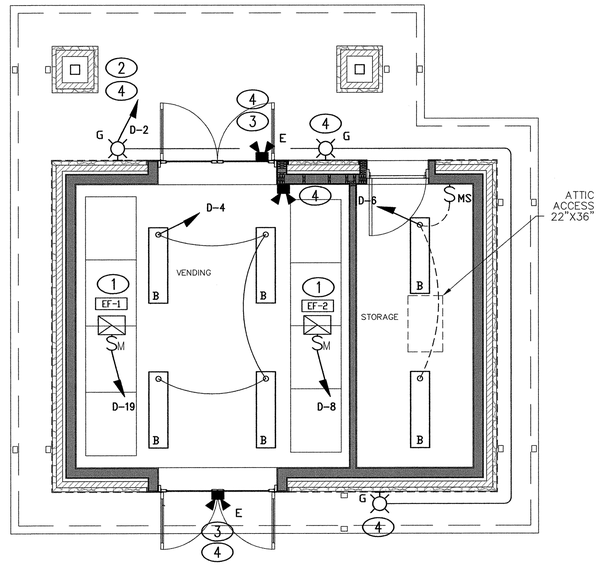
* * VENDING ON GFI BREAKER

ELECTRICAL NOTES

1. LOCATE DISCONNECT SWITCH AT FAN FOR SERVICE. SEE MECHANICAL PLANS FOR STOP/START CONTROL LOCATION.
2. SWITCH WITH PHOTO CELL.
3. WIRE EXTERIOR EMERGENCY FIXTURE TO EXTERIOR LIGHTING CIRCUIT, TYP.
4. COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECTURAL PLANS.



2 VE-1 POWER PLAN- NEW VENDING BLDG. (WEST BOUND)
SCALE: 1/4" = 1'-0"



1 VE-1 LIGHTING PLAN- NEW VENDING BLDG. (WEST BOUND)
SCALE: 1/4" = 1'-0"

FOR DEMO SEE SHEET VA4

FIXTURE SCHEDULE

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	NOT USED	.	.	120 V	.	.	.
B	1x4 SURFACE MOUNT	COLUMBIA SM14-232-FSA12-EU	HOLOPHANE LS SERIES LEGION 41 SERIES		2-32W T8	.	64
C	NOT USED	.	.		.	.	.
D	NOT USED	.	.		.	.	.
E	NOT USED	.	.		.	.	.
F	NOT USED	.	.		.	.	.
G	WALL SCONCE	LUMINAIRE SPC818***-2PLC26-***-DP-BRZ-WET	RAVEN SERIES AMERICANA SERIES		.	. ①	52
H	.	.	.		.	.	.

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

	EMERGENCY LIGHT	EU-MR-3R	LUNA SERIES NEMA SERIES	120 V		WHITE BODY	
E	EMERGENCY LIGHT EXTERIOR	DUAL LITE PGZ-HTR	MULE MAKO-3-CW HIGH LITES PLURALUX SERIES			.	
	NOT USED	.	.			.	

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

PROJECT:
I-40 REST AREA
MCDOWELL COUNTY NORTH CAROLINA

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

DRAWING TITLE:
ELECTRICAL PLAN

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

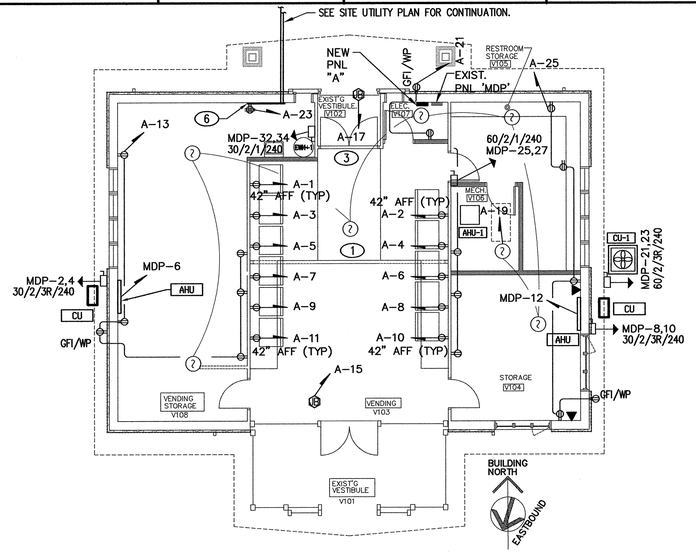
TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1320 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

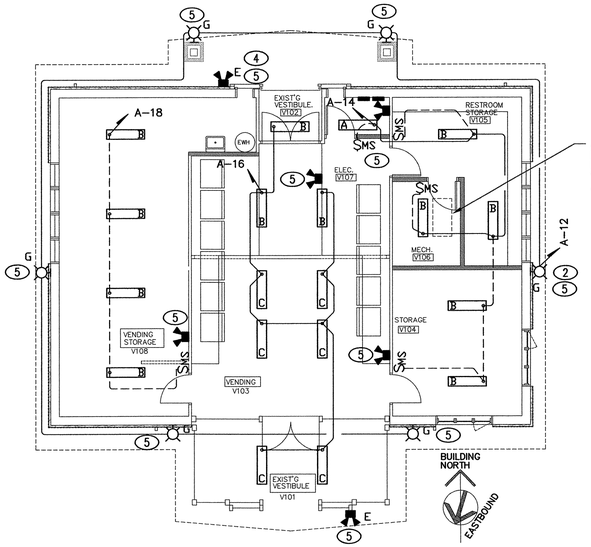
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VE1 OF 2



2 VE-1 POWER PLAN- RENOVATION TO EXIST. VENDING BLDG. (EAST BOUND)

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



1 VE-1 LIGHTING PLAN- RENOVATION TO EXIST. VENDING BLDG. (EAST BOUND)

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

FOR DEMO SEE SHEET VA4

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
EXIST. ROADWAY LIGHTS	1200		30	1		2	20	1456		CU
–		1200	30	3		4	20		1456	2#12, #12 G., 1/2" C.
EXIST. ROADWAY LIGHTS	1200		30	5		6	20	60		AHU
–		1200	30	7		8	20		1456	CU
EXIST. ROADWAY LIGHTS	1200		30	9		10	20	1456		2#12, #12 G., 1/2" C.
–		1200	30	11		12	20		60	AHU
EXIST. ROADWAY LIGHTS	700		30	13		14	20	.		.
–		700	30	15		16	20		.	.
.	.		20	17		18	20	.		.
.		.	20	19		20	20		.	.
CU-1	3000		40	21		22	20	.		.
2#10, #10 G., 1/2" C.		3000	40	23		24	20		.	.
AHU-1	6360		60	25		26	100	6328		VEND. BLDG. PNL 'A'
2#6, #10 G., 3/4" C.		6360	60	27		28	100		4014	–
.	.		20	29		30	20	.		.
.		.	20	31		32	30		2250	EWH-1
.	.		20	33		34	30	2250		2#10, #10 G., 1/2" C.
.		.	20	35		36	20		.	.
.	.		20	37		38	20	.		.
.		.	20	39		40	.		.	.
.	.		20	41		42	.		.	.
	9360	9360			TOTAL VA PER PHASE			11550	9236	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [X] YES [ ] NO
MAIN CIRCUIT BREAKER [X] YES [ ] NO RATING 400
BUS 400
SERVICE ENTR. RATED [ ] YES [ ] NO LUG 400
MINIMUM AIC (K AMPS) . SN 400

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT.
* NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

EXIST. PANEL "MDP"
(VENDING BLDG. EAST BOUND)

LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ⑤	KVA DEMAND
GENERAL LIGHTING ②		.	1.3	1.3	125%	1.6
GENERAL USE RECEPTACLES		.	1.4	1.4	≤10KVA@100% >10KVA@50%	1.4 –
MOTORS AND EQUIPMENT	LARGEST	.	6.0	6.0	125%	7.5
	ALL OTHERS	.	15.8	15.8	100%	15.8
WATER HEATERS		.	4.5	4.5	125%	5.6
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	9.6	9.6	100%	9.6
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXTERIOR LIGHTS		8.8	.	8.8	125%	11.0
PANEL/FEEDER (TOTAL KVA)						47.5
(TOTAL KVA) X 1000 = TOTAL AMPS VOLTS						198

FIXTURE SCHEDULE

MARK	DESCRIPTION	MFG. & CATALOG #	EQUALS	VOLTAGE	LAMP	REMARKS	WATTS
A	FLUOR. INDUSTRIAL SHADE	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	.	64
C	SUSPENDED FLUORESCENT	ALERA ALS-2T8*/*-CM*-LD-EU-MV	LITECONTROL LC94 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	NOT USED	.	.		.	. ①	.
F	NOT USED	.	.		.	.	.
G	WALL SCONCE	LUMINAIRE SPC818***-2PLC26-***-DP-BRZ-WET	RAVEN SERIES AMERICANA SERIES		2-26W CF	. ①	52
H	NOT USED	.	.		.	. ①	.

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

	EMERGENCY LIGHT	EU-MR-3R	LUNA SERIES NEMA SERIES	120 V		WHITE BODY	
E	EMERGENCY LIGHT EXTERIOR	DUAL LITE PGZ-HTR	MULE MAKO-3-CW HIGH LITES PLURALUX SERIES			.	
	NOT USED	.	.			.	
P ②	NOT USED	.	.			.	.

LIGHT FIXTURE NOTES

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

LOAD SERVED	VA PER PHASE A	VA PER PHASE B	CKT. BRKR.	CKT. NO.	NEUTRAL A B	CKT. NO.	CKT. BRKR.	VA PER PHASE A	VA PER PHASE B	LOAD SERVED
VENDING	500		*20*	1		2	*20*	500		VENDING
VENDING		500	*20*	3		4	*20*		500	VENDING
VENDING	500		*20*	5		6	*20*	500		VENDING
VENDING		500	*20*	7		8	*20*		500	VENDING
VENDING	500		*20*	9		10	*20*	500		VENDING
VENDING		500	*20*	11		12	20		208	LIGHTS
RECEPTACLES	1080		20	13		14	20	346		LIGHTS
EXST. AUTO. DOOR, GFI, FRONT		322	20	15		16	20		384	LIGHTS
EXST. AUTO. DOOR, GFI, REAR	322		20	17		18	20	320		LIGHTS
SMOKE DETECTORS (BREAKER LOCK)		100	20	19		20	.	.	.	.
RECEPTS.	360		20	21		22	.	.	.	.
TELEPHONE EQUIP.		500	20	23		24	.		.	.
RECEPTS.	900		.	25		26	.	.		.
.		.	.	27		28	.		.	.
.	.		.	29		30	.	.		.
.		.	.	31		32	.		.	.
.	.		.	33		34	.	.		.
.		.	.	35		36	.		.	.
.	.		.	37		38	.	.		.
.		.	.	39		40	.		.	.
.	.		.	41		42	.	.		.
	4162	2422			TOTAL VA PER PHASE			2166	1592	

C/B TEMP. 75° C. RATING 120/240 V 1 PH 3 W
MOUNTING SURFACE GROUND BUS [ ] YES [X] NO
MAIN CIRCUIT BREAKER [ ] YES [X] NO RATING 100
BUS 100
SERVICE ENTR. RATED [ ] YES [X] NO LUG 100
MINIMUM AIC (K AMPS) 10 SN 100

① DEMAND FACTORS PER NEC 220, PART B.
② LARGEST OF: NEC TABLE 220-3(a) OR CONNECTED LOAD.
③ NEC TABLE 220-20.
④ NEC 220-15.
⑤ NEC 220-12, 200 VA/LINEAR FT.
* NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS.

NEW PANEL "A"
(VENDING BLDG. EAST BOUND)

LOAD TYPE		EXIST.	KVA NEW	KVA TOTAL	NEC DEM. FACTOR ⑤	KVA DEMAND
GENERAL LIGHTING ②		.	1.3	1.3	125%	1.6
GENERAL USE RECEPTACLES		.	1.4	1.4	≤10KVA@100% >10KVA@50%	1.4 –
MOTORS AND EQUIPMENT	LARGEST	.	0.5	0.5	125%	0.6
	ALL OTHERS	.	6.2	6.2	100%	6.2
WATER HEATERS		.	.	.	100%	.
KITCHEN EQUIPMENT ③		.	.	.	100%	.
FIX. ELEC. SPACE HEAT. ④		.	.	.	100%	.
SHOW WINDOW LIGHTS ⑤		.	.	.	125%	.
SIGN		.	.	.	125%	.
EXISTING EXTERIOR LIGHTS		.	.	.	125%	.
PANEL/FEEDER (TOTAL KVA)						9.8
(TOTAL KVA) X 1000 = TOTAL AMPS VOLTS						41

* * VENDING ON GFI BREAKER

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 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.

⑤ COORDINATE EXACT MOUNTING LOCATION WITH ARCHITECTURAL PLANS.

⑥ 4x4x3/4" FIRE RATED TELEPHONE EQUIPMENT BOARD.

PROJECT:
I-40 REST AREA
MCDOWELL 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:
ELECTRICAL PLAN

DRAWN BY: CD CHECKED BY: JMH ISSUE DATE: 11 MAY 2010

TRIANGLE ENGINEERING ASSOCIATES
MECHANICAL ELECTRICAL CONSULTING ENGINEERS
1520 SE Maynard Rd.
Suite 201, Cary, NC 27511
919-678-6107
Fax 919-678-6109

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 7911 ENGINEER JOEL M. HOBBY

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

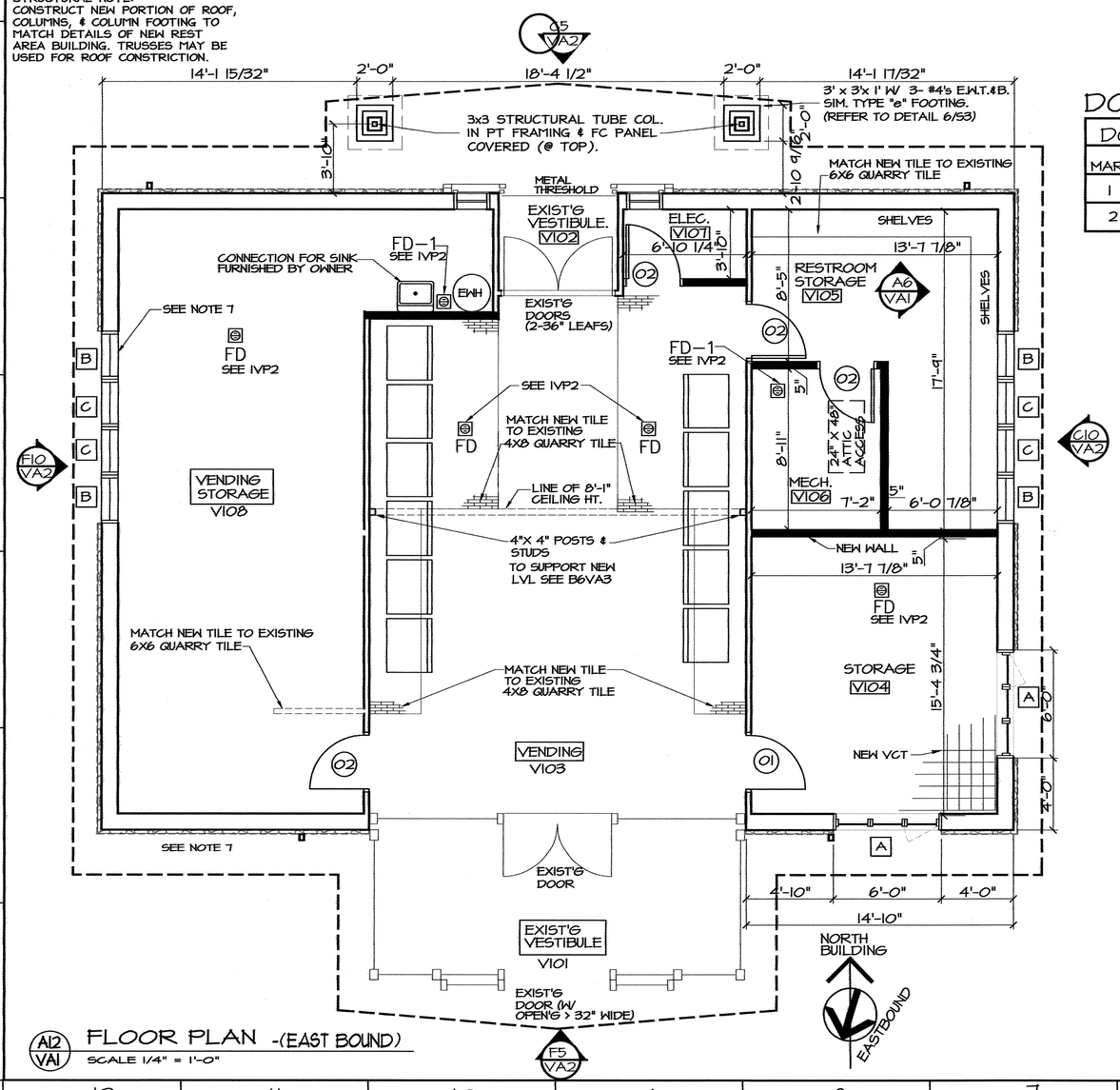
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VE2 OF 2

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	
EXIST'G VISTIBULE	V101	EXIST'G QT	SEE SPEC.	EXIST'G QT	SEE SPEC.		SEE SPEC.		SEE SPEC.		SEE SPEC.		SEE SPEC.	-	SEE SPEC.	VARIES	GLASS ENTRY WAY
EXIST'G VISTIBULE	V102	EXIST'G QT		EXIST'G QT				F-C				FC		-		8'-1"	GLASS ENTRY WAY
VENDING	V103	CONC.		IX3 F.C.		-		F-C		FC		FC		PLY		VARIES	MATCH EXIST'G PLYWOOD CL6'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*			
ELEC.	V107	EXIST'G CONC.		-		-		-		DW		-		-			PAINT ALL EXIST'G DRYWALLS
VENDING STORAGE	V108	EXIST'G 6X6 TILE		IX3 F.C.		DW		DW		DW		DW		DW*			SEE NOTE 2/ * SEE NOTE 5

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 -(EAST BOUND)
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 V105, V106, 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 MELANINE SHELVING SEE A6VA1.
5. *: ALL CEILINGS SHALL BE OVERLAID W/ 1-LAYER OF 5/8" DRYWALL EXCEPT FOR FRONT OPEN CEILING IN ROOMS V101 & V103.
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. PLYWOOD CEILING @ ROOMS V101 & V103 SHALL BE REPLACED W/ 1- LAYER OF 1/2" PLYWOOD TO MATCH THE WOOD OPEN CEILING IN V101 & V103 (THE PLYWOOD CEILING MAY REMAIN IF IN GOOD CONDITION, CLEAN AND RE-FINISH).

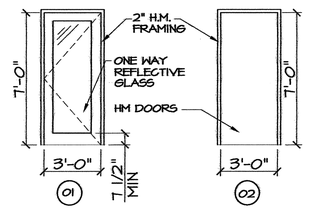
WALL LEGEND:

EXIST'G WALLS TO REMAIN

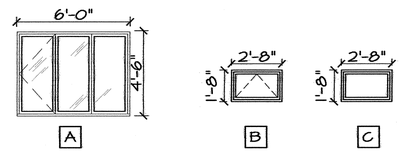
NEW 2X4 FRAMED WALL W/ 5/8" GYP.

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"xT'-0"xI 3/4"	H.M.	SEE SPEC.	H.M.	SEE SPEC.	F04	A5112	SEE SPEC.	L02162	-		ONE WAY REFLECTIVE GLASS
2	3'-0"xT'-0"xI 3/4"	H.M.		H.M.		F04	A5112		L02162	-		



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

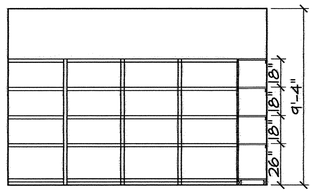


WINDOW SCHEDULE:

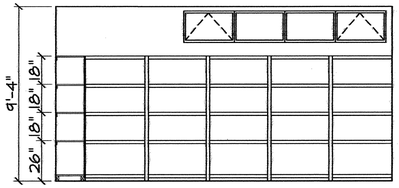
A METAL CLAD FIXED / OPERABLE WINDOW, BROWN FINISH. INSULATED GLASS SOLAR COOL BRONZE.

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.



NOTE:
MELANINE SHELVING TO MATCH NEW REST AREA STORAGE SHELVING.



A6/VA1 ELEVATION-STORAGE V105
SCALE 1/4" = 1'-0"

PROJECT:
I-40 REST AREA
MCDOWELL 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 & SCHEDULE

DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

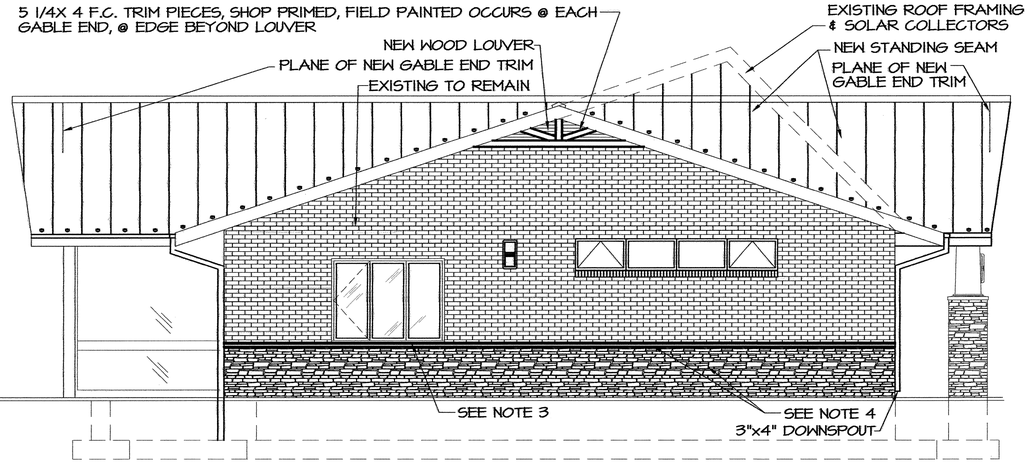
SEAL: VICTOR M. BUZARD REGISTERED LANDSCAPE ARCHITECT 4241 5.25.10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

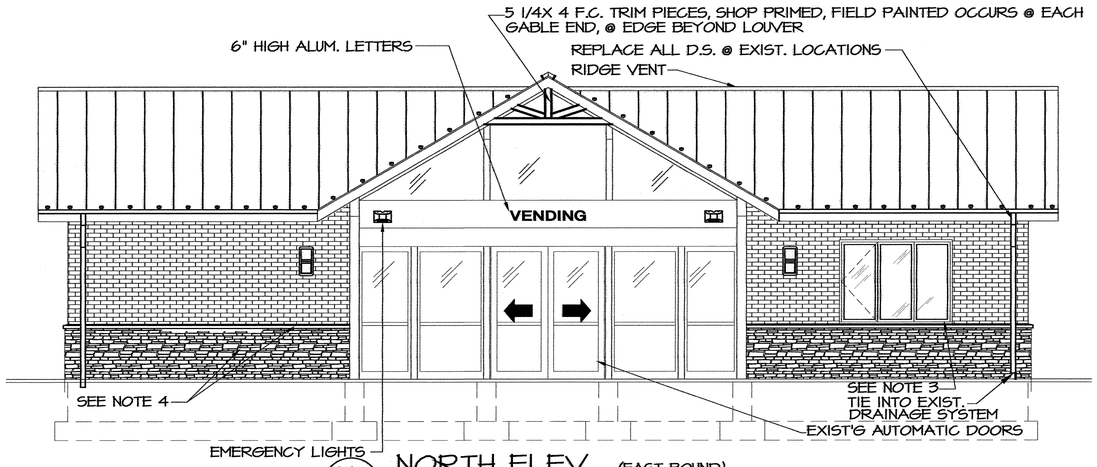
SHEET NO. VA1
1 OF 4

S:\FD\REST AREA, WELCOME CENTERS\I-40 Mcdowell Co\Arch\NEW\VA1.updated.dwg, 5/25/2010 1:42:42 PM, \\dot-dfspp01\FD209072



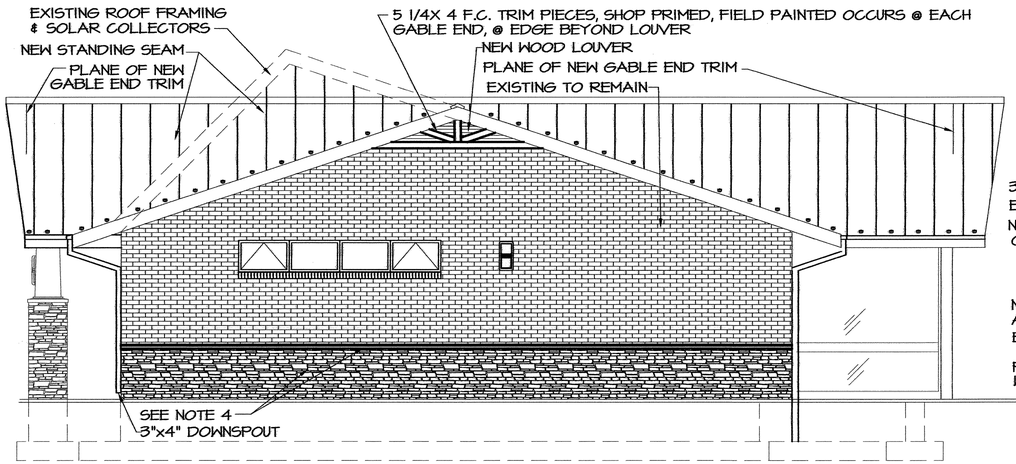
F10 VA2 **WEST ELEV.** (EAST BOUND)

SCALE 1/4" = 1'-0"



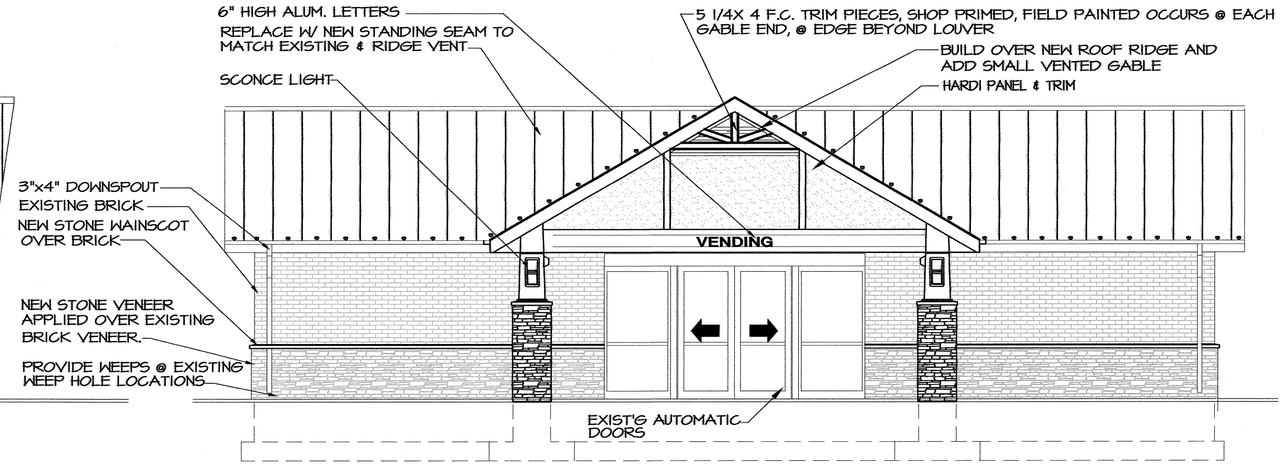
F5 VA2 **NORTH ELEV.** (EAST BOUND)

SCALE 1/4" = 1'-0"



C10 VA2 **EAST ELEV.** (EAST BOUND)

SCALE 1/4" = 1'-0"



C5 VA2 **SOUTH ELEV.** (EAST BOUND)

SCALE 1/4" = 1'-0"

GENERAL NOTES:

1. REPLACE EXISTING GUTTERS W/ NEW ALUMINUM GUTTERS.
2. OMIT
3. NEW WINDOW W/ LINTEL (3 1/2 X 3 1/2 X 3/8"), TOOTH-IN BRICK JAMBS.
4. ADD STONE VENEER & STONE WAINSCOT OVER EXISTING BRICK VENEER- PROVIDE CONTINUATION OF WHEEP HOLES WHERE THEY OCCUR.

PROJECT:

I-40 REST AREA

MCDOWELL 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**

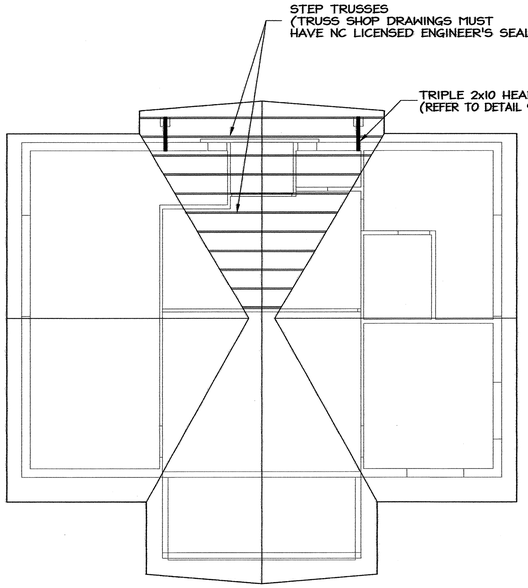
DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

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

TIP. PROJ. NO.	WBS. NO.	CONTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

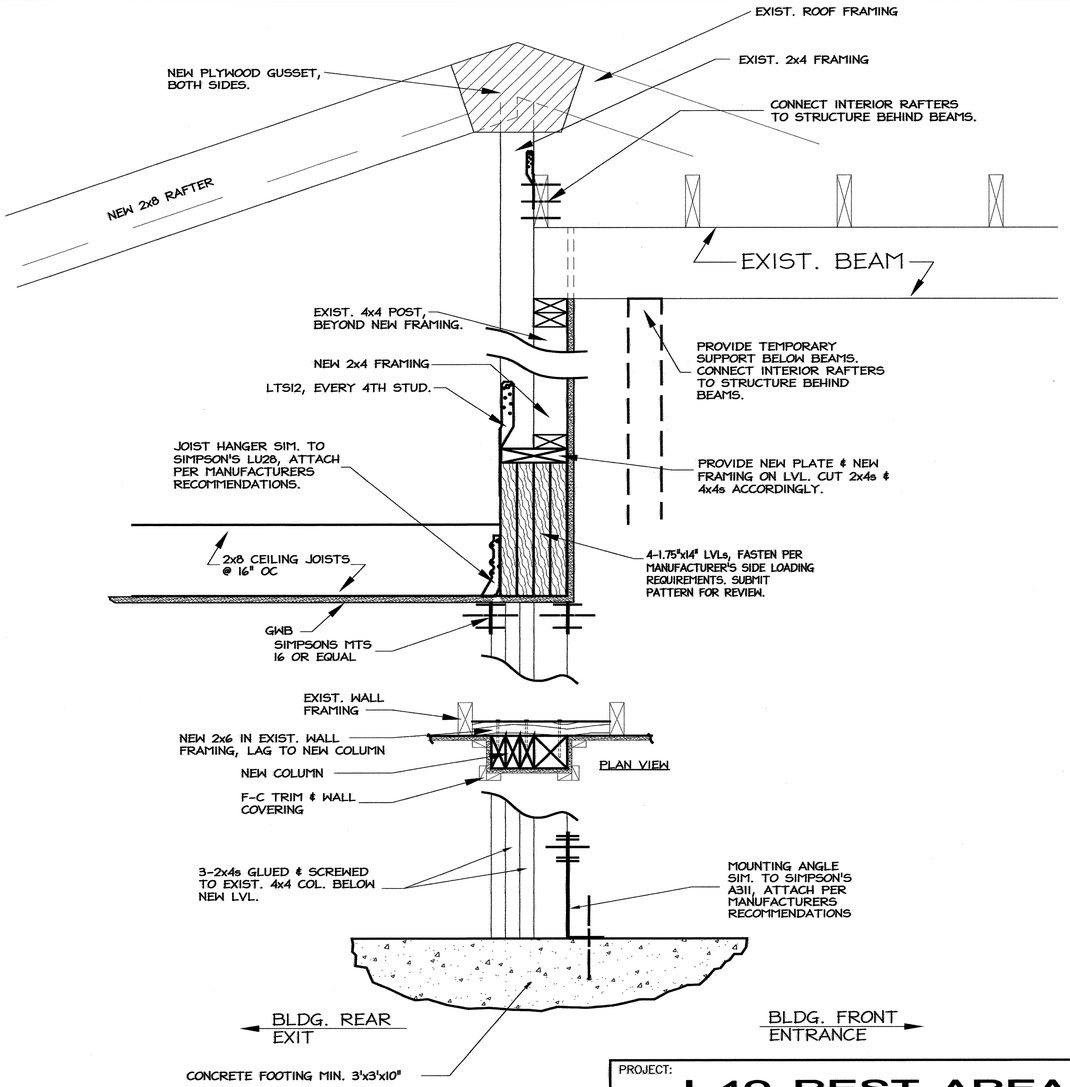
NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. **VA2** OF 4



E10 / VA3 TRUSS OVER BUILD PLAN

SCALE 1/8" = 1'-0"

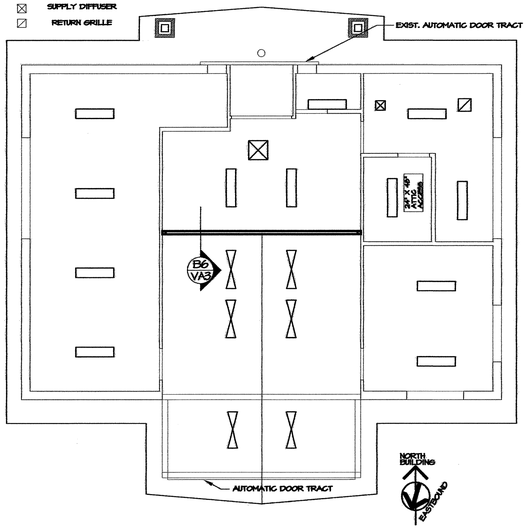


B6 / VA3 STRUCTURAL SECT.

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

LEGEND:

- 1x4 SURFACE MOUNT
- SUSPENDED FLUORESCENT
- RECESSED CAN MLBNS
- SUPPLY DIFFUSER
- RETURN GRILLE



A10 / VA3 REFLECTED CEILING PLAN

SCALE 1/8" = 1'-0"

PROJECT:

I-40 REST AREA

MCDOWELL 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:

CEILING PLAN

DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, REGISTERED ARCHITECT, NORTH CAROLINA, RALEIGH, P.C. 5-10-11

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL- AID NO.
K-4909	39977.3.ST1	C202206	STM-040-2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VA3 OF 4

GENERAL NOTES:

A1. REMOVE EXISTING STUD WALLS.

A2. REMOVE EXISTING TILE WALLS NOTED. EXISTING WALL W/ TILE TO REMAIN PER GENERAL NOTES 2 & 8 SHEET VA1, FILL HOLES IN EXISTING WALLS WITH R-19 INSULATION WHERE ACCESSORIES ARE REMOVE.

A3. REMOVE EXISTING CEILING DRYWALL AND ATTIC INSULATION @ THE SOUTH END OF BUILDING WHERE THE CEILING/ TRUSS IS MODIFIED PER DETAIL B6VA3. PROVIDE NEW R-38 INSULATION AND NEW 5/8" DRYWALL AND PAINT. SEE GENERAL NOTE 5/ SHEET VA1 (WHERE EXISTING CEILING REMAINS, REMOVE EXISTING MILDEW INSULATION AND PROVIDE NEW R-38 INSULATION @ ALL CEILINGS). FINAL INSULATION R- VALUE THRU- OUT THE ATTIC SHALL BE A MINIMUM OF R-38, CONTRACTOR OPTION TO ADD INSULATION ABOVE EXISTING OR REPLACE WITH NEW R-38.

A4. REMOVE ALL TOILET PARTITIONS, ALL FIXTURES.

A5. REMOVE TILE & CONC. SLAB AT OLD WOMEN'S RESTROOM & LOBBY FOR NEW FLOOR DRAIN.

A6. REMOVE & REPLACE EXISTING WINDOWS (SEE SHEET VA1).

A7. REMOVE BRICK & MASONRY WALL AND INSTALL NEW WINDOW, WINDOW SILL.

A8. REPAIR & REPAINT ALL DAMAGED FASCIA, SOFFIT TO MATCH NEW BUILDING.

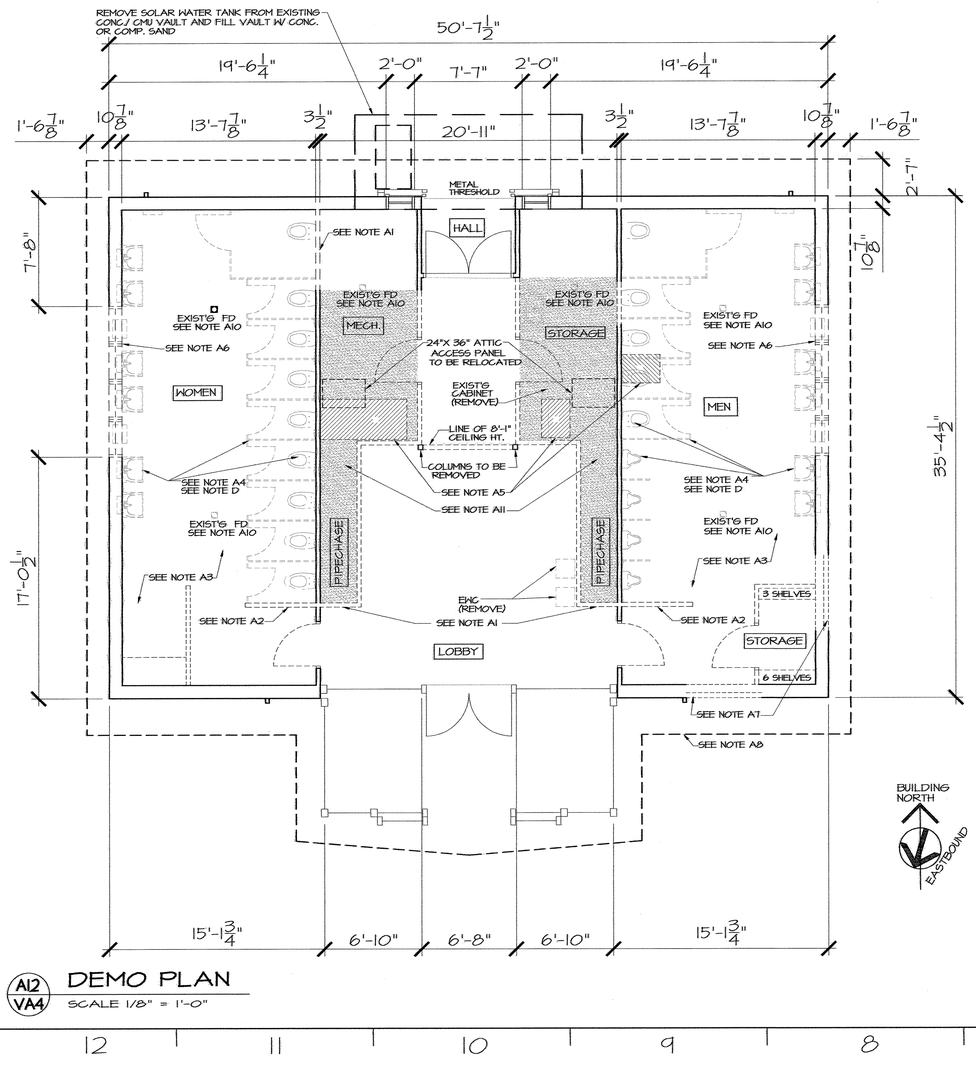
A9. REMOVE & REPLACE EXISTING SHINGLES TO MATCH NEW BUILDING.

A10. SEE AVP2.

A11. REMOVE TOP SURFACE OF CONC. FLOOR & TILE, TO MATCH EXISTING TILE FLOOR.

WALL LEGEND:

WALL TO BE REMOVE



A12 / VA4 DEMO PLAN

SCALE 1/8" = 1'-0"

PME 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 ENTE RING/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 REQUI REMENTS.

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 RENOVATIO N. 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 ORHIS 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/RENOVATI NG SIMILAR ITEMS AS PER THIS PROJECTS DESIGN PLANS AND SPECIFICATIONS.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH LOCAL UTILITIES.

8. 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.

PME DEMOLITION NOTES

A. EQUIPMENT DEMOLITION

REMOVE AIR HANDLER (AHU), CONDENSOR, EXHAUST FAN, HEATER(S) (INCLUDING ANY BASEBOARD OR DUCT HEATERS), AND ELECTRIC WATER COOLER (EWC).

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 INC LUDES 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. EXISTING VTR'S TO REMAIN.

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. BRANCH WASTE LINES SHALL BE PLUGGED BELOW FLOOR LEVEL BUT SHALL NOT IMPEDE THE FLOW OF THE EXISTING 4" SANITARY SEWER MAINS.

F. ELECTRICAL – LIGHTING & MISCELLANEOUS

F.1 DO NOT REMOVE EXTERIOR AREA LIGHTING SUPPLIED FROM EXTG PANEL "MDP". IT REMAINS ON PANEL "MDP" (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 REMOVE EXISTING PHONE SERVICE, WIRING, DEVICES, AND JACKS FROM THIS BUILDING.

PROJECT:

I-40 REST AREA

MCDOWELL 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:

DEMO PLAN

DRAWN BY: R. ALMOHTADI CHECKED BY: V. BUZARD ISSUE DATE: 27 OCTOBER 09

SEAL: VICTOR M. BUZARD, JR. REGISTERED ARCHITECT 4241 5-25-10 NORTH CAROLINA RALEIGH, N.C.

TIP. PROJ. NO.	WBS. NO.	COTRACT ID NO.	FEDERAL– AID NO.
K–4909	39977.3.ST1	C202206	STM–040–2(150)83

NO.	REVISIONS/SUBMISSIONS	DATE

SHEET NO. VA4 4 OF 4

S:\PDW\REST AREA, WELCOME CENTERS\I-40 Mcdowell Co\Arch\NEW\V**4updated.dwg, 5/25/2010 1:43:03 PM, \\dot-fdppp01\PD209072

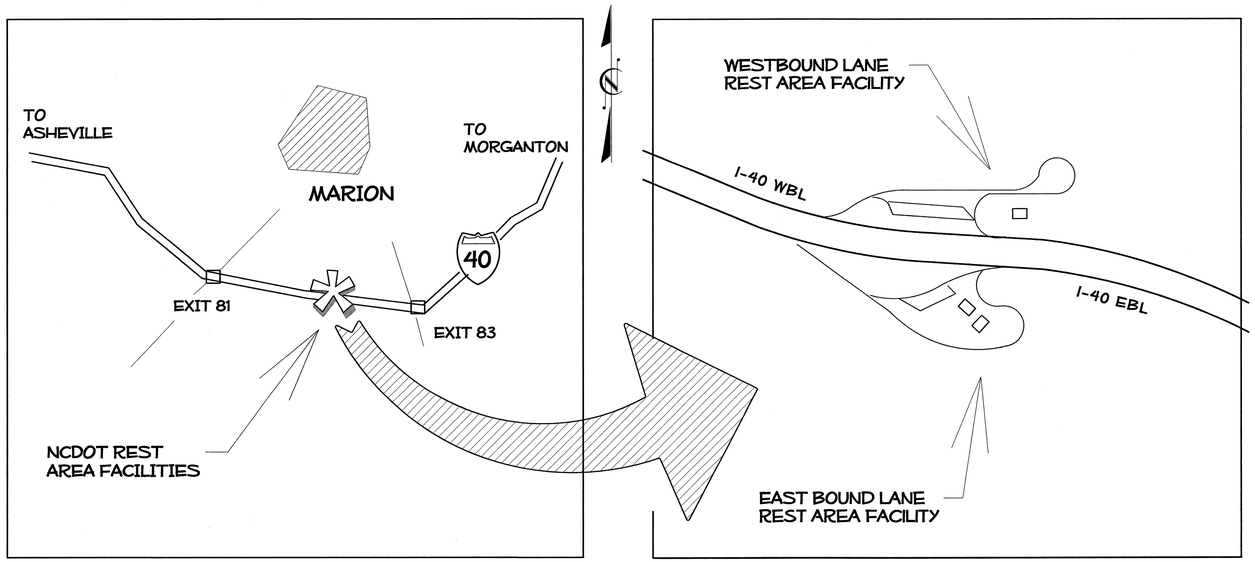
STATE	NC	T.I.P. #	K-4909	SHEET #	LT1 of
WBS #		F.A. Project #			Description
39977.1.1					P.E.
					R/W
39977.3.ST1		STM-040-2(150)83			CONST.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MCDOWELL COUNTY

LOCATION: I-40 MCDOWELLCOUNTY REST AREA PAIR EAST OF EXIT 81- MARION, NC

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



VICINITY MAPS

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L-1 WBL SITE PLAN
L-2 WBL DEMOLITION PLAN
L-3 EBL SITE PLAN
L-4 EBL DEMOLITION PLAN
LG-1 WBL GRADING PLAN
LG-2 EBL GRADING & DRAINAGE PLAN
LG-3 EBL GRADING & DRAINAGE PLAN DETAIL
LH-1 WBL HARDSCAPE PLAN
LH-2 EBL HARDSCAPE PLAN
LP-1 WBL LANDSCAPE PLAN
LP-2 EBL LANDSCAPE PLAN
LP-3 PLANTING QUANTITIES
LI-1 WBL IRRIGATION
LI-2 EBL IRRIGATION
LU-1 WBL UTILITY PLAN
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WBL & EBL COMMON DETAIL SHEETS

LD-1 SEGMENTED RETAINING WALL DETAILS
LD-2 PLANTING DETAILS
LD-3 PICNIC SHELTER DETAIL
LD-4 CONCRETE STAIRS
LD-5 FLAGPOLE / WASTE CONTAINER/ PARK STOVE
LD-6 PAVEMENT DETAILS
LD-7 STORMWATER COLLECTION & CISTERN DETAILS
LD-8 PONDLESS WATERFALL DETAILS
LD-9 HANDICAP RAMP DETAIL
LD-10 HANDICAP RAMP DETAIL
LD-11 HANDICAP RAMP DETAIL

Contract #: C202206 - RA McDowell County / I-40 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

REST AREA PROJECT DEVELOPMENT

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.: TRIANGLE ENGINEERING ASSOC
1320 SE MAYNARD RD
CARY, NC 27511 919.678.6107

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

I-40
MCDOWELL COUNTY
REST AREA RENOVATIONS

Plan :

Plans Drawn By:	KOPETSKY
Scale	n/a
Date	5 / 12 / 10
Letting Date	Aug 17, 2010
	2006 Standard Specifications
Sheet Description	TITLE SHEET
Sheet #	LT 1

NOTES

SEE DEMOLITION/ STAGING PLANS FOR REMOVAL OF EXISTING SITE ITEMS

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

NEW SIDEWALKS IN BOLD LINE WGT

ANY DAMAGE TO PAVEMENT, SIDEWALKS, OR SITE ITEMS (DUE TO CONSTRUCTION WORK) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE AT NO COST TO THE DEPARTMENT.

KEY

- NEW PARK BENCH
- NEW WASTE CONTANER
- FP NEW FLAGPOLE

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

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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- 40 McDOWELL Co
REST AREA RENOVATION

CONTRACT #: C202206

RLA ENGINEER: B. Kopetsky
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-18-10

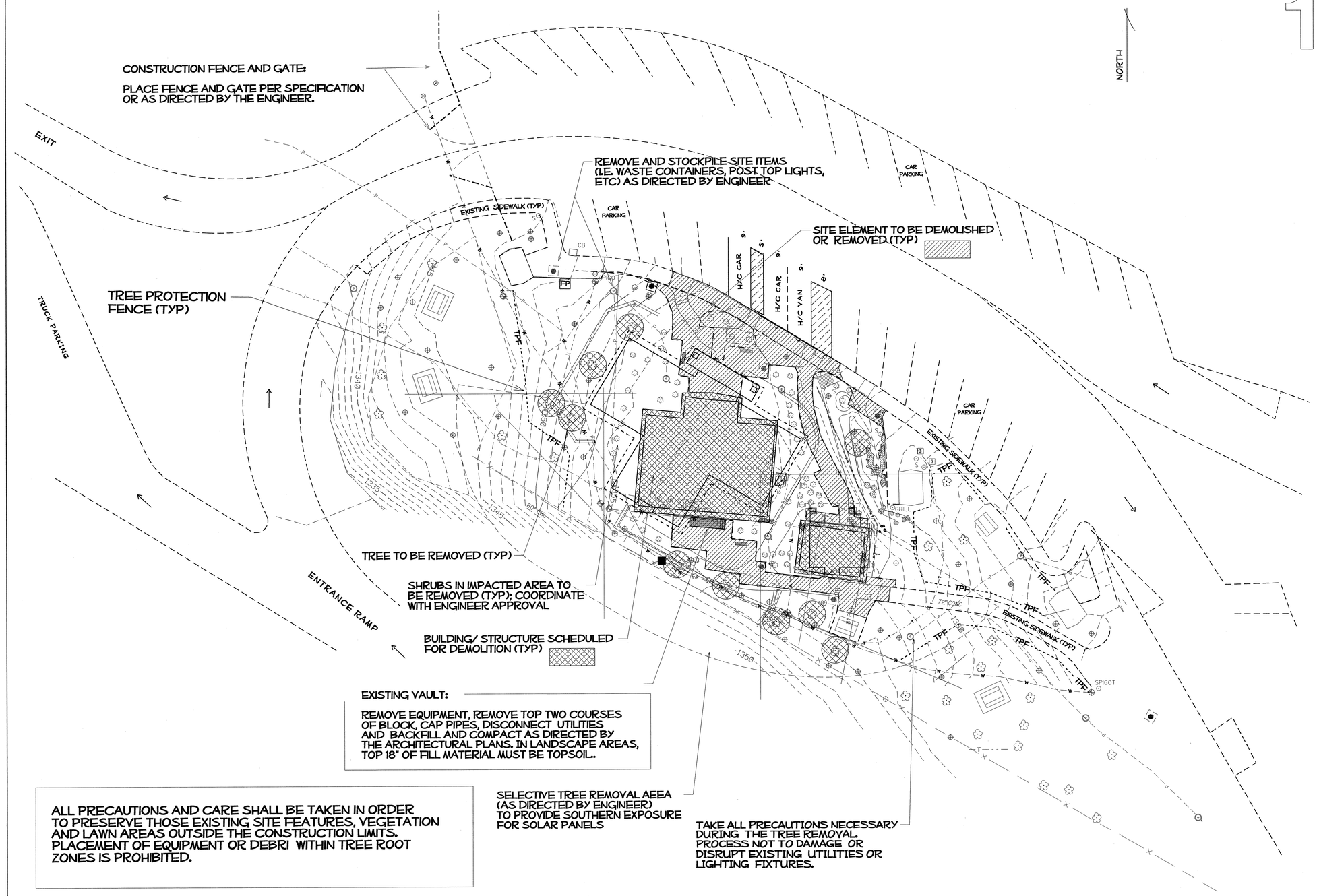
SHEET DESCRIPTION:	
PREL DESIGN DATE:	FEB/ 2010
CHECKED BY & DATE:	MAY/ 2010
FINAL DESIGN DATE:	MAY/ 2010

I-40 WBL RENOVATION

SITE PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4909
WBS #	39977.3.ST1
FED I.D. #	STM-040-2(150)83
SHEET NO:	L 1
TOTAL SHEET NO:	



ALL PRECAUTIONS AND CARE SHALL BE TAKEN IN ORDER TO PRESERVE THOSE EXISTING SITE FEATURES, VEGETATION AND LAWN AREAS OUTSIDE THE CONSTRUCTION LIMITS. PLACEMENT OF EQUIPMENT OR DEBRI WITHIN TREE ROOT ZONES IS PROHIBITED.

1

PHASE 1 DEMOLITION AND SITE PREPARATION:

- ERECT CONSTRUCTION FENCE
- PLACE EROSION CONTROL ELEMENTS AND TREE PROTECTION FENCING
- SELECTIVE REMOVAL OF TREES & VEGETATION
- SELECTIVE SITE ITEM REMOVAL & STOCKIPILE (I.E. PICNIC TABLES, SPLIT RAIL FENCE, POST TOP LIGHTS, ETC.)
- UTILITY DEMOLITION AND/OR RELOCATION (SEE UTILITY PLAN)
- DEMOLITION AND FILLING OF VAULT
- DEMOLITION OF REST ROOM & VENDING BLDGS
- SELECTIVE SITE DEVELOPMENT, GRADING, AND BLDG FOUNDATION CONSTRUCTION
- CONSTRUCTION OF RETAINING WALL

PHASE 1 CONSTRUCTION:

- CONSTRUCTION OF NEW REST ROOM BLDG AND NEW VENDING BLDG.
- SELECTIVE SITE DEVEVOPMENT (TO INCLUDE BUT NOT LIMITED TO, WATERFALL CONSTRUCTION, STAIR CONSTRUCTION, INSTALL STORMWATER COLLECTION SYSTEM, SIDEWALK AND PAVER INSTALLATION, SUBSURFACE DRAINAGE, IRRIGATION, INSTALLATION OF WASTE CONTAINERS, ETC)
- INSTALLATION OF AREA LIGHTING
- LANDSCAPE PLANTINGS

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

TEMPORARY SEEDING, EROSION 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)

0 10 20 40

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LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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I- 40 McDowell Co Rest Area Renovation

CONTRACT #: C202206

REU ENGINEER: B. Kopetsky

SHEET DESCRIPTION:		
PREL. DESIGN DATE:	FEB/ 2010	I-40 WBL RENOVATION
CHECKED BY & DATE:	MAY/ 2010	DEMOLITION &
FINAL DESIGN DATE:	MAY/ 2010	STAGING PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: L 2 TOTAL SHEET NO:

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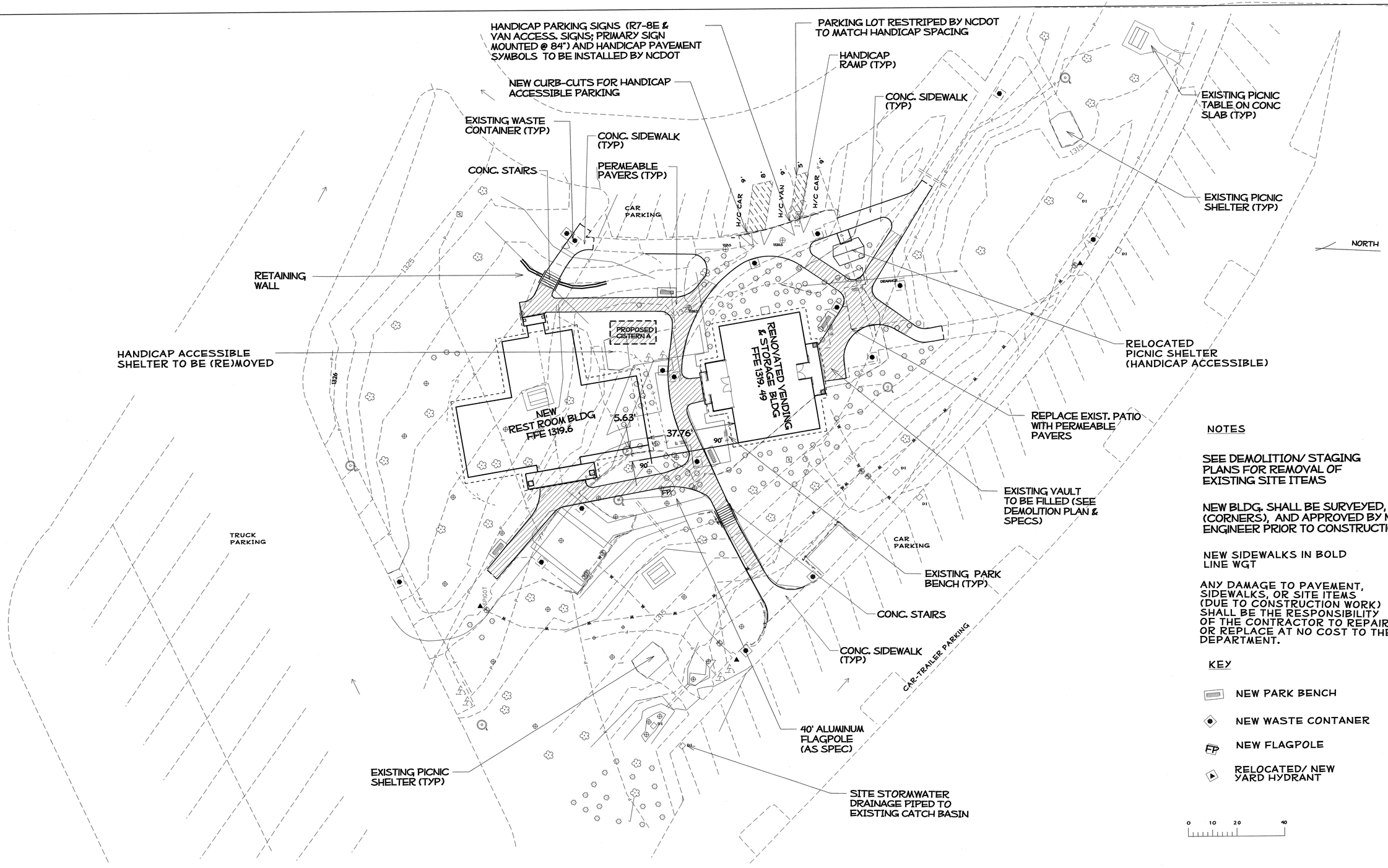

NOTES

SEE DEMOLITION/ STAGING PLANS FOR REMOVAL OF EXISTING SITE ITEMS

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

NEW SIDEWALKS IN BOLD LINE WGT

ANY DAMAGE TO PAVEMENT, SIDEWALKS, OR SITE ITEMS (DUE TO CONSTRUCTION WORK) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE AT NO COST TO THE DEPARTMENT.

KEY

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

$$$$$$$$SYSTIME$$$$$
$$$$$$$$USERNAME$$$$$

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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I- 40 McDowell Co
Rest Area Renovation

CONTRACT #: C202206

NCDOT ENGINEER: B. Kopetsky

NORTH CAROLINA LANDSCAPE ARCHITECT REGISTRATION 1447 ROBERT N. KOPETSKY 10/10/2010

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 2010	I-40 EBL RENOVATION
CHECKED BY & DATE: MAY/ 2010	SITE PLAN
FINAL DESIGN DATE: MAY/ 2010	

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: L 3 TOTAL SHEET NO:

1

PHASE 1 CONSTRUCTION:

- ERECT "PHASE 1" CONSTRUCTION FENCE
- PLACE EROSION CONTROL ELEMENTS AND TREE PROTECTION FENCING
- SELECTIVE REMOVAL OF TREES & VEGETATION
- SELECTIVE SITE ITEM REMOVAL & STOCKPILE (I.E. PICNIC TABLES, SPLIT RAIL FENCE, POST TOP LIGHTS, ETC.)
- UTILITY DEMOLITION AND/OR RELOCATION (SEE UTILITY PLAN)
- SITE PREPARATION AND GRADING
- CONSTRUCTION OF NEW REST ROOM BLDG
- SELECTIVE SITE DEVEVOPMENT (I.E. RETAINING WALL , SIDEWALKS, SUBSURFACE DRAINAGE, STORMWATER COLLECTION SYSTEM, ETC)

PHASE 1 - PHASE 2 TRANSITION:

- COORDINATED COMPLETION OF GRADING, STAIRS AND SIDEWALKS AROUND NEW REST ROOM BLDG.
- COMPLETION OF HANDICAP PARKING RAMPS AND PARKING AREA
- COMPLETION OF AREA LIGHTING AROUND NEW BLDG.
- FINAL 'HOOKUP' OF NEW BLDG UTILITIES
- ERECT 'PHASE 2' CONSTRUCTION FENCING

2

PHASE 2 CONSTRUCTION:

- SELECTIVE SITE ITEM REMOVAL & STOCKPILE
- SELECTIVE DEMOLITION OF OLD REST ROOM BLDG AND DESIGNATED SITE ITEMS.
- DEMOLITION AND FILLING OF VAULT
- RENOVATION OF NEW VENDING BLDG (OLD REST RM BLDG)
- SELECTIVE SITE DEVEVOPMENT (DRAINAGE SYSTEMS, SIDEWALKS, LIGHTING, ETC)
- FINAL GRADING
- ALL LANDSCAPE PLANTINGS
- DEMO AND REMOVAL OF EXISTING VENDING BLDG AND ADJOINING SIDEWAALKS (CCORDINATED WITH OPENING OF NEW VENDING BLDG)

ALL PRECAUTIONS AND CARE SHALL BE TAKEN IN ORDER TO PRESERVE THOSE EXISTING SITE FEATURES, VEGETATION AND LAWN AREAS OUTSIDE THE CONSTRUCTION LIMITS. PLACEMENT OF EQUIPMENT OR DEBRI WITHIN TREE ROOT ZONES IS PROHIBITED.

EXISTING VAULT:

REMOVE EQUIPMENT, REMOVE TOP TWO COURSES OF BLOCK, CAP PIPES, DISCONNECT UTILITIES AND BACKFILL AND COMPACT AS DIRECTED BY THE ARCHITECTURAL PLANS. IN LANDSCAPE AREAS, TOP 18" OF FILL MATERIAL MUST BE TOPSOIL..

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

TEMPORARY SEEDING, EROSION 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

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NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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I- 40 McDOWELL CO
REST AREA RENOVATION

CONTRACT #: C202206

ENGINEER : NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.18.10 B. Kopetsky

SHEET DESCRIPTION:

PREL DESIGN DATE :	FEB/ 2010
CHECKED BY & DATE :	MAY/ 2010
FINAL DESIGN DATE :	MAY/ 2010

I-40 EBL RENOVATION
DEMOLITION &
STAGING PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : L 4 TOTAL SHEET NO :

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

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" PVC — PVC DRAIN PIPE (SIZE NOTED); MIN 1' COVERAGE; MIN. 08. % SLOPE TO DRAIN

DS — BLDG DOWNSPOUT LOCATION

CO — CLEAN-OUT FOR SUBSURFACE DRAINAGE PIPE; PLACE DESCRETELY WITHIN PLANT BEDS AND WITHIN 16" OF BLDG FOUNDATION WHERE EVER POSSIBLE.

6" CPP — SMOOTH CORE CORRUGATED PLACTIC PIPE (SIZE NOTED); MIN. 1' COVERAGE UNTIL DAYLIGHTED (USE RODENT GUARD AS SPEC'D); MIN. 0.8% SLOPE TO DRAIN

V — VORTEX STORMWATER PRE-CISTERN FILTER

TREE PROTECTION FENCE

DRILL WEEP HOLES (5'O.C.) WITHIN RETAINING WALL (AT SIDEWALK ELEV); ADDITIONAL WEEP HOLES AS NECESSARY AT LOW PTS

EXACT LOCATION OF CISTERN (AND ASSOCIATED EQUIPMENT) TO BE DETERMINE IN THE FIELD AND APPROVED BY THE NCDOT ENGINEER

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

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- 40 McDOWELL CO
REST AREA RENOVATION
CONTRACT #: C202206

ENGINEER : B. Kopetsky
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-18-10

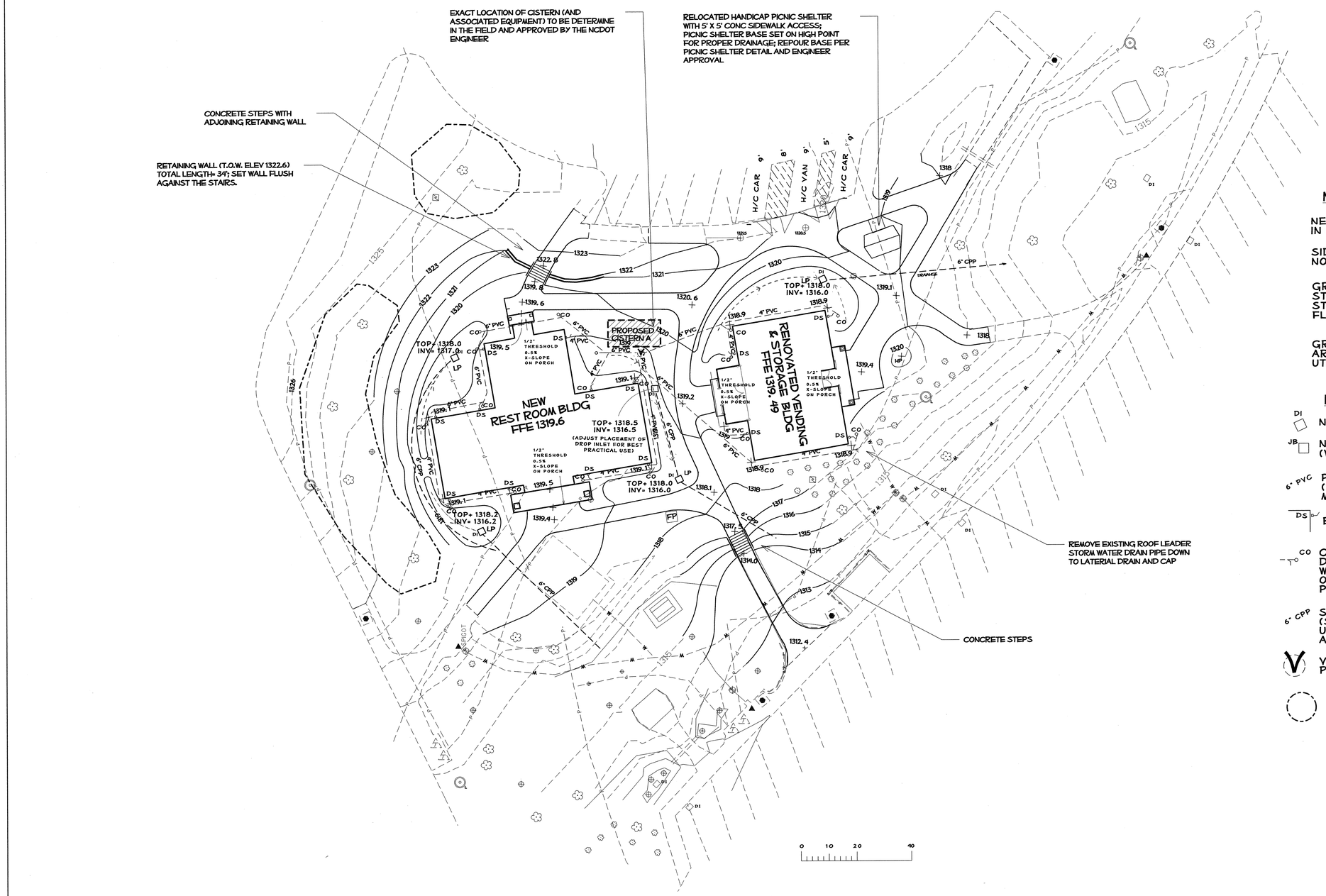
SHEET DESCRIPTION:

PREL DESIGN DATE :	FEB/ 2010
CHECKED BY & DATE :	MAY/ 2010
FINAL DESIGN DATE :	MAY/ 2010

I-40 WBL RENOVATION
GRADING & DRAINAGE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LG 1
TOTAL SHEET NO :



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

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6" PVC — PVC DRAIN PIPE (SIZE NOTED); MIN 1' COVERAGE; MIN. 08. % SLOPE TO DRAIN

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6" CPP — SMOOTH CORE CORRUGATED PLACTIC PIPE (SIZE NOTED); MIN. 1' COVERAGE UNTIL DAYLIGHTED (USE RODENT GUARD AS SPEC'D); MIN. 0.8% SLOPE TO DRAIN

V — VORTEX STORMWATER PRE-CISTERN FILTER

TREE PROTECTION FENCE

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$
$$$$$$DGNS$$$$$$$$$$$$$$$$$$$$

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- 40 McDowell Co Rest Area Renovation

CONTRACT #: C202206

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

SHEET DESCRIPTION:

PREL. DESIGN DATE:	FEB/ 2010
CHECKED BY & DATE:	MAY/ 2010
FINAL DESIGN DATE:	MAY/ 2010

I-40 EBL RENOVATION

GRADING & DRAINAGE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4909
WBS #	39977.3.ST1
FED I.D. #	STM-040-2(150)83
SHEET NO:	LG 2
TOTAL SHEET NO:	

THIS SHEET IS A DETAIL OF THE LG2; SEE LG2 FOR FURTHER INFORMATION, IDENTIFYING SYMBOLS AND NOTES.

0 10 20

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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PH: 919-733-2920 FAX: 919-733-9810
HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

I- 40 McDowell Co
Rest Area Renovation
CONTRACT #: C202206

REU ENGINEER :
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-18-10
B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 2010
CHECKED BY & DATE :	MAY/ 2010
FINAL DESIGN DATE :	MAY/ 2010

I-40 EBL RENOVATION
GRADING & DRAINAGE
DETAIL

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LG 3
TOTAL SHEET NO :

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

NOTES

COORDINATE HARDSCAPE CONSTRUCTION WITH SITE AND BUILDING DEVELOPMENT

SIDEWALKS TO MATCH EXISTING WHERE NOTED

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%

NO SIDEWALK SHALL EXCEED 5% SLOPE (ADA STANDARD)

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

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
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I- 40 McDOWELL Co REST AREA RENOVATION

CONTRACT #: C202206

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

SHEET DESCRIPTION:

PREL DESIGN DATE:	FEB/ 2010	I-40 WBL RENOVATION
CHECKED BY & DATE:	MAY/ 2010	HARDSCAPE/LAYOUT
FINAL DESIGN DATE:	MAY/ 2010	& DIMENSION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LH 1 TOTAL SHEET NO:

SEE SITE PLAN FOR PLACEMENT OF NEW WASTE CONTAINERS & PARK BENCHES (WITH CONC BASE)

NOTES

COORDINATE HARDSCAPE CONSTRUCTION WITH SITE AND BUILDING DEVELOPMENT

SIDEWALKS TO MATCH EXISTING WHERE NOTED

SIDEWALK CROSS-SLOPES NOT TO EXCEED 2%

NO SIDEWALK SHALL EXCEED 5% SLOPE (ADA STANDARD)

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

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
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I- 40 McDOWELL CO
REST AREA RENOVATION
CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.18.10
RLU ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE :	FEB/ 2010	I-40 EBL RENOVATION
CHECKED BY & DATE :	MAY/ 2010	HARDSCAPE/LAYOUT
FINAL DESIGN DATE :	MAY/ 2010	& DIMENSION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LH 2 TOTAL SHEET NO :

Key	Botanical Name	Common Name
AR	*Acer palmatum 'Bloodgood'*	Bloodgood Japanese Maple
AV	*Astilbe chinensis 'Visions*	Visions Astilbe
AN	*Athrium niponicum 'Pictum'*	Japanese Painted Fern
AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azalea
CP	*Chamaecyparis pisifera 'Boulevard'*	Boulevard Falsecypress
CJ	*Clematis x jackmanii*	Jackman Clematis
CR	*Cornus florida 'Rubra'*	Pink Flowering Dogwood
CH	*Cotoneaster horizontalis 'Hessei'*	Hessei Cotoneaster
DE	*Dryopteris erythrosora 'Brilliance'*	Autumn Sword Fern
EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower
EA	*Euoymus alata 'Compacta'*	Dwarf Burning Bush
HHR	*Hemerocallis 'Happy Returns'*	Happy Returns Daylily
HQ	*Hydrangea quercifolia 'Little Honey'*	Oakleaf Hydrangea
JE	*Juncus effusus*	Soft Rush
JP	*Juniperus procumbens 'Nana'*	Dwarf Japanese Garden Juniper
JO	*Juniperus virginiana 'Gray Owl'*	Gray Owl Juniper
LP	*Loropetalum chinense 'Purple Pixie'*	Purple Pixie Fringe Flower
MS	*Monarda 'x superbum 'Petite Delite'*	Monarda
MU	*Muhlenbergia capillaris*	Pink Muhley Grass
PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass
PM	*Picea mariana 'Blue Teardrop'*	Blue Teardrop Spruce
PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel
PSG	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Flowering Cherry
PS	*Phlox subulata 'Emerald Blue'*	Emerald Blue Phlox
RP	*Rhododendron 'PJM'*	P.J.M. Rhododrendron
RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose
RU	*Rudbeckia fulgida 'Goldstrum'*	Goldstrum Black eyed Susan
SR	*Syringa reticulata 'Ivory Silk'*	Ivory Silk Tree Lilac
TM	*Taxus x media 'Densiformis'*	Yew
TG	*Thuja x 'Green Giant'*	Green Giant Arborvitae
VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena

Note: See inset on sheet LP3 for detail of plantings located near the exit ramp.

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

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- 40 McDowell Co
Rest Area Renovation
CONTRACT #: C202206

REU ENGINEER : NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 5·13·10 ROBERT N. KOPETSKY
B. Kopetsky

SHEET DESCRIPTION:

PREL DESIGN DATE : FEB/ 2010
CHECKED BY & DATE : MAY/ 2010
FINAL DESIGN DATE : MAY/ 2010

I-40 WBL RENOVATION
LANDSCAPE PLANTING

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LP 1
TOTAL SHEET NO :

Key	Botanical Name	Common Name
AR	*Acer palmatum 'Bloodgood'*	Bloodgood Japanese Maple
AV	*Astilbe chinensis 'Visions*	Visions Astilbe
AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azalea
BT	*Berberis thunbergii var. atropurpurea 'Crimson Pygmy'*	Crimson Pygmy Barberry
BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush
CP	*Chamaecyparis pisifera 'Boulevard'*	Boulevard Falsecypress
CC	*Cotinus coggygria 'Purple Supreme'*	Purple Supreme Smoketree
CH	*Cotoneaster horizontalis 'Hessei'*	Hessei Cotoneaster
EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower
EA	*Euoymus alata 'Compacta'*	Dwarf Burning Bush
HHR	*Hemerocallis 'Happy Returns'*	Happy Returns Daylily
HJS	*Hemerocallis 'Joan Senior'*	Joan Senior Daylily
HQ	*Hydrangea quercifolia 'Little Honey'*	Oakleaf Hydrangea
IV	*Ilex vomitoria 'nana'*	Dwarf Yaupon Holly
JE	*Juncus effusus*	Soft Rush
JP	*Juniperus procumbens 'Nana'*	Dwarf Japanese Garden Juniper
LP	*Loropetalum chinense 'Purple Pixie'*	Purple Pixie Fringe Flower
MU	*Muhlenbergia capillaris*	Pink Muhley Grass
PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass
PM	*Picea mariana 'Blue Teardrop'*	Blue Teardrop Spruce
PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel
PSG	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Flowering Cherry
PS	*Phlox subulata 'Emerald Blue'*	Emerald Blue Phlox
RP	*Rhododendron 'PJM'*	P.J.M. Rhododendron
RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose
TM	*Taxus x media 'Densiformis'*	Yew
VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena

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

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- 40 McDowell Co
Rest Area Renovation

CONTRACT #: C202206

REU ENGINEER : B. Kopetsky

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5·13·10

SHEET DESCRIPTION:

PREL. DESIGN DATE : FEB/ 2010
CHECKED BY & DATE : MAY/ 2010
FINAL DESIGN DATE : MAY/ 2010

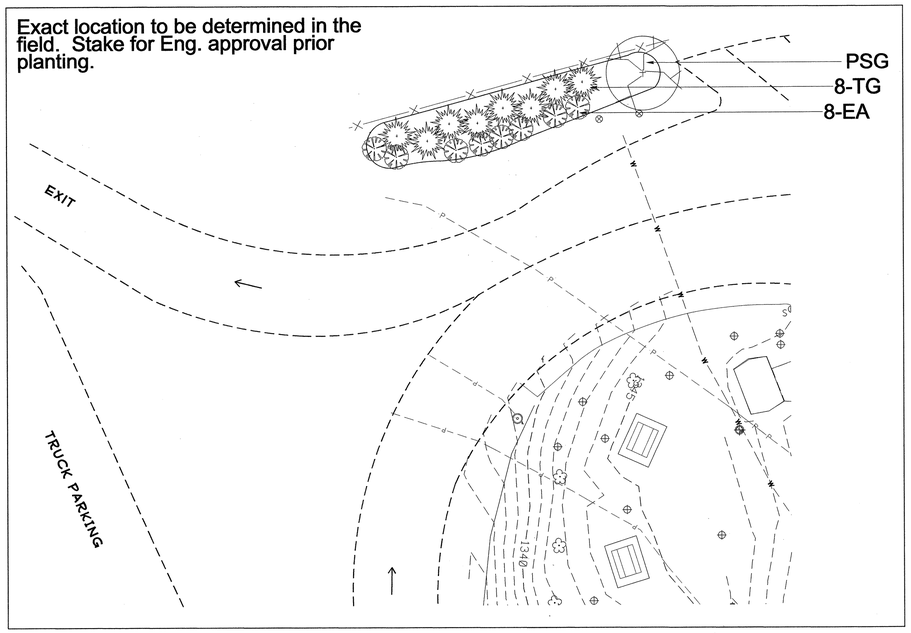
I-40 EBL RENOVATION
LANDSCAPE PLANTING

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LP 2
TOTAL SHEET NO :

MC DOWELL COUNTY / I-40 REST AREA RENOVATION
PLANTING - SUMMARY OF QUANTITIES

INSET - WBL RAMP PLANTING DESIGN



WBL - LANDSCAPE QUANTITIES

Des	Sec	Qty.	Unit	Key	Botanical Name	Common Name	Size	Caliper	Furnish	A.S.N.S.	Remarks
L	1670	1	ea	AR	*Acer palmatum 'Bloodgood'*	Bloodgood Japanese Maple	5-6'		#10 cont.	1.2.4	As Shown
L	1670	20	ea	AV	*Astilbe chinensis 'Visions*	Visions Astilbe	8-12"		#1 cont.	12.2.1	18" O.C.
L	1670	5	ea	AN	*Athrium niponicum 'Pictum'*	Japanese Painted Fern	8-12"		#1 cont.	12.2.1	18" O.C.
L	1670	5	ea	AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azalea	18-24"		#3 cont.	4.2.3	As Shown
L	1670	2	ea	CP	*Chamaecyparis pisifera 'Boulevard'*	Boulevard Falsecypress	18-24"		#5 cont.	3.2.3	As Shown
L	1670	2	ea	CJ	*Clematis x jackmanii*	Jackman Clematis	10"		#3 cont.	5.2	3 canes
L	1670	3	ea	CR	*Cornus florida 'Rubra'*	Pink Flowering Dogwood	6-7'	1 3/4"	B&B	2.2.4	3-4 stem
L	1670	22	ea	CH	*Cotoneaster horizontalis 'Hessei'*	Hessei Cotoneaster	8-12"		#3 cont.	4.2.1	3' O.C.
L	1670	10	ea	DE	*Dryopteris erythrosora 'Brilliance'*	Autumn Sword Fern	8-12"		#1 cont.		18" O.C.
L	1670	15	ea	EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower	12-15"		#1 cont.		2' O.C.
L	1670	12	ea	EA	*Euonymus alata 'Compacta'*	Dwarf Burning Bush	18-24"		#3 cont.	2.2.3	4 canes
L	1670	6	ea	HHR	*Hemerocallis 'Happy Returns'*	Happy Returns Daylily	8-12"		#1 cont.	12.2.3	2' O.C.
L	1670	15	ea	HQ	*Hydrangea quercifolia 'Little Honey'*	Oakleaf Hydrangea	18-24"		#3 cont.	2.2.3	3-4 canes
L	1670	5	ea	JE	*Juncus effusus*	Soft Rush	15-18"		#2 cont.	12.4	As Shown
L	1670	28	ea	JP	*Juniperus procumbens 'Nana'*	Dwarf Japanese Garden Juniper	12-15"		#3 cont.	3.2.2	3' O.C.
L	1670	4	ea	JO	*Juniperus virginiana 'Gray Owl'*	Gray Owl Juniper	18-24"		#3 cont.	3.2.3	As Shown
L	1670	17	ea	LP	*Loropetalum chinense 'Purple Pixie'*	Purple Pixie Fringe Flower	18-24"		#3 cont.	4.2.3	As Shown
L	1670	22	ea	MS	*Monarda 'x superbum 'Petite Delite'*	Monarda	8-12"		#1 cont.	12.3	18" O.C.
L	1670	26	ea	MU	*Muhlenbergia capillaris*	Pink Muhley Grass	18-24"		#3 cont.	12.4	2' O.C.
L	1670	4	ea	PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass	18-24"		#3 cont.	12.4	As Shown
L	1670	1	ea	PM	*Picea mariana 'Blue Teardrop'*	Blue Teardrop Spruce	30"		FP	3.2.3	As Shown
L	1670	9	ea	PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel	18-24"		#3 cont.	4.2.2	As Shown
L	1670	3	ea	PSG	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Flowering Cherry	5-6'		#20 cont	2.2.4	3-4 stem
L	1670	30	ea	PS	*Phlox subulata 'Emerald Blue'*	Emerald Blue Phlox	3-6"		#1 cont.		3' O.C.
L	1670	7	ea	RP	*Rhododendron 'PJM'*	P.J.M. Rhododrendron	18-24"		#3 cont.	4.2.4	As Shown
L	1670	8	ea	RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose	18-24"		#3 cont.	5.2	3 canes
L	1670	9	ea	RU	*Rudbeckia fulgida 'Goldstrum'*	Goldstrum Black eyed Susan	8-12"		#1 cont.	12.3	2' O.C.
L	1670	1	ea	SR	*Syringa reticulata 'Ivory Silk'*	Ivory Silk Tree Lilac	5-6'		#15 cont.	2.2.1	As Shown
L	1670	3	ea	TM	*Taxus x media 'Densiformis'*	Yew	18-24"		#3 cont.	3.2.3	As Shown
L	1670	8	ea	TG	*Thuja x 'Green Giant'*	Green Giant Arborvitae	6-7'		#15 cont.	3.2.3	8' O.C.
L	1670	9	ea	VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena	6-8"		#1 cont.	12.3	18" O.C.
2729	1670	112	CY		Mulch for Planting						
2731	1670	5	M/G		Water for Planting						
L	1670	800	SY		Pre emergence Herbicidal Treatment						
L	1670	800	SY		Post emergence Herbicidal Treatment						

EBL - LANDSCAPE QUANTITIES

Des	Sec	Qty.	Unit	Key	Botanical Name	Common Name	Size	Caliper	Furnish	A.S.N.S.	Remarks
L	1670	1	ea	AR	*Acer palmatum 'Bloodgood'*	Bloodgood Japanese Maple	5-6'		#10 cont.	1.2.4	As Shown
L	1670	20	ea	AV	*Astilbe chinensis 'Visions*	Visions Astilbe	8-12"		#1 cont.	12.2.1	18" O.C.
L	1670	12	ea	AS	*Azalea x 'Roblem'*	Autumn Starlite Encore Azalea	18-24"		#3 cont.	4.2.3	As Shown
L	1670	11	ea	BT	*Berberis thunbergii var. atropurpurea 'Crimson Pygmy'*	Crimson Pygmy Barberry	12-18"		#3 cont.	2.2.2	As Shown
L	1670	3	ea	BDB	*Buddlia davidii 'Black Knight'*	Black Knight Butterfly bush	18-24"		#3 cont.	2.2.1	4 canes
L	1670	1	ea	CP	*Chamaecyparis pisifera 'Boulevard'*	Boulevard Falsecypress	18-24"		#5 cont.	3.2.3	As Shown
L	1670	2	ea	CC	*Cotinus coggygria 'Purple Supreme'*	Purple Supreme Smoketree	5-6'		#15 cont.	2.2.4	3-4 stem
L	1670	14	ea	CH	*Cotoneaster horizontalis 'Hessei'*	Hessei Cotoneaster	8-12"		#3 cont.	4.2.1	3' O.C.
L	1670	15	ea	EP	*Echinacea purpurea 'Kim's Knee High'*	Purple Coneflower	12-15"		#1 cont.		2' O.C.
L	1670	16	ea	EA	*Euoymus alata 'Compacta'*	Dwarf Burning Bush	18-24"		#3 cont.	2.2.3	4 canes
L	1670	33	ea	HHR	*Hemerocallis 'Happy Returns'*	Happy Returns Daylily	8-12"		#1 cont.	12.2.3	2' O.C.
L	1670	67	ea	HJS	*Hemerocallis 'Joan Senior'*	Joan Senior Daylily	8-12"		#1 cont.	12.2.3	2' O.C.
L	1670	14	ea	HQ	*Hydrangea quercifolia 'Little Honey'*	Oakleaf Hydrangea	18-24"		#3 cont.	2.2.3	3-4 canes
L	1670	9	ea	IV	*Ilex vomitoria 'nana'*	Dwarf Yaupon Holly	18-24"		#3 cont.	4.2.4	As Shown
L	1670	29	ea	JE	*Juncus effusus*	Soft Rush	15-18"		#2 cont.	12.4	As Shown
L	1670	26	ea	JP	*Juniperus procumbens 'Nana'*	Dwarf Japanese Garden Juniper	12-15"		#3 cont.	3.2.2	3' O.C.
L	1670	7	ea	LP	*Loropetalum chinense 'Purple Pixie'*	Purple Pixie Fringe Flower	18-24"		#3 cont.	4.2.3	As Shown
L	1670	47	ea	MU	*Muhlenbergia capillaris*	Pink Muhley Grass	18-24"		#3 cont.	12.4	2' O.C.
L	1670	11	ea	PD	*Panicum amarum 'Dewey Blue'*	Blue Sand Switch Grass	18-24"		#3 cont.	12.4	As Shown
L	1670	2	ea	PM	*Picea mariana 'Blue Teardrop'*	Blue Teardrop Spruce	30"		FP	3.2.3	As Shown
L	1670	11	ea	PO	*Prunus laurocerasus 'Otto Luyken'*	Otto Luyken Laurel	18-24"		#3 cont.	4.2.2	As Shown
L	1670	2	ea	PSG	*Prunus serrulata 'Snow Goose'*	Snow Goose Japanese Flowering Cherry	5-6'		#20 cont	2.2.4	3-4 stem
L	1670	15	ea	PS	*Phlox subulata 'Emerald Blue'*	Emerald Blue Phlox	3-6"		#1 cont.		3' O.C.
L	1670	2	ea	RP	*Rhododendron 'PJM'*	P.J.M. Rhododrendron	18-24"		#3 cont.	4.2.4	As Shown
L	1670	13	ea	RR	*Rosa x 'Knock-out' Radtkopink*	Knock Out Pink Rose	18-24"		#3 cont.	5.2	3 canes
L	1670	6	ea	TM	*Taxus x media 'Densiformis'*	Yew	18-24"		#3 cont.	3.2.3	As Shown
L	1670	64	ea	VHP	*Verbena 'Homestead Purple'*	Homestead Purple Verbena	6-8"		#1 cont.	12.3	18" O.C.
2729	1670	115	CY		Mulch for Planting						
2731	1670	6	M/G		Water for Planting						
L	1670	825	SY		Pre emergence Herbicidal Treatment						
L	1670	825	SY		Post emergence Herbicidal Treatment						

"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.

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

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- 40 McDowell Co
Rest Area Renovation
CONTRACT #: C202206

REGISTERED PROFESSIONAL ENGINEER - NORTH CAROLINA - 11447 - 5-18-10 - ROBERT N. KOPETSKY
DEU ENGINEER: R. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 2010	I-40 WBL & EBL
CHECKED BY & DATE: MAY/ 2010	LANDSCAPE PLANTING
FINAL DESIGN DATE: MAY/ 2010	QUANTITIES

STATE OF NORTH CAROLINA - DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LP 3 TOTAL SHEET NO:

NOTES & LEGENDS

HEADS

- TORO SERIES 570 PRX-6P POP UP - 6" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY 570 SERIES SPRAY NOZZLE OR COMPATIBLE BRAND
- TORO SERIES SUPER 800 CKE-5" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY SUPER 800 SERIES SPRAY NOZZLE OR COMPATIBLE BRAND
- ALL HEADS WITH A 12" POP UP STROKE,IF INSTALLED WITH LESS THAN 1/3 OF THE SPRINKLER BODY EXPOSED ABOVE GRADE,SHALL BE INSTALLED ON POLYETHYLENE FLEX SWING JOINTS POLY PIPE FITTED WITH (3/8" INSERT BY 1/2" M.P.T.AND /OR3/8" INSERT BY3/4" M.P.T.) ELBOWS.IF GREATER THAN 1/3 OF THE SPRINKLER BODY IS EXPOSED THEN THE 12" POP-UP HEAD SHALL BE MOUNTED ON A SCHEDULE 40 PVC PIPE RISER AS DESCRIBED BELOW IN RELATION TO MOUNTING SHRUB HEAD MODELS.IN MOUNTING 12" POP UP HEADS ON SHRUBS TYPE RISERS CARE SHALL BE TAKEN TO INSTALL THE HEAD IN SUCH A MANNER THAT SURROUNDING PLANT MATERIAL (PLANNED OR EXISTING) WILL HIDE THE BODY OF THE SPRINKLER AS WELL AS POSSIBLE WHILE THE NOZZLE IN THE POPPED UP OPERATING POSITION WILL PROVIDE FOR AN UNOBSTRUCTED PATTERN
- ALL POP UP IRRIGATION HEADS DESIGNED ADJACENT TO CURBS OR PAVEMENT SHALL BE INSTALLED WITH A CLEARANCE OF 1½' FROM THE EDGES OF ALL PAVED AREAS TO PROVIDE FOR EDGING AND MAINTENANCE OPERATIONS.HEADS INSTALLED ON SHRUBS RISER OR WITH THE TOP OF THE HEAD MORE THAN½" ABOVE GRADE SHALL BE INSTALLED WITH A MINIMUM 6" CLEARANCE FROM PAVED AREAS.
- ALL THREADED PIPE CONNECTIONS SHALL BE ASSEMBLED USING TEFLON THREAD SEALING TAPE.
- ALL HEADS MOUNTED IN THE LAWN AREAS SHALL BE MOUNTED ON TORO POLYETHYLENE PIPE FLEX SWING JOINTS COMPOSED OF MODEL #850-01 ¾" I.D.POLY PIPE FITTED WITH #850-33 (3/8" INSERT BY½" M.P.T.) AND /OR #850-32 (3/8" INSERT BY¾" M.P.T.) ELBOWS.

PIPE

——— - DENOTES ROUTES OF PR 200 PVC LATERAL PIPING.SIZE OF LATERAL PIPING SHALL BE AS NOTED BELOW. MINIMUMDEPTH OF COVER OVER LATERAL PIPING TO BE 12"

LATERAL PIPING SIZING SCHEDULE

SUMMATION OF GALLONAGE DEMAND ON THE PARTICULAR BRANCHES OF PIPE WITHIN A CONTROL SECTION SHALL BE DETERMINED BY USING THE GPM FOR A NOZZLE BASED ON A 50 PSI BASE OF HEAD PRESSURE AND FULL RADIUS AT THAT PRESSURE AS REPORTED IN THE TORO 2010 IRRIGATION PRODUCTS CATALOG.PIPE SIZES FOR THE LATERALS SHALL BE AS FOLLOWS:

ZERO TO FIFTEEN GPM ACCUMULATED FLOW USE 1" PR 200 PVC PIPE

GREATER THAN FIFTEEN UP TO THIRTY-FIVE GPM USE 1-1/2" PR 200 PVC PIPE

FRICTION LOSS ALLOWANCES FOR THIS PROJECT HAVE BEEN DETERMINED USING THE ABOVE FLOW RANGES AND DEMANDS

– – – – - DENOTES ROUTE OF PR 200 MAIN LINE PIPING.SIZE OF PIPE TO BE 1-1/2" IN MINIMUM DEPTH OF COVER MAINLINE PIPING TO BE 18"

- PIPING SHALL BE PR 200 SOLVENT WELD PVC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTING UNLESS OTHERWISE NOTED.
- ALL PIPING RUNS SHALL BE "SNAKED" IN THE TRENCH DURING INSTALLATION TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL EXPANSION OR CONTRACTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGING PLANTINGS (INCLUDING ROOTS) DURING INSTALLATION OF THE IRRIGATION SYSTEM AND SHALL COORDINATE HIS EFFORTS WITH THE LANDSCAPE CONTRACTOR SO AS TO OPTIMIZE THE EFFICIENCY AND THE AESTHETIC QUALITY OF THE INSTALLATION

DRIP IRRIGATION

▨ - LOCATION OF TORO NETAFIM TECHLINE ½" P.E.TUBING, 18" EMITTER SPACING INTERVALS AT 1 GPM EMITTERS INLINE. NETAFIM (MODEL" TLDL-9-1810) TECHLINE TO BE INSTALLED UNDER MULCH IN LANDSCAPE AREAS AS SHOWN ON THE IRRIGATION PLAN.

- USE TORO T-DAK-15 ADJUSTABLE EMITTERS WITH STAKE OR COMPATIBLE BRAND FOR ANNUAL BED LOCATION.
- NO DRIP REQUIRED AROUND ORNAMENTAL GRASSES IN PLANT BEDS.

▶| - LOCATION OF DRIP VALVE ASSEMBLY WHICH INCLUDES TORO 250 SERIES REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE, NETAFIM 200 MESH FILTER #DF150-140,AND NETAFIM PRESSURE REGULATOR #PVR15045.FLOW CONTROLVALVES SHALL BE AS NOTED ON BOXES WITH LIDS MOUNTED AT GRADE LEVEL.

HEAD RADII

- THE IRRIGATION CONTRACTOR SHALL ADJUST THE RADIUS AND THROW OF EACH SPRINKLER HEAD TO PROVIDE OPTIMUM COVERAGE WHILE MINIMIZING OVERSPRAY ONTO HARDSCAPES OR BUILDINGS.ADJUST HEADS TO ELIMINATE DRY SPOTS.
- APPROXIMATE ARC AND RADIUS OF INDIVIDUAL SPINKLER HEAD COVERAGE SHALL BE AS ILLUSTRATED.INDIVIDUAL HEAD OR NOZZLE MODEL NUMBERS MAY BE DEPENDENT UPON THESE SPECIFIC CHARACTERISTICS

VALVES

▶◀ - LOCATION OF ELECTRIC 24 V.AC.REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE (MODEL # TORO 250-06-04).SIZE OF ZONE CONTROL VALVES TO BE AS NOTED ON THE IRRIGATION PLANS.

- ALL IN-LINE REMOTE CONTOL VALVES SHALL BE INSTALLED IN CARSON VALVE BOXES WITH LIDS MOUNTED AT GRADE LEVEL.SINGLE VALVES MAY BE INSTALLED IN CARSON MODEL #910-1 VALVE BOX WITH #910-2 COVER.WHILE MULTIPLE VALVES (UP TO,TWO 1" VALVES OR ONE,1-1/2" SHALL BE INSTALLED IN CARSON MODEL #1419-1 BOX WITH #1419-2 COVER

24 VAC CONTROL WIRING

- ALL 24 V.AC.CONTROL WIRING SHALL BE SINGLE STRAND COPPER WIRE WITH POLYETHYLENE PE DIRECT BURIAL INSULATION RATED FOR 300 V.AC.VALVE "COMMON" WIRES SHALL HAVE WHITE INSULATION WHILE VALVE "HOT" WIRES SHALL HAVE INSULATION RED IN COLOR. THE "COMMON" WIRES SHALL BE #14 AWG."HOT" WIRES SHALL BE #14 AWG.VALVE WIRING SHALL FOLLOW MAINLINE PIPING WHERE FEASIBLE AND SHALL BE LAID IN A COMMON TRENCHLINE WITH THE MAINLINE PIPING AND IN THE BOTTOM OF THE TRENCH.WIRING SHALL BE "BUNDLED" AND TAPED AT INTERVALS OF APPROXIMATELY TEN FEET. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- WIRE SPLICES SHALL BE KEPT TO AN ABSOLUTE MINIMUM.WHERE MAJOR CONCENTRATIONS OF SPLICES ARE NECESSARY SAID SPLICES SHALL BE PLACED IN A CARSON #910-1 VALVE BOX WITH #910-2 COVER INSTALLED AT GRADE LEVEL.SPLICES AT VALVE LOCATIONS SHALL BE MADE INSIDE OF THE VALVE BOX.ALL SPLICE LOCATIONS SHALL BE NOTED ON THE AS BUILT PLAN.
- WIRE RUNS SHALL BE INSTALLED WITH ENOUGH SLACK AND / OR OCCASIONAL EXPANSION LOOPS TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL CONTRACTION
- ALL WIRE SPLICES SHALL BE MADE USING UL APPROVED DIRECT BURIAL CONNECTORS AND WATERPROOFING MATERIALS.ALL ELECTRICAL WORK SHALL BE INSTALLED ACCORDING TO CODE

CONTROLLER

A

- LOCATION OF IRRIGATION CONTROLLER.THE CONTROLLER SHALL BE CUSTOM COMMAND (TMC-212 SERIES) SOLID STATE UNIT WHICH SHALL BE OF THE WALL MOUNT STYLE.THE CONTROLLER SHALL INCORPORATE 24 V.AC. ELECTRIC REMOTE CONTROL VALVE OPERATION.THE CONTROLLER SHALL BE MOUNTED IN THE APPROXIMATE LOCATION SHOWN ON THE PLAN
- ALL ELECTRICAL CONNECTIONS AND INSTALLATIONS SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- ALL 120 VAC WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE ELECTRICAL CODE REQUIREMENTS. NOTE:THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING A 120 VAC POWER CIRCUIT AT THE CONTROLLER LOCATION.THE POWER SOURCE SHALL BE CAPABLE OF SUPPORTING A 10 AMPERE LOAD AT 120 VAC.

SLEEVING

- SLEEVES SHALL BE 3" PVC FOR 24 VAC WIRING PER ELECTRICAL CODE. THE IRRIGATION CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE IRRIGATION SYSTEM WITH THE LANDSCAPE CONTRACTOR TO INSURE PROPER INSTALLATION OF BOTH THE IRRIGATION SYSTEM WITH THE LANDSCAPE AND HARDSCAPE.
THE IRRIGATION SYSTEM IS DISPLAYED SCHEMATIC IN NATURE. THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO MAKE MINOR ADJUSTMENTS IN THE FIELD.THESE MINOR ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER BUT SHALL BE MADE ONLY AFTER NOTIFICATION IS MADE TO OWNER.(NC DOT)
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE SO THAT HE IS AWARE OF ANY SPECIAL CONDITIONS WHICH EXIST THAT MAY AFFECT HIS BID PROPOSAL AND SHALL THEREAFTER BE RESPONSIBLE FOR ALL COST INCURRED BY HIMSELF IN RELATION TO THE INSTALLATION.

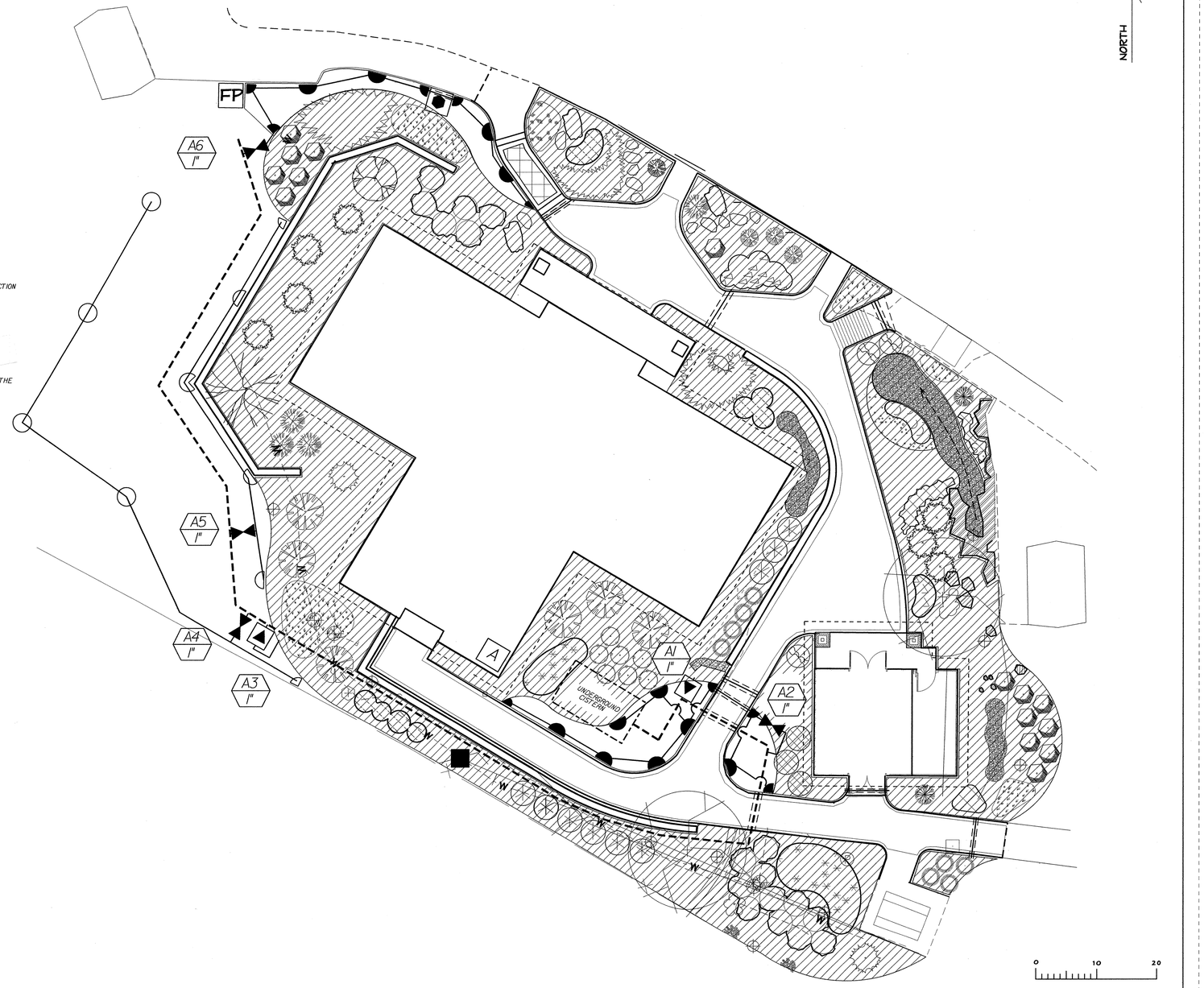
WATER SUPPLY

- WATER SUPPLY WILL BE UNDERGROUND CISTERN
- THIS IRRIGATION SYSTEM SHALL BE CAPABLE OF DELIVERING 30 GPM MAXIMUM WITH ONE CONTROL STATION OPERATING AT A TIME AT 60 PSI AT THE BASE OF THE HEAD FOR OPTIMUM PERFORMANCE OF THE IRRIGATION SYSTEM.

▭ UNDERGROUND CISTERN.SEE PLAN FOR LOCATION

RAINSENSOR

RAINSENSOR IS TO BE A WIRED TRS (TORO) OR A COMPARBLE BRAND
LOCATION OF SENSOR IS TO BE APPROVED BY ROADSIDE ENVIRONMENTAL ENGINEER



$$$$$$$$$$STIMES$$$$$$
$$$$$$$$$$USERNAME$$$$$$

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- 40 McDOWELL CO REST AREA RENOVATION

CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY

PROJ. ENGINEER: B. Winter Sr.

SHEET DESCRIPTION:

PREL. DESIGN DATE: MAY/ 2010
CHECKED BY & DATE: D. WILSON
FINAL DESIGN DATE: MAY/ 2010

I-40 WBL RENOVATION
IRRIGATION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LI 1 TOTAL SHEET NO:

NOTES & LEGENDS

HEADS

- TORO SERIES 570 PRX-6P POP UP - 6" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY 570 SERIES SPRAY NOZZLE OR COMPATIBLE BRAND
- TORO SERIES SUPER 800 CKE-5" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY SUPER 800 SERIES SPRAY NOZZLE OR COMPATABLE BRAND
- ALL HEADS WITH A 12" POP UP STROKE.IF INSTALLED WITH LESS THAN 1/3 OF THE SPINKLER BODY EXPOSED ABOVE GRADE,SHALL BE INSTALLED ON POLYETHYLENE FLEX SWING JOINTS POLY PIPE FITTED WITH (3/8" INSERT BY 1/2" M.P.T. AND /OR 3/8" INSERT BY 3/4" M.P.T.) ELBOWS.IF GREATER THAN 1/3 OF THE SPRINKLER BODY IS EXPOSED THEN THE 12" POP-UP HEAD SHALL BE MOUNTED ON A SCHEDULE 40 PVC PIPE RISER AS DESCRIBED BELOW IN RELATION TO MOUNTING SHRUB HEAD MODELS.IN MOUNTING 12" POP UP HEADS ON SHRUBS TYPE RISERS CARE SHALL BE TAKEN TO INSTALL THE HEAD IN SUCH A MANNER THAT SURROUNDING PLANT MATERIAL (PLANNED OR EXISTING) WILL HIDE THE BODY OF THE SPRINKLER AS WELL AS POSSIBLE WHILE THE NOZZLE IN THE POPPED UP OPERATING POSITION WILL PROVIDE FOR AN UNOBSTRUCTED PATTERN
- ALL POP UP IRRIGATION HEADS DESIGNED ADJACENT TO CURBS OR PAVEMENT SHALL BE INSTALLED WITH A CLEARANCE OF 1/2" FROM THE EDGES OF ALL PAVED AREAS TO PROVIDE FOR EDGING AND MAINTENANCE OPERATIONS.HEADS INSTALLED ON SHRUBS RISER OR WITH THE TOP OF THE HEAD MORE THAN 1/2" ABOVE GRADE SHALL BE INSTALLED WITH A MINIMUM 6" CLEARANCE FROM PAVED AREAS.
- ALL THREADED PIPE CONNECTIONS SHALL BE ASSEMBLED USING TEFLON THREAD SEALING TAPE.
- ALL HEADS MOUNTED IN THE LAWN AREAS SHALL BE MOUNTED ON TORO POLYETHYLENE PIPE FLEX SWING JOINTS COMPOSED OF MODEL #850-01 3/8" I.D.POLY PIPE FITTED WITH #850-31 (3/8" INSERT BY 1/2" M.P.T.) AND /OR #850-32 (3/8" INSERT BY 3/4" M.P.T.) ELBOWS.

PIPE

- DENOTES ROUTES OF PR 200 PVC LATERAL PIPING.SIZE OF LATERAL PIPING SHALL BE AS NOTED BELOW. MINIMUMDEPTH OF COVER OVER LATERAL PIPING TO BE 12"

LATERAL PIPING SIZING SCHEDULE

SUMMATION OF GALLONAGE DEMAND ON THE PARTICULAR BRANCHES OF PIPE WITHIN A CONTROL SECTION SHALL BE DETERMINED BY USING THE GPM FOR A NOZZLE BASED ON A 50 PSI BASE OF HEAD PRESSURE AND FULL RADIUS AT THAT PRESSURE AS REPORTED IN THE TORO 2010 IRRIGATION PRODUCTS CATALOG.PIPE SIZES FOR THE LATERALS SHALL BE AS FOLLOWS:

ZERO TO FIFTEEN GPM ACCUMULATED FLOW USE 1" PR 200 PVC PIPE

GREATER THAN FIFTEEN UP TO THIRTY-FIVE GPM USE 1-1/2" PR 200 PVC PIPE

FRICTION LOSS ALLOWANCES FOR THIS PROJECT HAVE BEEN DETERMINED USING THE ABOVE FLOW RANGES AND DEMANDS

- DENOTES ROUTE OF PR 200 MAIN LINE PIPING.SIZE OF PIPE TO BE 1-1/2" IN MINIMUM DEPTH OF COVER MAINLINE PIPING TO BE 18"
- PIPING SHALL BE PR 200 SOLVENT WELD PVC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTING UNLESS OTHERWISE NOTED.
- ALL PIPING RUNS SHALL BE "SNAKED" IN THE TRENCH DURING INSTALLATION TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL EXPANSION OR CONTRACTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGING PLANTINGS (INCLUDING ROOTS) DURING INSTALLATION OF THE IRRIGATION SYSTEM AND SHALL COORDINATE HIS EFFORTS WITH THE LANDSCAPE CONTRACTOR SO AS TO OPTIMIZE THE EFFICIENCY AND THE AESTHETIC QUALITY OF THE INSTALLATION

DRIP IRRIGATION

- LOCATION OF TORO NETAFIM TECHLINE 1/2" P.E.TUBING, 18" EMITTER SPACING INTERVALS AT 1 GPM EMITTERS INLINE. NETAFIM (MODEL# TLDL-9-1810) TECHLINE TO BE INSTALLED UNDER MULCH IN LANDSCAPE AREAS AS SHOWN ON THE IRRIGATION PLAN.
- USE TORO T-DAK-15 ADJUSTABLE EMITTERS WITH STAKE OR COMPATIBLE BRAND FOR ANNUAL BED LOCATION.
- NO DRIP REQUIRED AROUND ORNAMENTAL GRASSES IN PLANT BEDS.
- LOCATION OF DRIP VALVE ASSEMBLY WHICH INCLUDES TORO 250 SERIES REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE, NETAFIM 200 MESH FILTER #DF150-140, AND NETAFIM PRESSURE REGULATOR #PVR15045.FLOW CONTROLVALVES SHALL BE AS NOTED ON BOXES WITH LIDS MOUNTED AT GRADE LEVEL.

HEAD RADII

- THE IRRIGATION CONTRACTOR SHALL ADJUST THE RADIUS AND THROW OF EACH SPRINKLER HEAD TO PROVIDE OPTIMUM COVERAGE WHILE MINIMIZING OVERSPRAY ONTO HARDSCAPES OR BUILDINGS.ADJUST HEADS TO ELIMINATE DRY SPOTS.
- APPROXIMATE ARC AND RADIUS OF INDIVIDUAL SPINKLER HEAD COVERAGE SHALL BE AS ILLUSTRATED.INDIVIDUAL HEAD OR NOZZLE MODEL NUMBERS MAY BE DEPENDENT UPON THESE SPECIFIC CHARACTERISTICS

VALVES

- LOCATION OF ELECTRIC 24 V.A.C.REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE (MODEL # TORO 250-06-04).SIZE OF ZONE CONTROL VALVES TO BE AS NOTED ON THE IRRIGATION PLANS.
- ALL IN-LINE REMOTE CONTOL VALVES SHALL BE INSTALLED IN CARSON VALVE BOXES WITH LIDS MOUNTED AT GRADE LEVEL.SINGLE VALVES MAY BE INSTALLED IN CARSON MODEL #910-1 VALVE BOX WITH #910-2 COVER,WHILE MULTIPLE VALVES (UP TO,TWO 1" VALVES OR ONE,1-1/2" SHALL BE INSTALLED IN CARSON MODEL #1419-1 BOX WITH #1419-2 COVER

SLEEVING

- SLEEVES SHALL BE 3" PVC FOR 24 VAC WIRING PER ELECTRICAL CODE. THE IRRIGATION CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE IRRIGATION SYSTEM WITH THE LANDSCAPE CONTRACTOR TO INSURE PROPER INSTALLATION OF BOTH THE IRRIGATION SYSTEM WITH THE LANDSCAPE AND HARDSCAPE. THE IRRIGATION SYSTEM IS DISPLAYED SCHEMATIC IN NATURE. THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO MAKE MINOR ADJUSTMENTS IN THE FIELD.THESE MINOR ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER BUT SHALL BE MADE ONLY AFTER NOTIFICATION IS MADE TO OWNER.(NC DOT)
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE SO THAT HE IS AWARE OF ANYSPECIAL CONDITIONS WHICH EXIST THAT MAY AFFECT HIS BID PROPOSAL AND SHALL THEREAFTER BE RESPONSIBLE FOR ALL COST INCURRED BY HIMSELF IN RELATION TO THE INSTALLATION.

24 VAC CONTROL WIRING

- ALL 24 V.A.C.CONTROL WIRING SHALL BE SINGLE STRAND COPPER WIRE WITH POLYETHYLENE PE DIRECT BURIAL INSULATION RATED FOR 300 V.A.C.VALVE "COMMON" WIRES SHALL HAVE WHITE INSULATION WHILE VALVE "HOT" WIRES SHALL HAVE INSULATION RED IN COLOR. THE "COMMON" WIRES SHALL BE #14 AWG."HOT" WIRES SHALL BE #14 AWG.VALVE WIRING SHALL FOLLOW MAINLINE PIPING WHERE FEASIBLE AND SHALL BE LAID IN A COMMON TRENCHLINE WITH THE MAINLINE PIPING AND IN THE BOTTOM OF THE TRENCH.WIRING SHALL BE "BUNDLED" AND TAPED AT INTERVALS OF APPROXIMATELY TEN FEET. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- WIRE SPLICES SHALL BE KEPT TO AN ABSOLUTE MINIMUM.WHERE MAJOR CONCENTRATIONS OF SPLICES ARE NECESSARY SAID SPLICES SHALL BE PLACED IN A CARSON #910-1 VALVE BOX, WITH #910-2 COVER INSTALLED AT GRADE LEVEL.SPLICES AT VALVE LOCATIONS SHALL BE MADE INSIDE OF THE VALVE BOX.ALL SPLICE LOCATIONS SHALL BE NOTED ON THE AS BUILT PLAN.
- WIRE RUNS SHALL BE INSTALLED WITH ENOUGH SLACK AND / OR OCCASIONAL EXPANSION LOOPS TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL CONTRACTION
- ALL WIRE SPLICES SHALL BE MADE USING UL APPROVED DIRECT BURIAL CONNECTORS AND WATERPROOFING MATERIALS.ALL ELECTRICAL WORK SHALL BE INSTALLED ACCORDING TO CODE

CONTROLLER

A

- LOCATION OF IRRIGATION CONTROLLER.THE CONTROLLER SHALL BE CUSTOM COMMAND (TMC-424E SERIES) SOLID STATE UNIT WHICH SHALL BE OF THE WALL MOUNT STYLE.THE CONTROLLER SHALL INCORPORATE 24 V.A.C. ELECTRIC REMOTE CONTROL VALVE OPERATION.THE CONTROLLER SHALL BE MOUNTED IN THE APPROXIMATE LOCATION SHOWN ON THE PLAN
- ALL ELECTRICAL CONNECTIONS AND INSTALLATIONS SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
- ALL 120 VAC WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE ELECTRICAL CODE REQUIREMENTS.

NOTE:THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING A 120 VAC POWER CIRCUIT AT THE CONTROLLER LOCATION.THE POWER SOURCE SHALL BE CAPABLE OF SUPPORTING A 10 AMPERE LOAD AT 120 VAC.

WATER SUPPLY

- WATER SUPPLY WILL BE UNDERGROUND CISTERN
- THIS IRRIGATION SYSTEM SHALL BE CAPABLE OF DELIVERING 30 GPM MAXIMUM WITH ONE CONTROL STATION OPERATING AT A TIME AT 60 PSI AT THE BASE OF THE HEAD FOR OPTIMUM PERFORMANCE OF THE IRRIGATION SYSTEM.

UNDERGROUND CISTERN.SEE PLAN FOR LOCATION

RAINSENSOR

RAINSENSOR IS TO BE A WIRED TRS (TORO) OR A COMPARBLE BRAND LOCATION OF SENSOR IS TO BE APPROVED BY ROADSIDE ENVIRONMENTAL ENGINEER

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

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- 40 McDOWELL CO REST AREA RENOVATION

CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5.11.10

ENGINEER : B. Minter Sr.

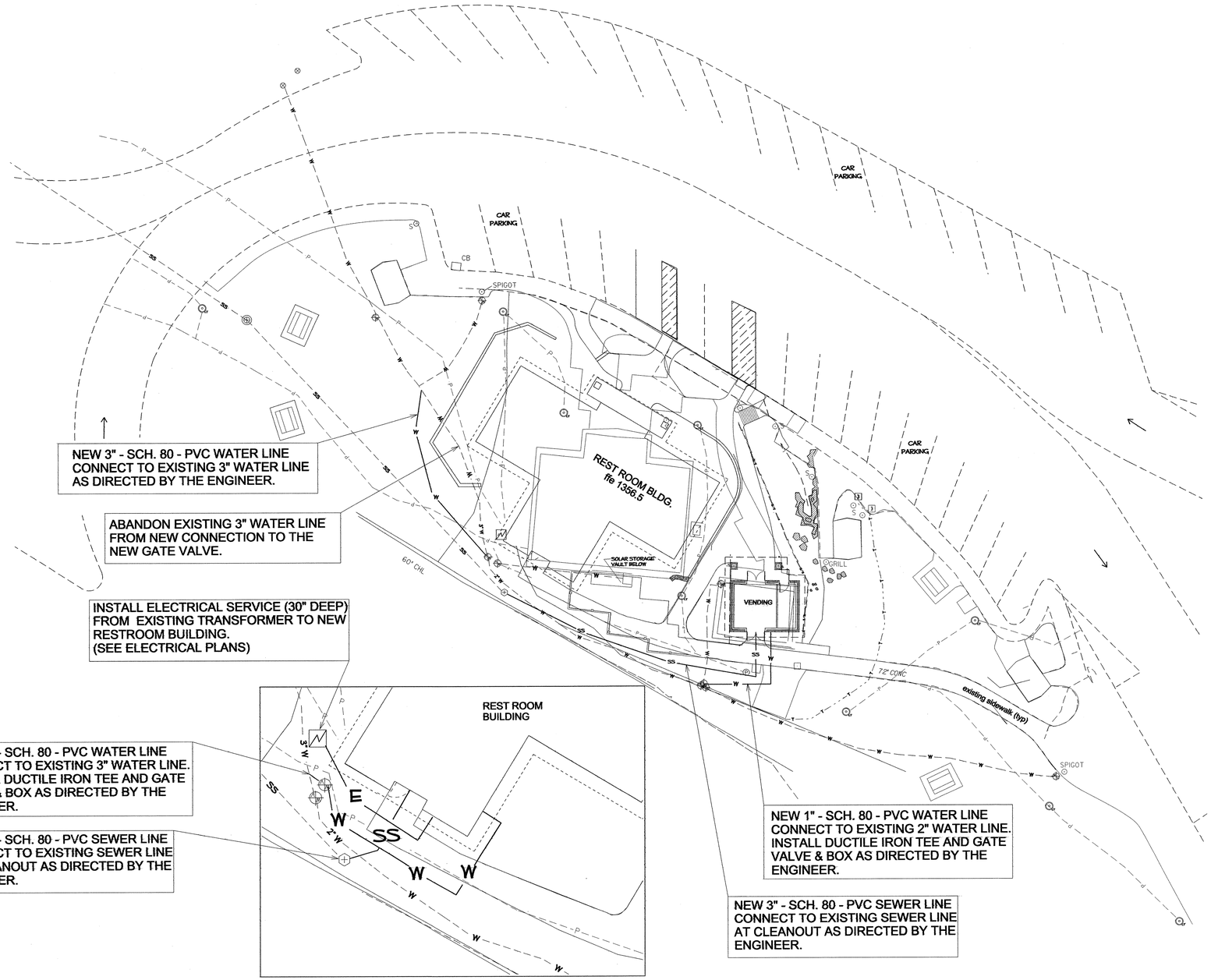
SHEET DESCRIPTION:

PREL. DESIGN DATE :	MAY / 2010
CHECKED BY & DATE :	D. WILSON
FINAL DESIGN DATE :	MAY/ 2010

I-40 EBL RENOVATION
IRRIGATION PLAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. #	K-4909
WBS #	39977.3.ST1
FED I.D. #	STM-040-2(150)83
SHEET NO :	TOTAL SHEET NO :
LI 2	



NORTH

KEY

W	EXISTING WATER LINE
SS	EXISTING SEWER LINE
W	PROPOSED WATER LINE
SS	PROPOSED SEWER LINE
P	EXISTING POWER LINE
E	PROPOSED POWER LINE
	EXISTING TRANSFORMER
	GATE VALVE
	CLEANOUT
T	EXISTING TELEPHONE
	POST TOP LIGHT

NOTE: THE CONTRACTOR SHALL LOCATE AND MOVE ANY CONFLICTING UTILITIES AS PART OF THIS CONTRACT. THE LOCATIONS SHOWN ARE APPROXIMATE.

0 10 20 40

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

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
REST AREA SECTION
1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557
PH: 919-733-2920 FAX: 919-733-9810
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I- 40 McDowell Co
Rest Area Renovation

CONTRACT #: C000000 - RA

REU ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 028818 ENGINEER KENNETH D. PACE

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 2010
CHECKED BY & DATE:
FINAL DESIGN DATE:

I-40 WBL RENOVATION
SITE UTILITY PLAN

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LU 1 TOTAL SHEET NO: 25

INSTALL PHONE SERVICE FROM NEW BLDG. TO EXISTING BLDG. (SEE ELECTRICAL PLAN)

stairs

retaining wall

relocated handicap accessible picnic shelter

DRAINAGE

PROPOSED RESTROOM BUILDING

EXISTING RESTROOM BUILDING

CAR-TRAILER PARKING

NORTH

NEW 3" - SCH. 80 - PVC WATER LINE CONNECT TO EXISTING 3" WATER LINE. INSTALL DUCTILE IRON TEE AND GATE VALVE & BOX AS DIRECTED BY THE ENGINEER.

NEW 4" - SANITARY SEWER CLEAN-OUT

TRUCK PARKING

CAR PARKING

INSTALL ELECTRICAL SERVICE (30" DEEP) FROM EXISTING TRANSFORMER TO NEW RESTROOM BUILDING. (SEE ELECTRICAL PLANS)

NEW 6" - SCH. 80 - PVC SEWER LINE CONNECT TO EXISTING MAN-HOLE AS DIRECTED BY THE ENGINEER.

EXISTING MANHOLE
TOP = 1314.07'
INV = 1327.78'

KEY	
W	EXISTING WATER LINE
SS	EXISTING SEWER LINE
W	PROPOSED WATER LINE
SS	PROPOSED SEWER LINE
P	EXISTING POWER LINE
E	PROPOSED POWER LINE
	EXISTING TRANSFORMER
	GATE VALVE
	CLEANOUT
T	EXISTING TELEPHONE
T	PROPOSED TELEPHONE
LT	POST TOP LIGHT

NOTE: THE CONTRACTOR SHALL LOCATE AND MOVE ANY CONFLICTING UTILITIES AS PART OF THIS CONTRACT. THE LOCATIONS SHOWN ARE APPROXIMATE.

0 10 20 40

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

NCDOT- ROADSIDE ENVIRONMENTAL UNIT
REST AREA SECTION
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I- 40 McDOWELL CO
REST AREA RENOVATION

CONTRACT #: C202206

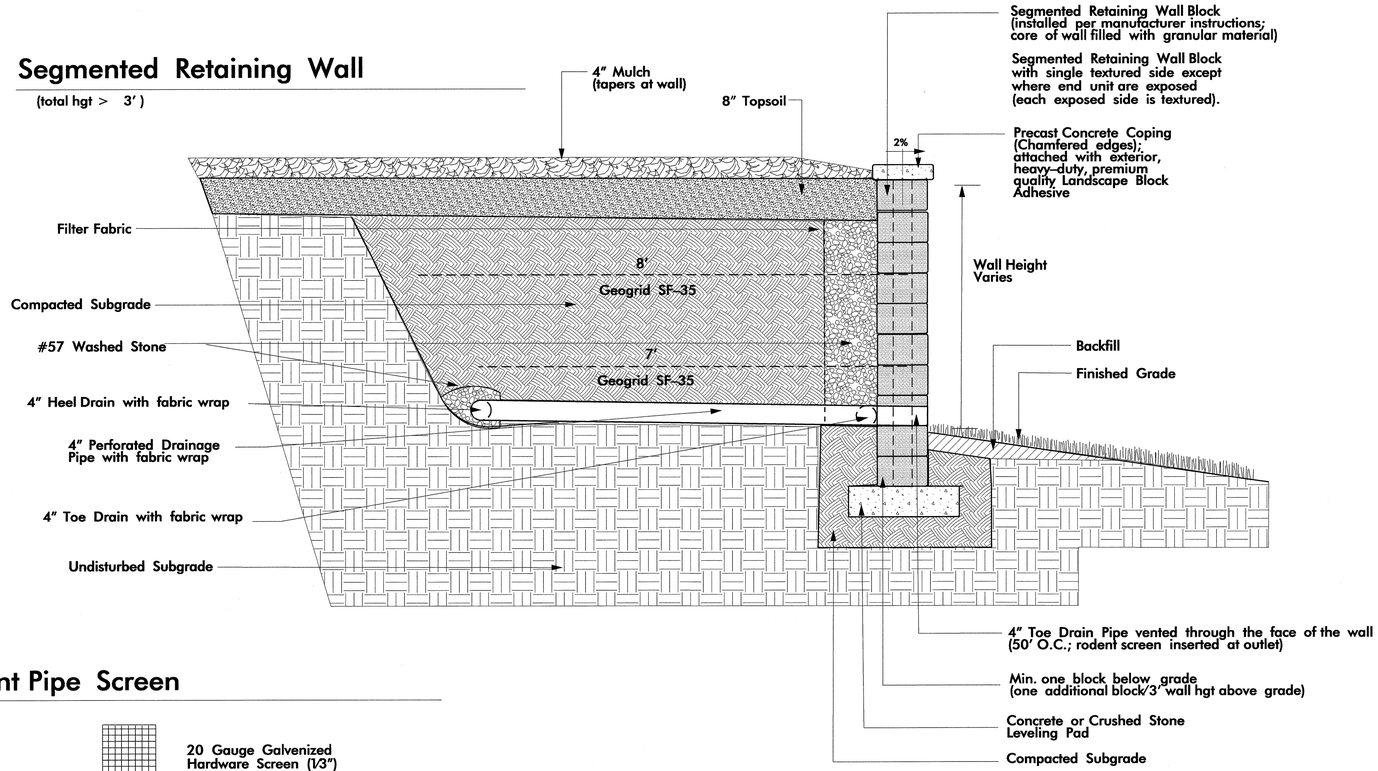
REU ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 028878 ENGINEER KENNETH D. PACE

SHEET DESCRIPTION:		
PREL. DESIGN DATE: FEB/ 2010	I-40 EBL RENOVATION	T.I.P. # K-4909
CHECKED BY & DATE:	SITE UTILITY PLAN	WBS # 39977.3.ST1
FINAL DESIGN DATE:		FED I.D. # STM-040-2(150)83
		SHEET NO: LU 2 TOTAL SHEET NO: 25

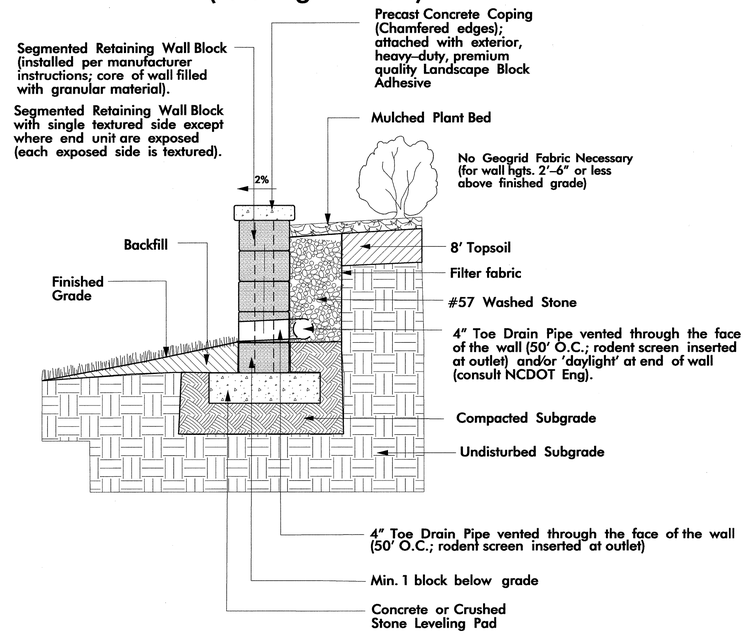
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Segmented Retaining Wall

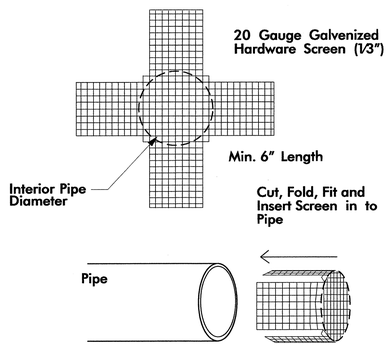
(total hgt > 3')



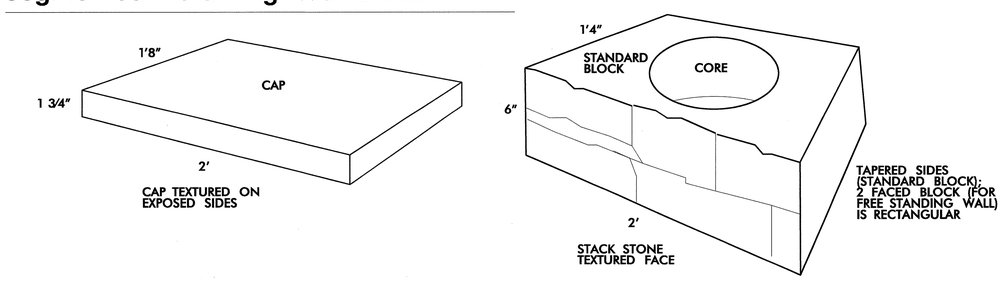
Segmented Retaining Wall (total hgt < 3')



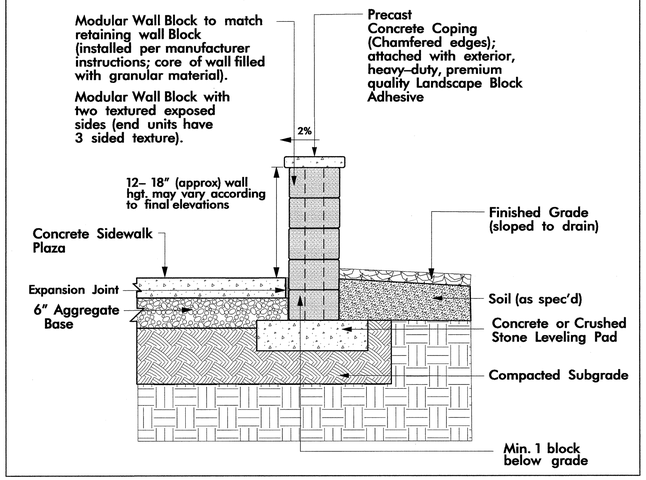
Rodent Pipe Screen



Segmented Retaining Wall Block



Freestanding Seat Wall



CONTRACTOR SHALL PROVIDE SEALED ENGINEERED DRAWINGS IF WALL EXCEEDS 4' IN HEIGHT.

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LANDSCAPE DESIGN & DEVELOPMENT
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HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/

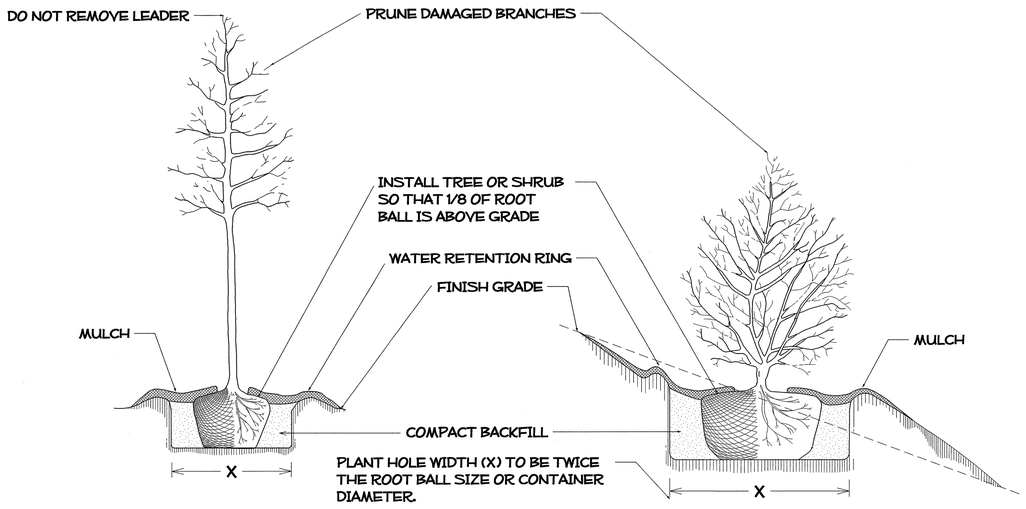
I- 40 McDowell Co
Rest Area Renovation
CONTRACT #: C202206

REU ENGINEER: B. Kopetsky

SHEET DESCRIPTION:

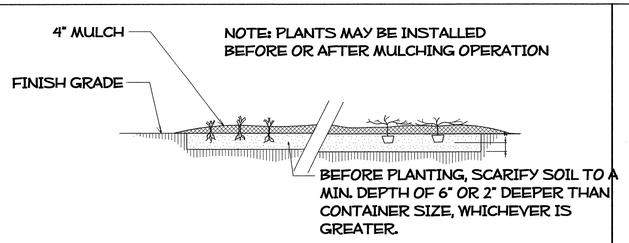
PREL. DESIGN DATE:	FEB/ 09	REST AREA RENOVATION
CHECKED BY & DATE:	MAY/ 2010	SEGMENTED RETAINING
FINAL DESIGN DATE:	MAY/ 2010	WALL DETAILS

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: TOTAL SHEET NO:
LD 1

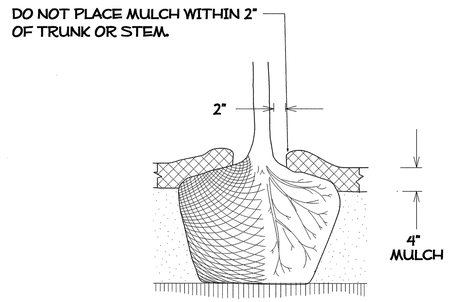


TREE OR SHRUB PLANTING DETAIL
(LEVEL GROUND)

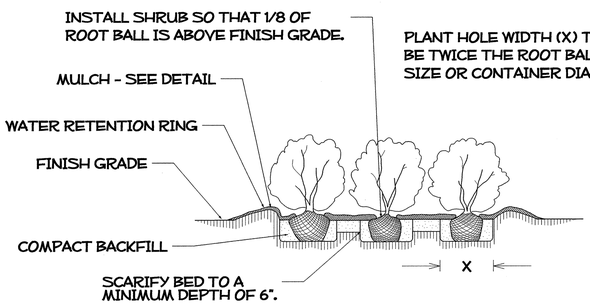
TREE OR SHRUB PLANTING DETAIL
(SLOPING GROUND)



GROUND COVER/ BEDDING PLANT DETAIL



MULCH DETAIL

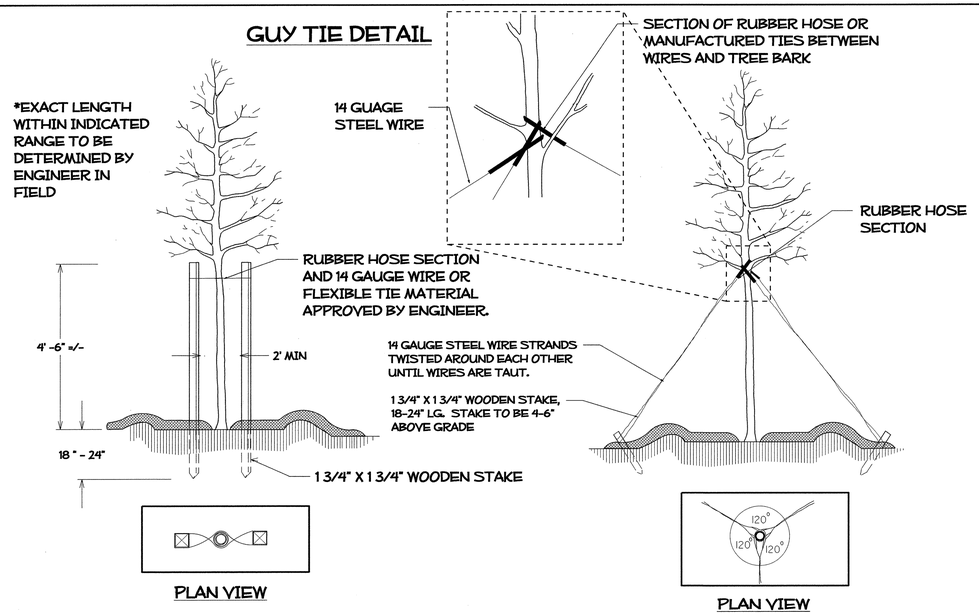


SHRUB BED PLANTING DETAIL

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')

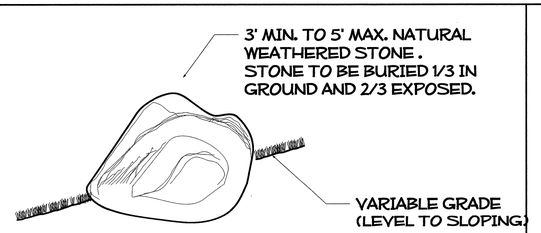
USE AS DIRECTED BY FIELD ENGINEER

GUYING DETAIL
(TREES 10' OR LARGER)

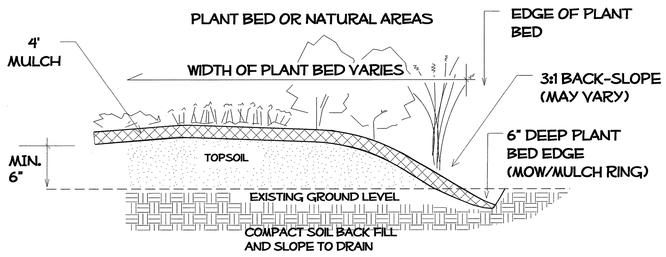
USE AS DIRECTED BY FIELD ENGINEER

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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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- 40 McDOWELL CO
REST AREA RENOVATION

CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 5-18-10 ROBERT N. KOPETSKY

ENGINEER: B. Kopetsky

SHEET DESCRIPTION:		
PREL. DESIGN DATE:	FEB/ 09	REST AREA RENOVATION
CHECKED BY & DATE:	MAY/ 2010	PLANTING DETAILS
FINAL DESIGN DATE:	MAY/ 2010	

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LD 2 TOTAL SHEET NO:

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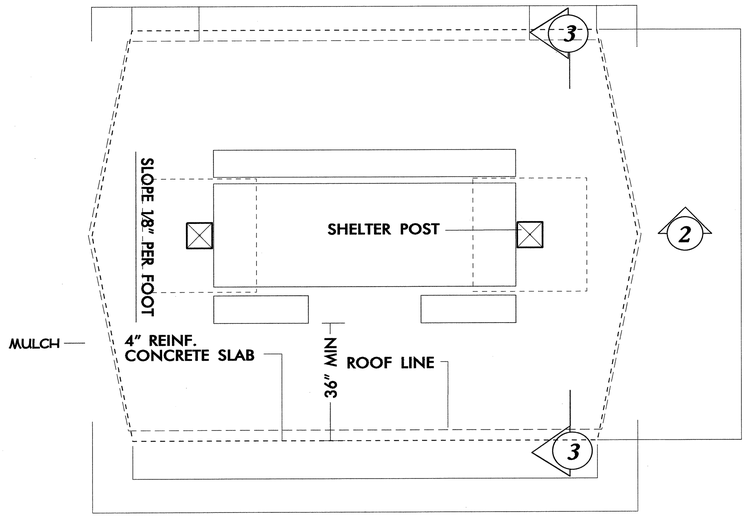
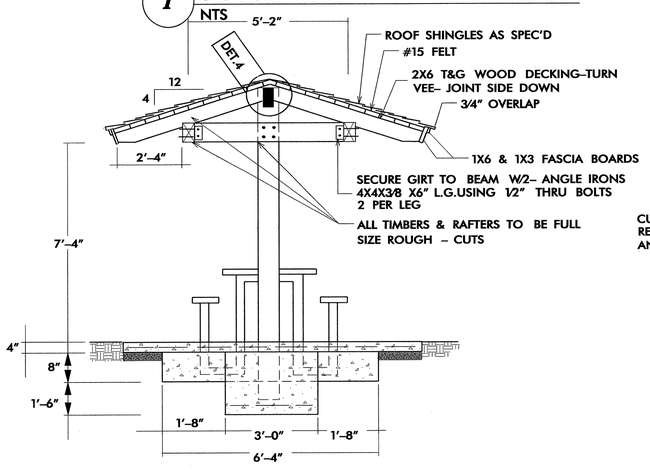
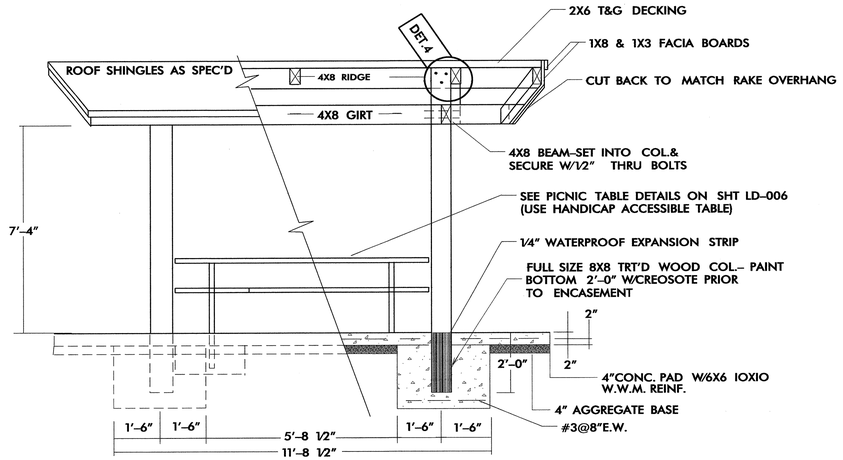
USERNAME=



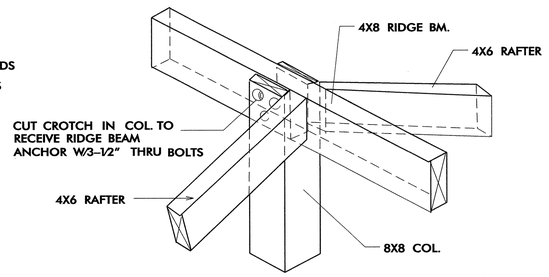
1 CONC PAD & ROOF PLAN
NTS



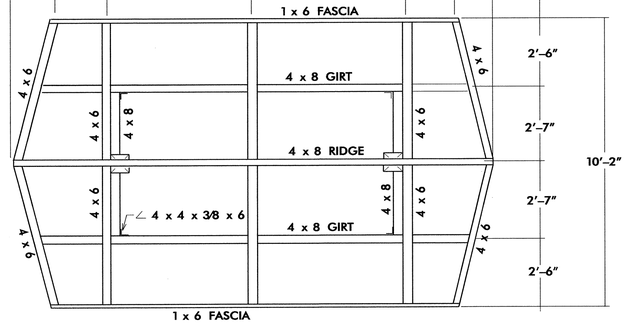
3 SECTION
1/2" = 1'-0"



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



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



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

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

$$$$$$$$SYSTIMES$$$$$$
$$$$$$$$$$$$$$$$$$$$DGNS$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$$

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- 40 McDOWELL CO
REST AREA RENOVATION
CONTRACT #: C202206

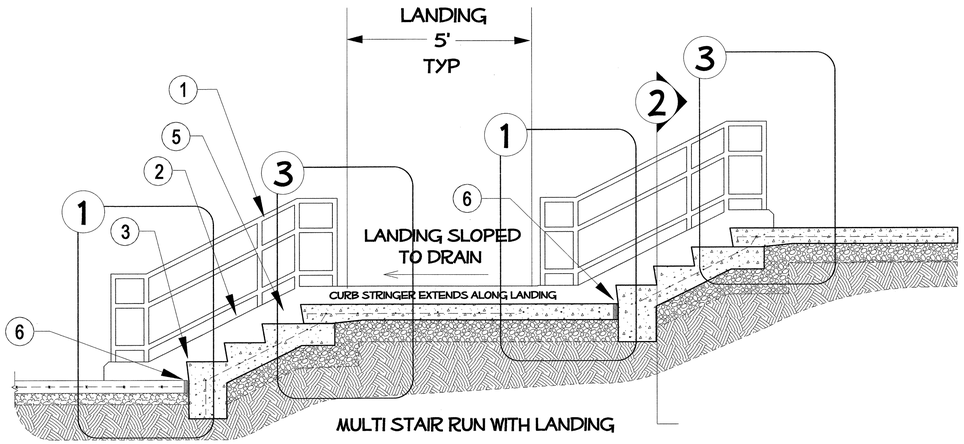
RES ENGINEER: B. Kopetsky
SEAL 028678 KENNETH D. PACE

SHEET DESCRIPTION:		
PREL. DESIGN DATE: FEB/ 09	REST AREA RENOVATION	T.I.P. # K-4909
CHECKED BY & DATE: MAY/ 2010	PICNIC SHELTER	WBS # 39977.3.ST1
FINAL DESIGN DATE: MAY/ 2010	DETAIL	FED I.D. # STM-040-2(150)83
		SHEET NO: LD 3 / TOTAL SHEET NO: 26

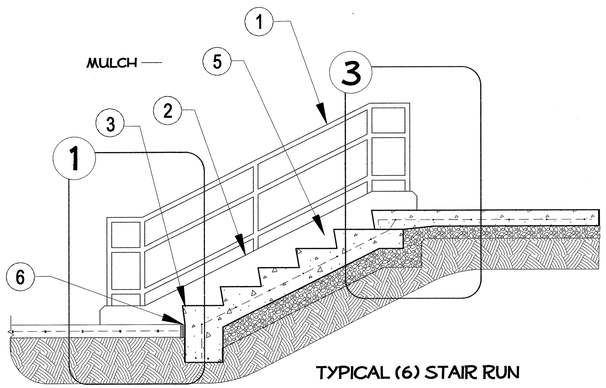
UPPER LEVEL ELE. VARIES BY LOCATION
SEE PLANS

LANDING ELE. VARIES BY LOCATION
SEE PLANS

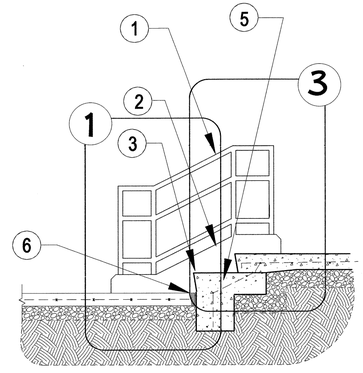
LOWER LEVEL ELE. VARIES BY LOCATION
SEE PLANS



MULTI STAIR RUN WITH LANDING

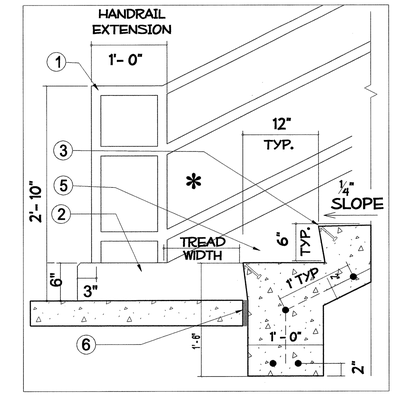


TYPICAL (6) STAIR RUN



TYPICAL (2)STAIR RUN

STAIR DETAILS



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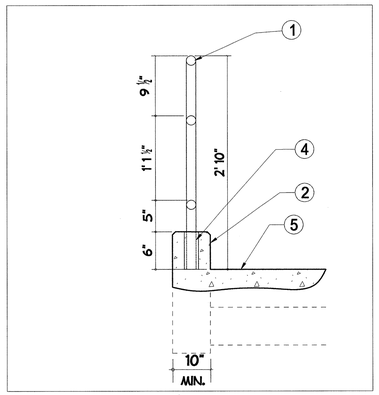

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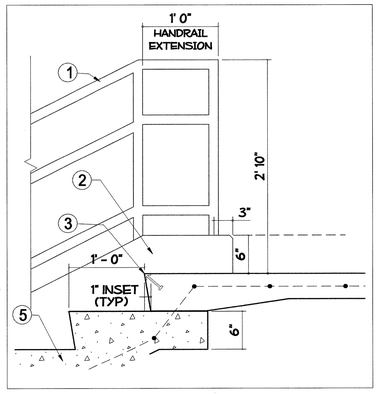

3

1. HANDRAIL- 1 1/2" Ø ALUMINUM PIPE, TYP.; SET IN CONC STRINGER.
2. CONCRETE CURB STRINGER.
3. GALVANIZED METAL NOSING, TYP. -EMBED IN CONCRETE AND FLUSH WITH FACE OF STAIR.
4. GUARDRAIL PIPE SLEEVE - 2 1/4" Ø METAL PIPE, TYP.; HANDRAIL SET WITHIN SLEEVE AND HELD IN PLACE WITH CONSTRUCTION EPOXY.
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.

   STEP ACTUAL RISER DIMENSION IS 5 ¾" WITH ¼" SLOPE FROM BACK TO FRONT OF TREAD.
6. ½" EXPANSION JOINT

NOTES:

A. HANDRAIL ASSEMBLY TO BE FINISHED WITH KYNAR 500 PER ENGINEER'S APPROVAL.

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

C. STEPS AND LANDING(S) SLOPED 1#4 " PER FT TO DRAIN.

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I- 40 McDowell Co
Rest Area Renovation
CONTRACT #: C202206

REU ENGINEER: B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE:	FEB/ 09
CHECKED BY & DATE:	MAY/ 2010
FINAL DESIGN DATE:	MAY/ 2010

REST AREA RENOVATION
CONC STEPS DETAILS

T.I.P. #	K-4909
WBS #	39977.3.ST1
FED I.D. #	STM-040-2(150)83
SHEET NO:	LD 4
TOTAL SHEET NO:	

FLAG POLE ELEVATION

SCALE: NTS

FP
LD5

FLAGPOLE

NTS

PERSPECTIVE VIEW

CLASS B CONCRETE TROWELED SMOOTH.
SLAB TO BE 4 1/2 " THICK AT CENTER, SLOPING DOWN 1/2 ", AND 4" THICK AT ALL SIDE EDGES.
SLABA MUST BEAR ON 4" AGGREGATE BASE.
TOP TO CLEAR FINISHED GRADE 1/2 ".

PLAN VIEW

SCALE: NTS

PS
LD5

PARK STOVE

NTS

NOTES:

1) PARK STOVE TO CONSIST OF A FABRICATED STEEL UNIT WITH GRILL COOKING AREAS. SIDE PLATES FOR HOLDING UTENSILS, SMOKESTACKS, AND MOUNTED ON A STEEL PIPE. THE GRILLING SECTION TO CONSIST OF BARS WELDED 1/2" APART, NON-MOVABLE WITH STAY-COOL HANDLE FOR RAISING AND LOWERING.

2) CONTRACTOR TO VERIFY SITE CONDITIONS AND GRADES PRIOR TO CONSTRUCTION, AND TO NOTIFY ENGINEER OF ANY SIGNIFICANT DISCREPANCIES.

3) THE STOVE TO BE APPROXIMATELY 8 1/2" IN HEIGHT, 14" IN WIDTH, 24" IN LENGTH WITH SMOKE STACK (3" WIDE X 6" HIGH) AND TO BE EQUIPPED WITH STEEL SIDE PLATES (8" X 24"). THE COOKING/ GRILLING AREA IS APPROXIMATELY 294 SQUARE INCHES. THE ASSEMBLY TO BE DESIGNED FOR BURNING EITHER WOOD OR CHARCOAL. IT MUST BE MADE TO SWIVEL 360 DEGREES AND CONTAIN A CONCEALED LOCKING DEVICE FOR PREVENTION OF VANDELISM.

4) THE PARK STOVE TO BE IN ACCORDANCE WITH DETAILS SHOWN ON THIS DRAWING.

5) FINISH: HIGH HEAT RESISTANT ALUMINUM PAINT.

EXACT LOCATION OF PARK STOVES TO BE DETERMINED AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

PRE-CAST EXPOSED AGGREGATE – WASTE CONTAINER

WC
LD5

EXPOSED AGGREGATE WASTE CONTAINER

NTS

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I- 40 McDOWELL CO
REST AREA RENOVATION
CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-18-10

ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL DESIGN DATE :	FEB/ 09	REST AREA RENOVATION
CHECKED BY & DATE :	MAY/ 2010	FLAGPOLE, PARK STOVE
FINAL DESIGN DATE :	MAY/ 2010	& WASTE CONT DETAILS

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO : LD 5
TOTAL SHEET NO :

$$$$$$SYSTIME$$$$$
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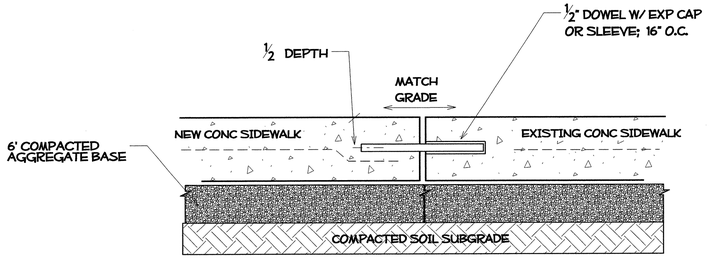
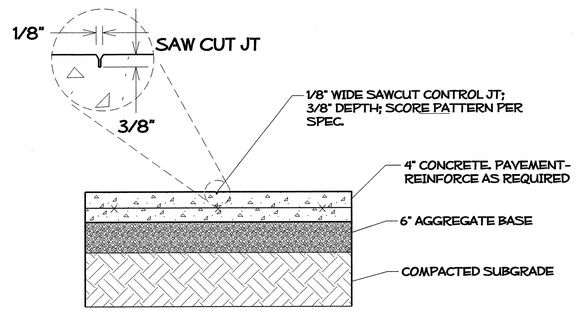


CONC LD6 **MATCHING NEW CONC SIDEWALK TO EXISTING**

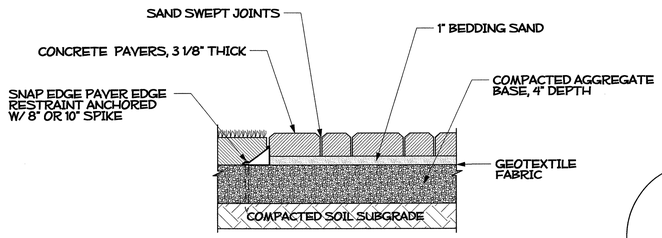
NTS

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



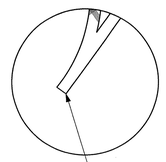
PD1 LD6 **CONCRETE SIDEWALK - CONTROL JOINT**

NTS

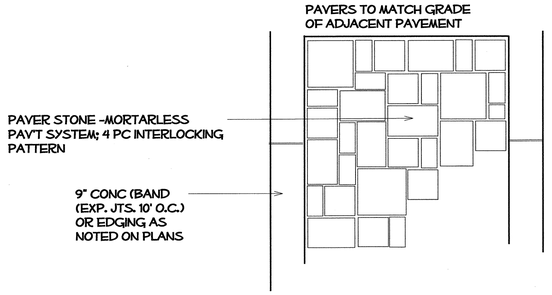


PD2 LD6 **CONC PAVER DETAIL A**

NTS

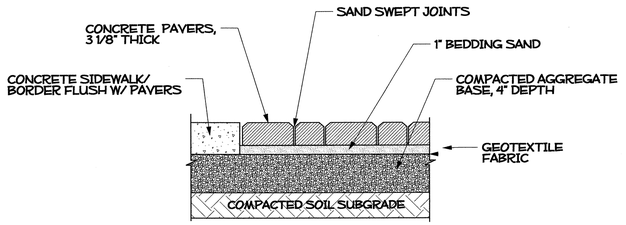


WHERE CONC SIDEWALK OR PAVERS COME TO A POINT MIN. 9" WIDTH OR FULL WIDTH OF PAVER



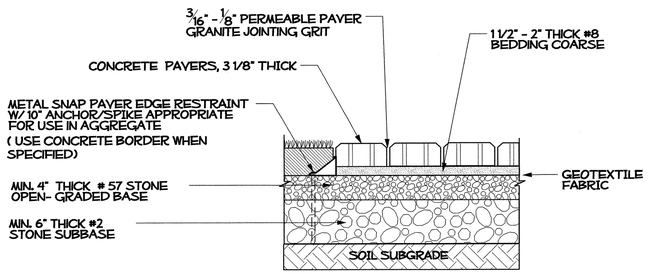
PD5 LD6 **TYPICAL PAVER PATTERN**

NTS



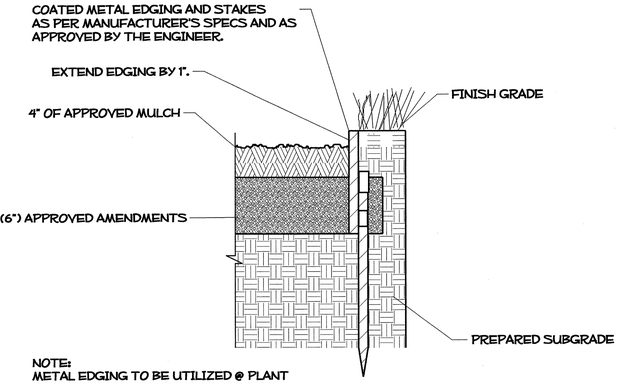
PD3 LD6 **CONC PAVER DETAIL B**

NTS



PD6 LD6 **PERMEABLE CONC PAVER DETAIL A**

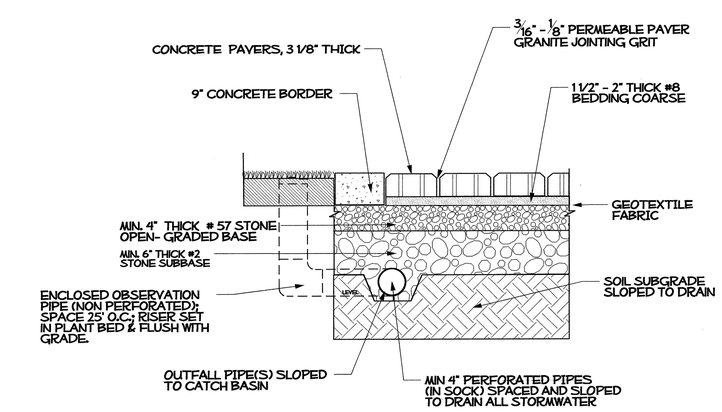
NTS



NOTE:
METAL EDGING TO BE UTILIZED @ PLANT BED AREAS CONSULT WITH ENGINEER AND DESIGNER TO GET PROPER PLACEMENT IN THE FIELD.

PD4 LD6 **METAL EDGING**

NTS



PERMEABLE PAVER INSTALLATION

PD7 LD6 **PERMEABLE CONC PAVER DETAIL B**

NTS

GENERAL NOTES:

1) STANDARD 4" THICK CONCRETE SIDEWALK TO BE INSTALLED AS NOTED ON PLANS; CONTROL JOINT EVERY 5' (OR SAME DIMENSION AS SIDEWALK WIDTH) AND EXPANSION JOINT EVERY 30' (AND WHERE THE SIDEWALK ADJOINS ANOTHER HARD SURFACE).

2) CONCRETE PAVER BORDER AS SHOWN ON PLANS:
- 9" CAST IN PLACE CURB OR
- METAL RESTRAINT AS SPEC'D.

3) PAVER PATTERN , COLOR, AND DIMENSIONS AS DEFINED IN PLANS, DETAILS, OR SPECIFICATIONS.

4) ALL HARDSCAPE SURFACES SHALL BE GRADED PROPERLY TO DRAIN TO DESIGNATED LANDSCAPE AREAS OR DROP INLETS.

5) WHERE PERMEABLE PAVERS ARE INSTALLED, COMPLETE CONTROL OF CONSTRUCTION PRACTICES ARE VITAL. NO DEBRI, SOIL, OR UNSPECIFIED MATERIAL SHALL COME IN TO CONTACT (OR BE LAYED UPON) THE COMPLETED SURFACE OR COMPROMISE INSTALLED DRAINAGE LAYERS.

$$$$$$$$$$STIMESSSS
$$$$$$$$$$SSSSSSSS
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$$$$$$$$$$SSSSSSSS
$$$$$$$$$$DESIGNAMESSSS

NCDOT - ROADSIDE ENVIRONMENTAL UNIT
LANDSCAPE DESIGN & DEVELOPMENT
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I- 40 McDOWELL CO
REST AREA RENOVATION
CONTRACT #: C202206

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 347 ROBERT N. KOPETSKY 5/16/10

FEU ENGINEER : B. Kopetsky

SHEET DESCRIPTION:

PREL. DESIGN DATE: FEB/ 09	REST AREA RENOVATION
CHECKED BY & DATE: MAY/ 2010	PAVEMENT DETAILS
FINAL DESIGN DATE: MAY/ 2010	PERMEABLE PAVERS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P. # K-4909
WBS # 39977.3.ST1
FED I.D. # STM-040-2(150)83
SHEET NO: LD 6 TOTAL SHEET NO:

RAINWATER COLLECTION SYSTEM

ONLY USE 45 DEGREE CONNECTIONS TO DIRECT SUBSURFACE FLOW (AS NEEDED); USE OF VERTICAL 90 DEGREE CONNECTION ALLOWABLE AT DOWNSPOUT.

ALL STORMWATER PIPING INTEGRATED PER MANUFACTURER INSTRUCTIONS AND NCDOT STANDARDS

RL / LD7 — **ROOF LEADER DRAINAGE SYSTEM**

NTS

6000 GAL PRECAST CONCRETE CISTERN

1. DOWNSPOUT AND ROOF DRAIN COLLECTION DISCHARGE
2. RAINWATER ENTERS FILTER AND IS DIVERTED TO THE STORAGE TANK
3. SMOOTHING INLET- FLOW CALMING DEVICE (STAINLESS STEEL)
4. PUMP WITH FLOATING INTAKE AND LOW WATER CUTOFF (SIZED APPROPRIATELY FOR DISCHARGE/ IRRIGATION NEEDS)
5. CISTERN RAINWATER MONITOR (FILTER CLEANING, WATER LEVEL INDICATOR, AND WATER MAKE-UP)

SQUARE GRATE WITH SQUARE CATCH BASIN

CB / LD7 — **CATCH BASIN**

NTS

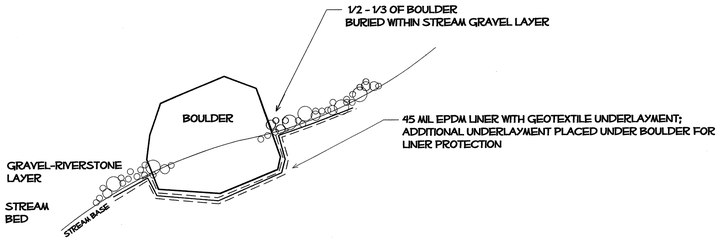
THE CONTRACTOR IS RESPONSIBLE FOR ENGINEER SEALED AND CERTIFIED DRAWING(S) ON THE PLACEMENT AND STRUCTURAL INTEGRITY, BEARING CAPACITY AND OPERATIONAL SYSTEMS WITHIN THE CISTERN.

RW1 / LD7 — **RAINWATER COLLECTION SYSTEM**

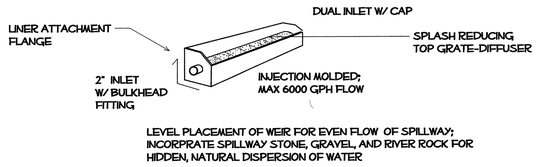
NTS

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

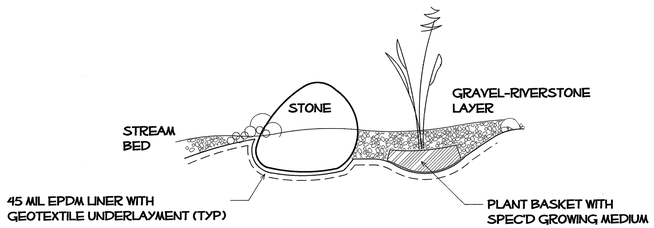
NCDOT - ROADSIDE ENVIRONMENTAL UNIT LANDSCAPE DESIGN & DEVELOPMENT 1557 MAIL SERVICE CENTER RALEIGH NC 27699-1557 PH: 919-733-2920 FAX: 919-733-9810 HTTP://WWW.NCDOT.ORG/DOH/OPERATIONS/DP_CHIEF_ENG/ROADSIDE/	I- 40 McDOWELL CO REST AREA RENOVATION CONTRACT #: C202206 REU ENGINEER: B. Kopetsky (Seal: NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1447 ROBERT N. KOPETSKY 5-18-11)	SHEET DESCRIPTION: PREL. DESIGN DATE: FEB/ 09 CHECKED BY & DATE: MAY/ 2010 FINAL DESIGN DATE: MAY/ 2010	REST AREA RENOVATION STORMWATER COLLECTION & CISTERN DETAILS	T.I.P. # K-4909 WBS # 39977.3.ST1 FED I.D. # STM-040-2(150)83 SHEET NO: LD 7 TOTAL SHEET NO:



PW1 LD8 STREAM BOULDER - TYP



PW4 LD8 WATERFALL WEIR - TYP



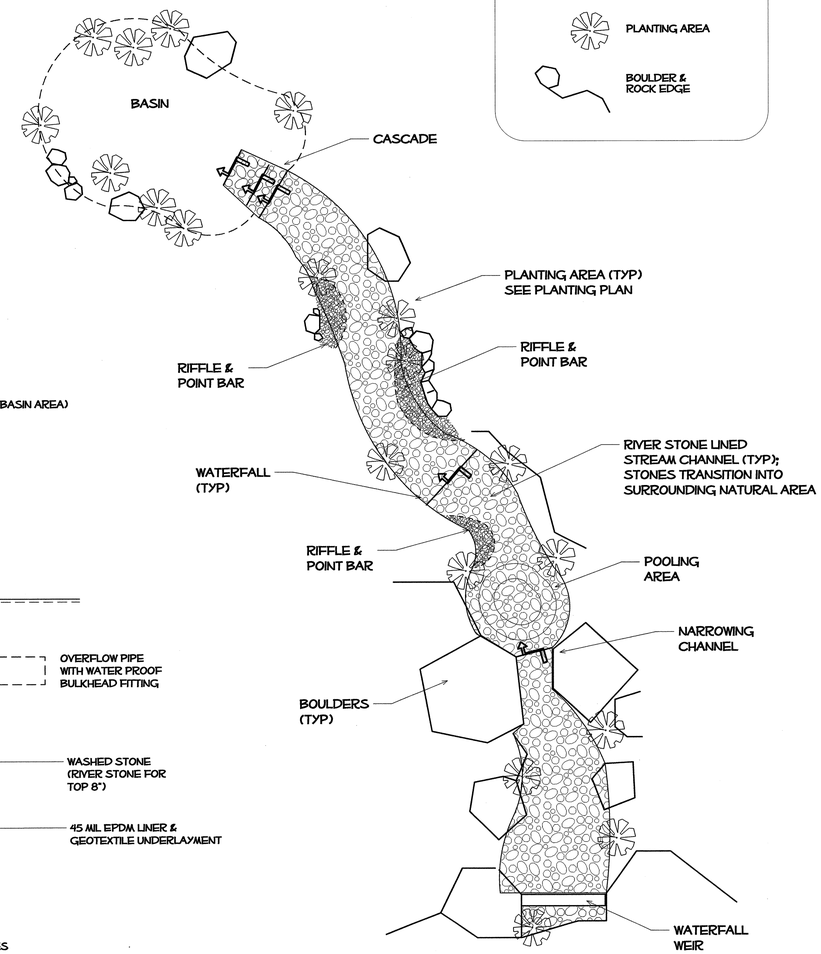
PW3 LD8 IN-STREAM PLANTING AREA - TYP

NOTES:

RIFFLE- SHALLOW SEDIMENT GRAVEL BED EXTENDING IN TO STREAM.
POINTBAR- CRESCENT SHAPED DEPOSIT OF COURSE MATERIAL ON THE INSIDE BEND OF A STREAM.
POOL- DEEP FLAT AREA OF STREAM ON LOWER SIDE OF A WATERFALL/STEP; BOTTOM OF POOL AREA LINED WITH FINE GRANULAR ROCK.
CASCADE- SERIES OF STEPS /WATERFALLS.
WATERFALL- STEP OR VERTICAL DROP IN THE STREAM.

IN CONSTRUCTION OF WATERFALL STREAM, LOCATE 3-4 BOULDERS (ACCESSIBLE TO ADJACENT PATHWAY) FOR SITTING AND VIEWING STREAM.
CONFIRM LOCATIONS WITH LANDSCAPE ARCHITECT PRIOR TO PLACEMENT.

KEY:
- WATERFALL STEP
- PLANTING AREA
- BOULDER & ROCK EDGE

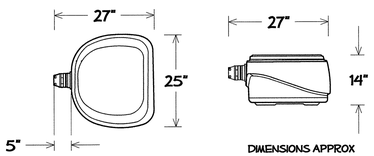


PW6 LD8 STREAM LAYOUT

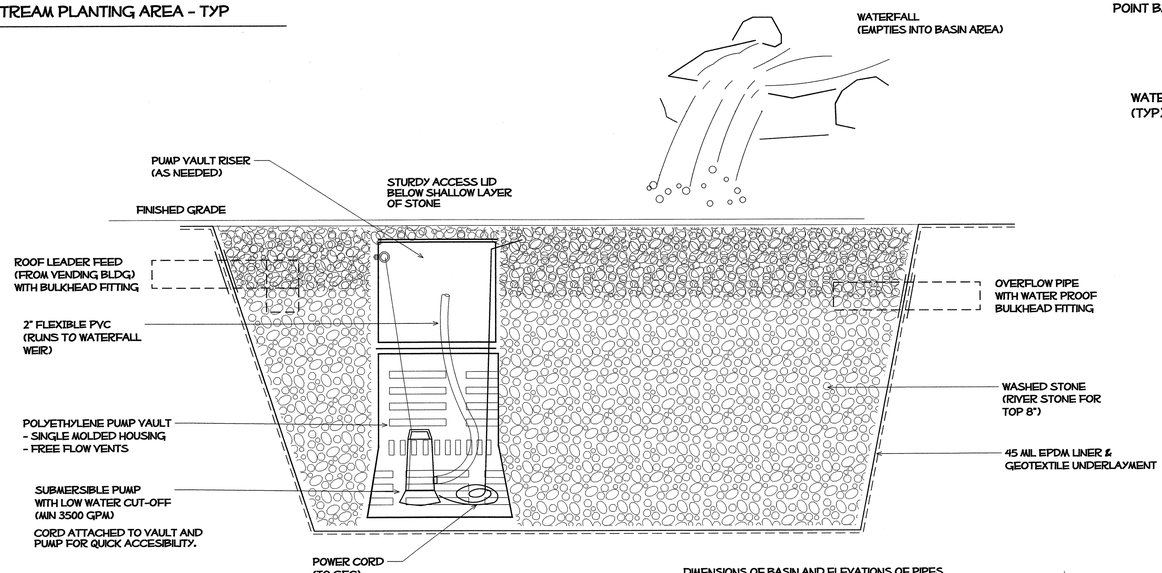
INTEGRATE AS NEEDED

DOWNSPOUT FILTER

- LARGE SURFACE AREA CAN HANDLE 1500 SF ROOF AND MORE THAN 50 GPM
- 300 MICRON DEBRIS NET
- HOSE-TAIL CAN ACCOMMODATE 3" OR 4" CORRUGATED DRAIN PIPE



PW2 LD8 DOWNSPOUT FILTER



PW5 LD8 PONDLESS WATERFALL BASIN WITH PUMP VAULT

$$$$$$$$$$STIMES$$$$$$
$$$$$$$$$$SSTYLES$$$$$$
$$$$$$$$$$SDGN$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
K-4909	LD-9

22-APR-2010 09:59
S:\Contracts\Special Details\ericward\stds\06' Stds to Special Details\848d06 Prop.Wheelchair Ramp\0848D06.dgn
tspell AT PS244352

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

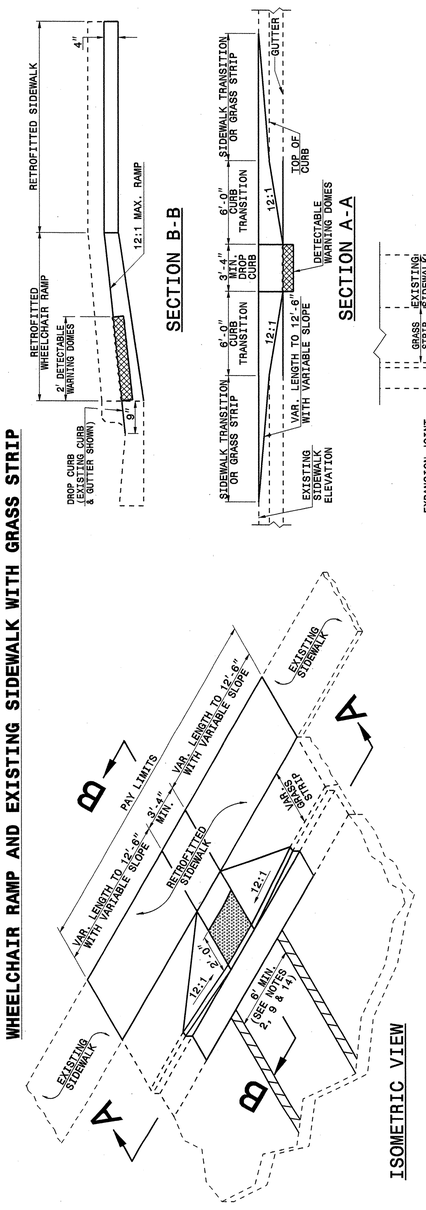
ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 1 OF 5 — 848D06

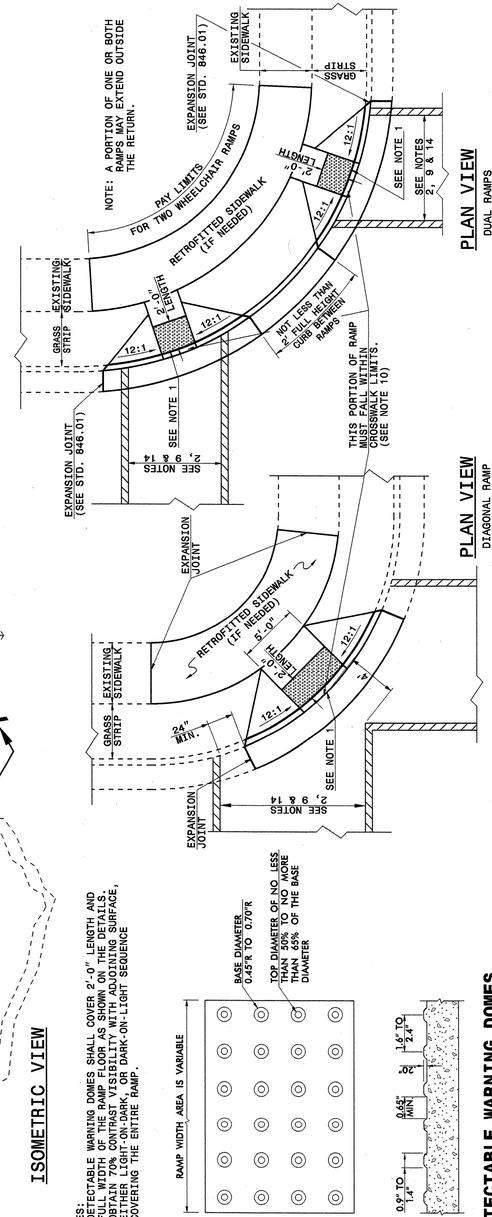
WHEELCHAIR RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



ISOMETRIC VIEW

SECTION B-B

SECTION A-A



PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

PLAN VIEW
DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

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

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DIVISION OF HIGHWAYS
RALEIGH, N.C.

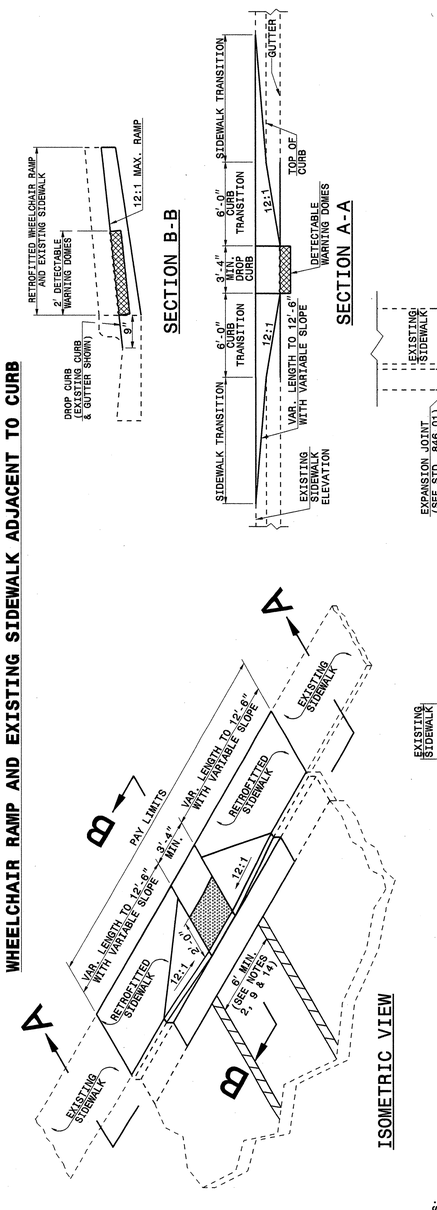
ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 2 OF 5 — 848D06

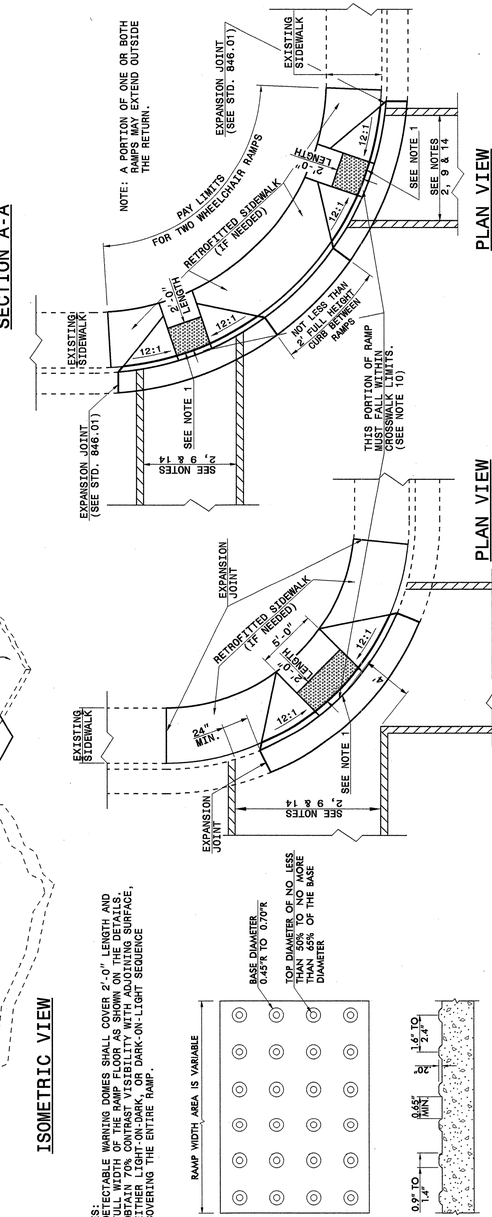
WHEELCHAIR RAMP AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

SECTION B-B

SECTION A-A



PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

PLAN VIEW
DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

NOTES:
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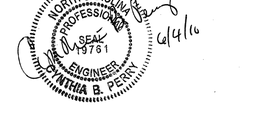
2. OBTAIN 70% CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

DETECTABLE WARNING DOMES



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ORIGINAL BY: STD.NO.848.06 DATE: 4-22-10
MODIFIED BY: DATE:
CHECKED BY: DATE: 4/22/10
FILE SPEC.: SpecialDetails/EricWard/STDS/848d06.dgn

PROJECT REFERENCE NO.	SHEET NO.
K-4909	LD-10

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.tspell AT FSC24552

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

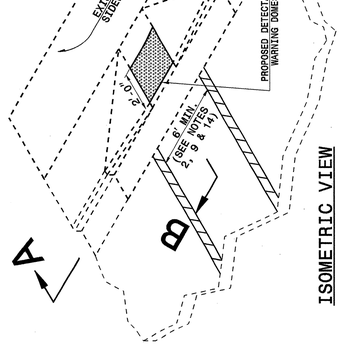
ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

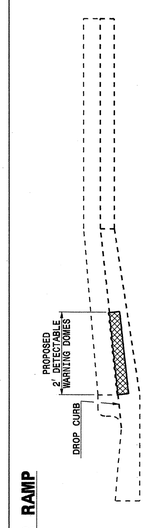
EXISTING CURB AND GUTTER

SHEET 3 OF 5 **848D06**

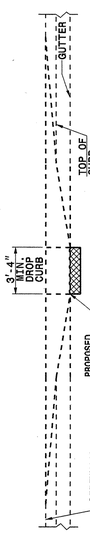
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING WHEELCHAIR RAMP



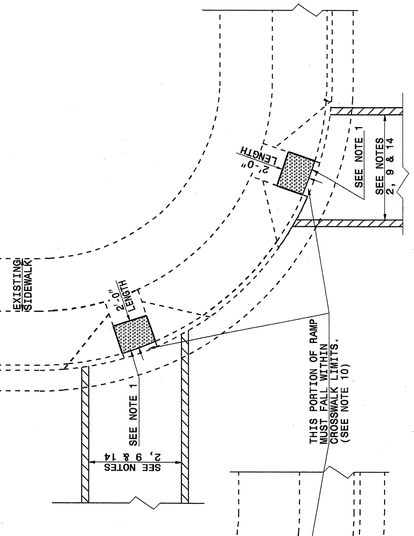
ISOMETRIC VIEW



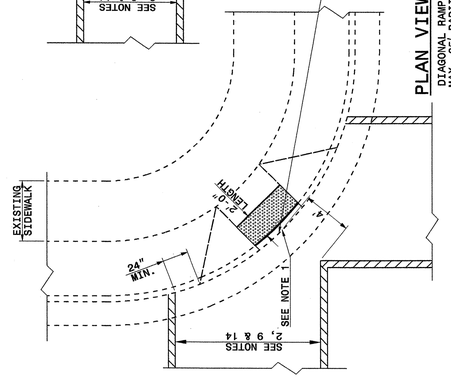
SECTION B-B



SECTION A-A

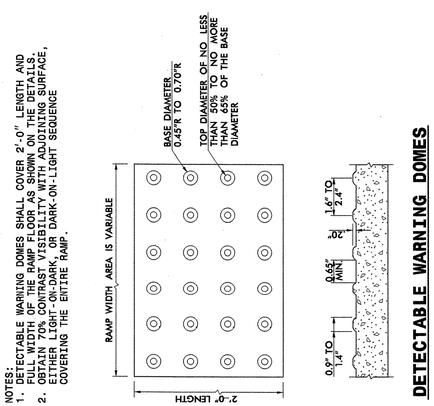


PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)



PLAN VIEW
DIAGONAL RAMP
MAX. 25' RADII
(60" MIN. FLOOR WIDTH)

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

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

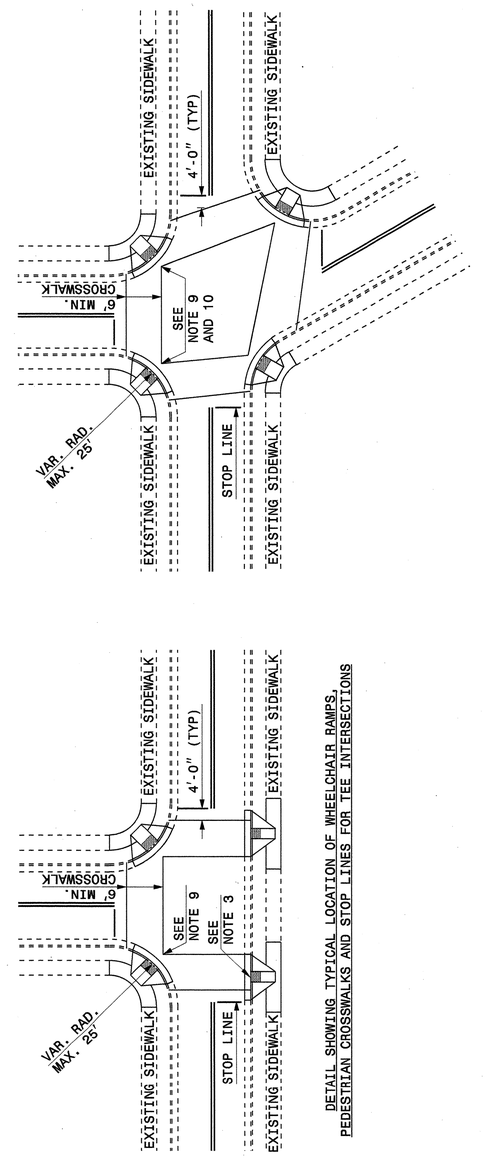
ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 4 OF 5 **848D06**

WHEELCHAIR RAMP AND EXISTING SIDEWALK



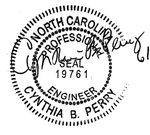
DETAIL SHOWING TYPICAL LOCATION OF WHEELCHAIR RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS

ALLOWABLE LOCATIONS
DIAGONAL RAMP RADII...MAX. 25'

RESURFACING PROJECTS

PROPOSED WHEELCHAIR RAMP FOR RESURFACING PROJECTS

EXISTING SIDEWALK



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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 4 OF 5 **848D06**

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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 5 OF 5

848D06

WHEELCHAIR RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE 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 UTILITIES 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. DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
6. CONSTRUCT WHEELCHAIR RAMPS 40" (3'-4") OR GREATER FOR DUAL RAMPS AND 60" (5'-0") OR GREATER FOR DIAGONAL RAMPS.
7. USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
8. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
9. 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 14)
10. 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.
11. CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
12. 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.
13. TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
14. 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.

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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

WHEELCHAIR RAMP

EXISTING CURB AND GUTTER

SHEET 5 OF 5

848D06

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ORIGINAL BY: STD.NO.848.06 DATE: 4-22-10
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FILE SPEC:: SpecialDetails/EricWard/STDS/848D06.dgn

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19761 DIANA R. PERRY

4/9/10

PROJECT REFERENCE NO. K-4909

SHEET NO. LD-11