PHASE 1 CONSTRUCTION PLANS

FRANKLIN, VA

AGRICULTURAL PRODUCT SALES CENTER
FRANKLIN, VA

PROPERTY OWNER:

CITY OF FRANKLIN, VIRGINIA
207 WEST SECOND AVE
FRANKLIN, VIRGINIA 23851

APPLICANT/CONTRACT PURCHASER:

PINNACLE AGRICULTURE HOLDINGS, LLC
P.O.BOX 1169, N. SHARPE AVE
CLEVELAND, MS 38732
CONTACT: BRUCE WEST
TEL: (662) 846-8677
BRUCE.WEST@SANDERS.COM

CIVIL ENGINEER:

NEEL-SCHAFFER, INC.
1022 HIGHLAND COLONY PARKWAY, STE 202
RIDGELAND, MS 39157
CONTACT: BRANDON RUT
TEL: (601) 898-3358
FAX: (601) 898-8485

CONSTRUCTION MANAGER:

CENTURY CONSTRUCTION & REALTY, INC.
1062 HIGHLAND COLONY PARKWAY
RIDGELAND, MS 39157
CONTACT: TALTY SHANNON
TEL: (769) 300-2266
TSHANNON@CENTURYCR.COM

PROGRAM MANAGER:

JED JOHNSON
AREA MANAGER
PROVIDENCE AGRICULTURE
TEL: (785) 985-2550
JED.JOHNSON@PROVIDENCEAG.COM

PROPERTY INFO:

PROPERTY ADDRESS: BUSINESS DRIVE
(# TO BE DETERMINED ONCE PLAT IS RECORDED)
FRANKLIN, VA 23851

TYPE OF DEVELOPMENT: NEW CONSTRUCTION

PROPOSED USE: STORAGE AND DISTRIBUTION WAREHOUSE

TAX PARCEL: 155-(186)-1

PARCEL ZONING: M-2 HEAVY INDUSTRIAL

TOTAL SITE AREA: 10.00 ACRES
TOTAL DISTURBED AREA: 6.00 ACRES
PHASE 1 LAND DISTURBANCE AREA: 6.00 ACRES
TOTAL POST IMPERVIOUS AREA: 1.50 ACRES (APPROX.)
TOTAL EXISTING IMPERVIOUS AREA: 0.00 ACRES
TOTAL ADDED IMPERVIOUS AREA: 1.50 ACRES (APPROX.)

ADJACENT PARCEL ZONING:
NORTH: M-2 – HEAVY INDUSTRIAL
SOUTH: M-2 – HEAVY INDUSTRIAL
EAST: R-O – SINGLE FAMILY RESIDENCE
WEST: M-2 – HEAVY INDUSTRIAL

MINIMUM SETBACKS:
NORTH: EQUAL TO BUILDING HEIGHT; BUT NOT LESS THAN 25'
SOUTH: EQUAL TO BUILDING HEIGHT; BUT NOT LESS THAN 25'
EAST: 30'
WEST: 25'

BUILDING HEIGHT: OFFICE≈18.7'; WAREHOUSE≈22.2'; BULK WAREHOUSE≈44.3'

BUILDING SQUARE FOOTAGE: OFFICE=2,400; WAREHOUSE=24,000;
BULK WAREHOUSE=8,568

NUMBER OF EMPLOYEES: 15

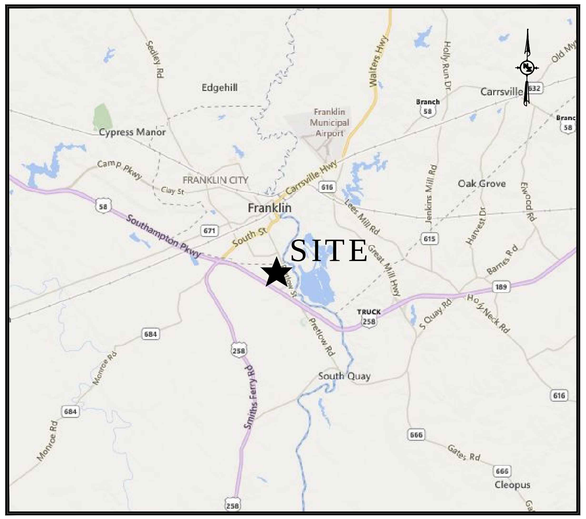
MINIMUM PARKING SPACES REQUIRED: 8 (1 PER 2 EMPLOYEES)

REGULAR PARKING SPACES PROVIDED: 21

HANDICAP PARKING SPACES PROVIDED: 2

WATER & SEWER: TO BE SUPPLIED BY CITY.

FLOOD ZONE: PROPERTY DOES NOT LIE IN A FLOOD PRONE AREA PER F.I.R.M.
MAP 5100600004 D DATED 09-04-02.



LOCATION MAP
SCALE: N.T.S.

VICINITY MAP
SCALE: 1"=600'

PLAN STATUS		
DATE	INITIAL	DESCRIPTION
7-10-15	---	CONCEPTUAL DESIGN PLANS
7-28-15	---	PLANNING COMMISSION MEETING SUBMITTAL
8-06-15	---	CONSTRUCTION PLANS
8-21-15	---	95% CONSTRUCTION PLANS
9-17-15	---	100% CONSTRUCTION PLANS

RELEASED FOR STAKEOUT

___/___ FULLY APPROVED
INIT. DATE

___/___ RELEASED ONLY FOR FOLLOWING IMPROVEMENTS
INIT. DATE

_____.

_____.

_____.

NEEL-SCHAFFER, INC.

DRAWING INDEX:

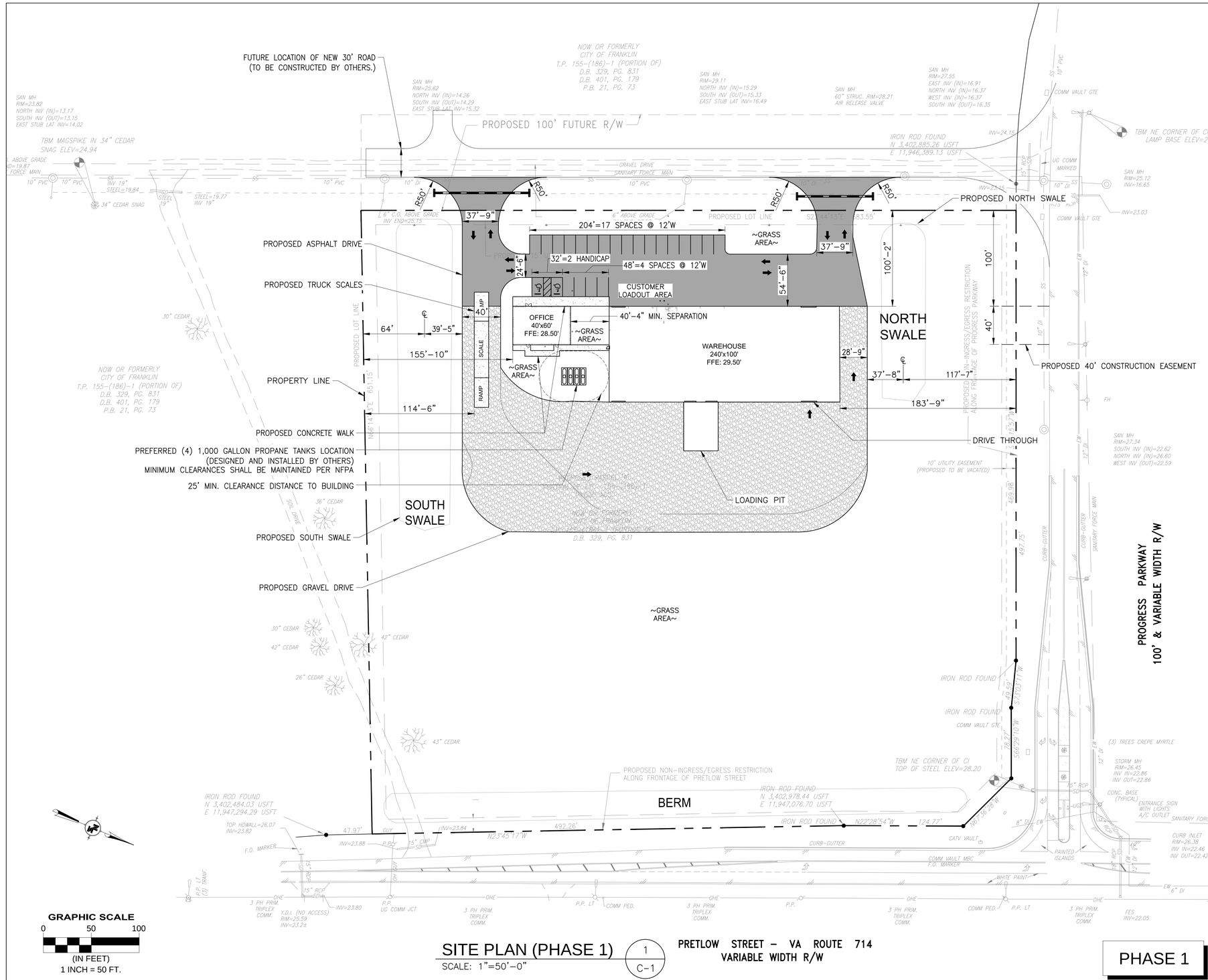
811 Know what's **below.** **Call** before you dig.

PINNACLE AGRICULTURE HOLDINGS, LLC

PREPARED BY:

NEEL-SCHAFFER
Solutions you can build upon
1022 HIGHLAND COLONY PARKWAY,
SUITE 202
RIDGELAND, MS 39157
PH: (601) 898-3358
FAX: (601) 898-8485

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER



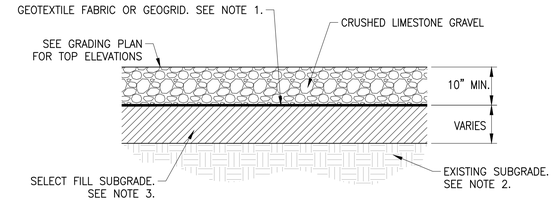
SITE PLAN (PHASE 1)

SCALE: 1"=50'-0"

1 / C-1

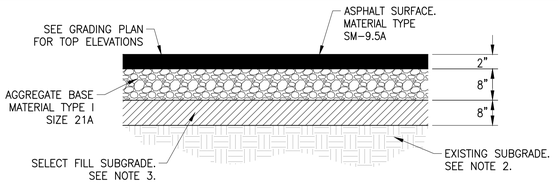
PRETLOW STREET – VA ROUTE 714
VARIABLE WIDTH R/W

PHASE 1



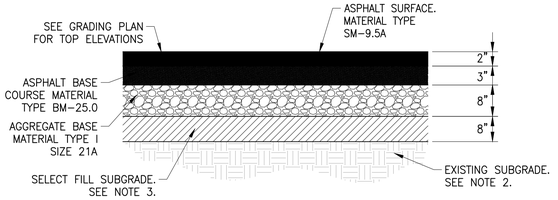
GRAVEL DRIVE SECTION

SCALE: N.T.S.



LIGHT DUTY PAVEMENT

SCALE: N.T.S.



HEAVY DUTY PAVEMENT

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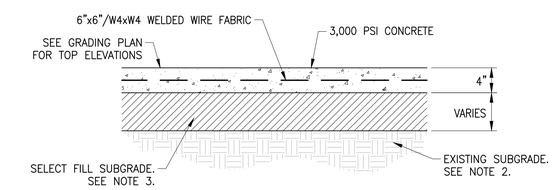

CONCRETE WALK SECTION

SCALE: N.T.S.

1. OPTIONS:
   - 1.1. MIRAFI HP-370 (OR EQUIVALENT) GEOTEXTILE FABRIC UNDERLAY; OR
   - 1.2. TENSAR BX-TYPE 1 (OR EQUIVALENT) GEOGRID UNDERLAY
2. MIN. 8" EXISTING SUBGRADE TO BE SCARIFIED, MOISTURE CONDITIONED TO WITHIN +/- 2% OF THE SOILS OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF MAXIMUM DRY DENSITY (ASTM D-698).
3. SELECT FILL: SHALL CONSIST OF ON-SITE BORROW OR IMPORTED ENGINEERED FILL TO BE PLACED AND COMPACTED IN LOOSE LIFTS NOT EXCEEDING 8" TO A DRY DENSITY OF AT LEAST 95% OF THE MAXIMUM DRY DENSITY (ASTM D-698).
   - 3.1. ON-SITE BORROW FILL: GRANULAR SOIL MATERIAL CLASSIFIED AS SAND (SM,SC,SP,SW, OR BETTER) WHICH IS FREE OF ORGANICS, DEBRIS, RUBBLE GREATER THAN 4" DIAMETER, AND OTHER UNSUITABLE MATERIAL. SOILS CLASSIFIED AS CLAY (CL & CH) OR SILT (ML & MH) ARE NOT SUITABLE FOR REUSE AS ENGINEERED FILL BELOW BUILDING OR WITHIN 2 VERTICAL FEET OF PAVEMENT SUBGRADES.
   - 3.2. IMPORTED FILL: GRANULAR SOIL MATERIAL CLASSIFIED AS SAND (SM,SP,SW, OR BETTER) w/ A MAX. 20% PASSING THE NO. 200 SIEVE (SILT OR CLAY) AND FREE OF ORGANICS, DEBRIS, RUBBLE, & OTHER UNSUITABLE MATERIAL. IMPORTED FILL SHALL POSSES A MIN. CBR QUALITY OF 15.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.12213.000	
FILENAME: C-1 - SITE PLAN PHASE 1.dwg	
CADD TYPE: AutoCAD	
SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
DSGN: EBR	DATE: 10/15
DRWN: CWF	DATE: 10/15
CHKD: BEB	DATE: 10/15
QA/QC: BJR	DATE: 10/15

PINNACLE AGRICULTURE HOLDINGS, LLC
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FRANKLIN, VIRGINIA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL:

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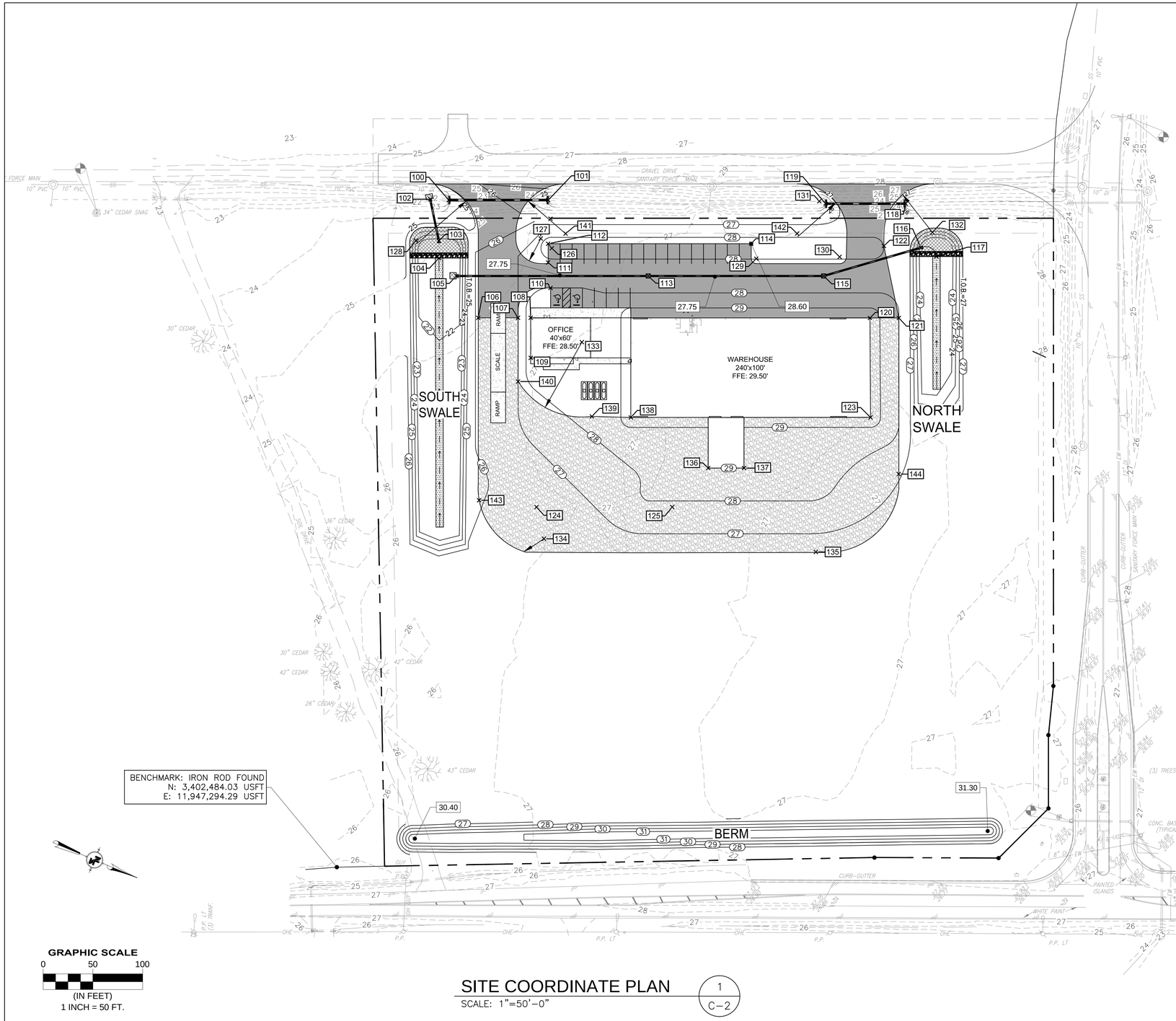
SITE PLAN
(PHASE 1)

WORKING NUMBER:	DRAWING NUMBER:
	C-1



SITE COORDINATE PLAN

SCALE: 1"=50'-0"

1 / C-2

Point Table		
Point #	Northing	Easting
100	3402328.64	11946632.68
101	3402420.87	11946594.03
102	3402311.16	11946639.07
103	3402335.37	11946674.25
104	3402342.13	11946690.13
105	3402365.21	11946700.04
106	3402401.73	11946730.27
107	3402438.62	11946714.81
108	3402450.28	11946709.92
109	3402465.84	11946747.05
110	3402457.13	11946674.53
111	3402445.01	11946651.86
112	3402437.75	11946634.53
113	3402542.98	11946625.54
114	3402625.90	11946555.68
115	3402705.53	11946557.42
116	3402784.61	11946493.42
117	3402802.37	11946495.55
118	3402753.44	11946458.53
119	3402679.20	11946489.64
120	3402764.67	11946578.32
121	3402791.49	11946567.11
122	3402749.70	11946506.22
123	3402803.89	11946670.29
124	3402529.20	11946883.10
125	3402654.97	11946830.39
126	3402442.87	11946637.25
127	3402428.82	11946632.58
128	3402314.14	11946682.85
129	3402636.31	11946567.59

Point Table		
Point #	Northing	Easting
130	3402712.87	11946533.52
131	3402672.43	11946489.90
132	3402789.32	11946474.75
133	3402507.18	11946712.63
134	3402548.48	11946909.53
135	3402805.47	11946816.20
136	3402673.11	11946780.28
137	3402706.32	11946766.36
138	3402581.78	11946763.40
139	3402545.31	11946777.57
140	3402463.38	11946773.89
141	3402449.98	11946618.37
142	3402664.45	11946528.49
143	3402473.38	11946899.04
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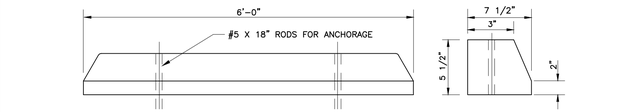
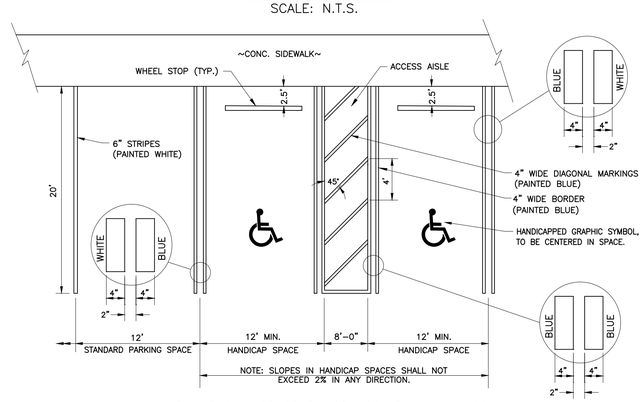


WHEEL STOP

SCALE: N.T.S.



PARKING SPACES DETAILS

SCALE: N.T.S.

REVISIONS				DRAWING INFORMATION	
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				FILENAME: C-2 - SITE COORDINATE.dwg	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
				DRWN: CWF	DATE: 10/15
				CHKD: BEB	DATE: 10/15
				QA/QC: BJR	DATE: 10/15

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FRANKLIN, VIRGINIA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
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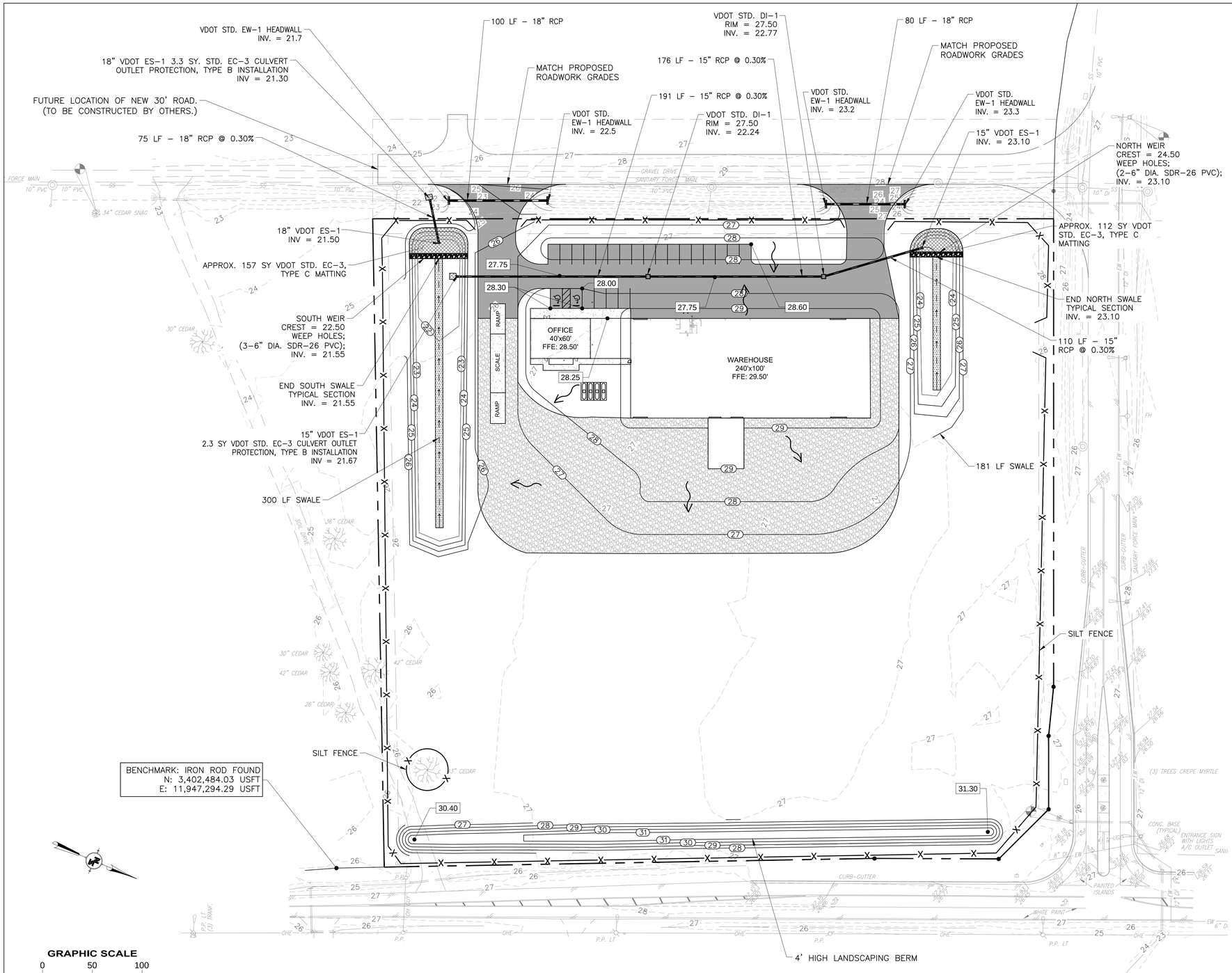
SITE COORDINATE PLAN & DETAILS

WORKING NUMBER:

DRAWING NUMBER: C-2



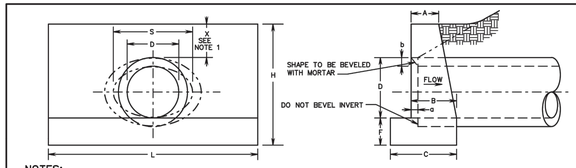
GRAPHIC SCALE
0 50 100
(IN FEET)
1 INCH = 50 FT.

GRADING PLAN
SCALE: 1"=50'-0"

1
C-3

NOTE:
SEE SHT. C-4 FOR SWALE, WEIR, PIPE, INLET, ETC. DETAILS.

EW-1A



NOTES:
1. "H" MAY BE REDUCED UNTIL "X" REACHES A MINIMUM OF 4" WHERE ENDWALL WOULD PROTRUDE ABOVE SHOULDER LINE. IN NO CASE SHALL TOP OF ENDWALL PROJECT ABOVE FILL SLOPE, DITCH SLOPE, OR SHOULDER.
2. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
3. ALL CAST IN PLACE CONCRETE TO BE CLASS A3. FOR PRECAST SEE SHEET 101.02.
4. THIS STANDARD TO BE USED WITH STRAIGHT CROSSINGS AND ALL SKEWS (0° TO 45°).
5. HEADWALL TO BE BEVELED IN ALL AREAS EXCEPT WHERE A CONFLICT WITH INVERT OR WINGWALLS OCCUR.
6. BEVEL EDGE IS REQUIRED ON THE HEADWALL AT THE INLET END OF THE CULVERT (WHERE THE FLOW ENTERS THE CULVERT).
7. HEADWALL AT THE OUTLET END OF THE CULVERT MAY BE EITHER SQUARE EDGE OR BEVEL EDGE.
8. ON SHALLOW FILLS, WHERE ENDWALLS ARE 1'-0" LESS BELOW SHOULDER LINE, THE TOP OF THE ENDWALL SHALL BE CONSTRUCTED PARALLEL TO THE GRADE OF THE ROAD.
9. ¾" CHAMFER MAY BE PROVIDED ON ALL EDGES AT MANUFACTURER'S OPTION.

EW-1

ENDWALL FOR CIRCULAR PIPE

	DIAMETER OF PIPE CULVERT					
	12"	15"	18"	21" OR 24"	27" OR 30"	33" OR 36"
A	0'-6"	0'-8"	0'-9"	0'-11"	1'-0"	1'-0"
B	0'-11"	1'-1"	1'-3"	1'-8"	1'-9"	2'-0"
C	1'-4"	1'-7"	1'-9"	2'-2"	2'-6"	2'-9"
D	1'-0"	1'-3"	1'-6"	2'-0"	2'-6"	3'-0"
F	0'-6"	0'-8"	0'-8"	0'-9"	0'-9"	0'-9"
H	2'-3"	2'-11"	3'-2"	3'-9"	4'-3"	4'-9"
L	4'-0"	5'-0"	6'-0"	8'-0"	10'-0"	12'-0"
a	0'-7¼"	0'-9⅝"	0'-2"	0'-2⅛"	0'-3¼"	0'-3⅝"
b	0'-1"	0'-1¼"	0'-1½"	0'-2"	0'-2⅛"	0'-3"
	CUBIC YARDS OF CONCRETE					
CONC. PIPE	0.241	0.492	0.697	1.319	2.067	2.947
C.M. PIPE	0.257	0.521	0.739	1.398	2.198	3.145

EW-1A

ENDWALL FOR ELLIPTICAL PIPE

	SIZE OF ELLIPTICAL PIPE CULVERT (SPAN x RISE)							
	23"x14"	30"x19"	34"x22"	38"x24"	42"x27"	45"x29"	49"x32"	53"x34"
A	0'-8"	0'-9"	0'-10"	0'-11"	0'-11"	1'-0"	1'-0"	1'-0"
B	1'-2"	1'-5"	1'-6"	1'-8"	1'-9"	1'-10"	1'-11"	1'-11"
C	1'-8"	1'-11"	2'-1"	2'-4"	2'-5"	2'-7"	2'-8"	2'-9"
D	1'-2"	1'-7"	1'-10"	2'-0"	2'-3"	2'-5"	2'-8"	2'-10"
F	0'-8"	0'-8"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"
H	2'-10"	3'-3"	3'-7"	3'-9"	4'-0"	4'-2"	4'-5"	4'-7"
L	5'-5"	7'-2"	8'-6"	9'-2"	10'-2"	10'-11"	12'-1"	12'-11"
S	1'-11"	2'-6"	2'-10"	3'-2"	3'-6"	3'-9"	4'-1"	4'-5"
a	0'-2½"	0'-3¼"	0'-3½"	0'-4"	0'-4½"	0'-4¾"	0'-5"	0'-5½"
b	0'-2"	0'-2½"	0'-2¾"	0'-3"	0'-3½"	0'-3⅞"	0'-4"	0'-4½"
	CUBIC YARDS OF CONCRETE							
CONC.PIPE	0.502	0.855	1.236	1.500	1.811	2.101	2.512	2.801

SPECIFICATION REFERENCE
105
302

STANDARD ENDWALL FOR PIPE CULVERTS
12"-36" CIRCULAR AND 23"x14"-53"x34" ELLIPTICAL PIPES
VIRGINIA DEPARTMENT OF TRANSPORTATION

101.01

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: C-3 -GRADING PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
				DRWN: CWF	DATE: 10/15
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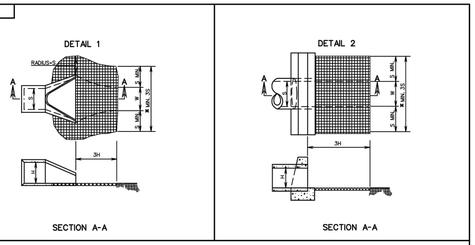
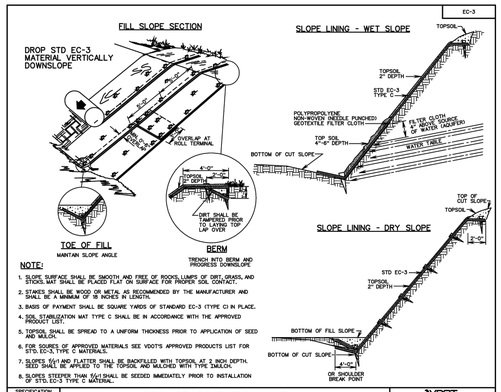
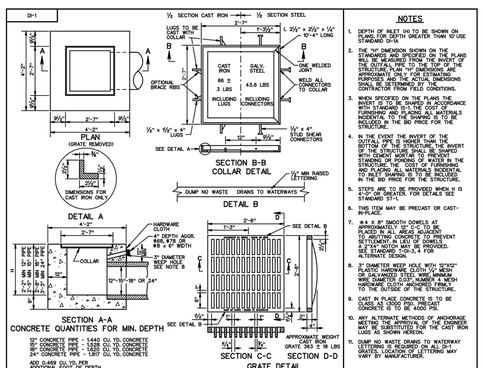
GRADING PLAN

WORKING NUMBER:

DRAWING NUMBER:
C-3







6.9. Dry Swale Material Specifications

Table 10.4 outlines the standard material specifications for constructing Dry Swales.

Table 10.4. Dry Swale Material Specifications

Material	Specification	Notes
Filter Media Composition	Filter Media to contain: • 85-88% sand • 8-12% soil fines • 3-5% organic matter in form of leaf compost	The volume of filter media is based on 110% of the product of the surface area and the media depth, to account for settling.
Filter Media Testing	P-Index range = 10-30; Cation Exchange Capacity (CEC) greater than 10. Mix on-site or procure from an approved media vendor (refer to Stormwater Design Spec No. 9: Bioretention, for additional soil media information.	
Surface Cover	Turf or river stone.	
Top Soil	4 inch surface depth of loamy sand or sandy loam texture, with less than 5% clay content, a corrected pH of 6 to 7, and at least 2% organic matter.	
~~Filter Fabric~~	~~A non-woven polyprene geotextile with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent); Apply immediately above the underdrain only. For hotspots and certain karst sites only, use an appropriate liner on the bottom.~~	
~~Choking Layer~~	~~A 2 to 4 inch layer of sand over a 2 inch layer of choker stone (typically #8 or # 89 washed gravel) laid above the underdrain stone.~~	
Stone and/or Storage Layer	A 9 to 18 inch layer (depending on the desired depth of the storage layer) of # 57 stone should be double-washed and clean and free of all soil and fines.	
~~Underdrains, Cleanouts, and Observation Wells~~	~~6-inch rigid schedule 40 PVC pipe, with 3/8-inch perforations.~~ ~~Use Corrugated HDPE for Rain Gardens.~~	~~Install perforated pipe for the full length of the Dry Swale cell.~~ ~~Use non-perforated pipe, as needed, to connect with the storm drain system.~~
~~Vegetation~~	~~Plant species as as specified on the landscaping plan~~	
~~Check Dams~~	~~Use non-erosive material such as wood, gabions, riprap, or concrete. All check dams should be underlain with filter fabric, and include weep holes. Wood used for check dams should consist of pressure-treated logs or timbers, or water-resistant tree species such as cedar, hemlock, swamp oak or locust.~~	
Erosion Control Fabric	Where flow velocities dictate, use woven biodegradable erosion control fabric or mats (EC2) that are durable enough to last at least 2 growing seasons.	

SECTION 8: CONSTRUCTION

8.1. Construction Sequence

Construction Stage ESC Controls. Dry Swales should be fully protected by silt fence or construction fencing, particularly if they will provide an infiltration function (i.e., have no underdrains). Ideally, Dry Swale areas should remain *outside* the limits of disturbance during construction to prevent soil compaction by heavy equipment.

Dry swale locations may be used for small sediment traps or basins during construction. However, these must be accompanied by notes and graphic details on the E&S Control plan specifying that the maximum excavation depth of the sediment trap/basin at the construction stage must (1) be at least 1 foot above the depth of the post-construction Dry Swale installation, (2) contain an underdrain, and (3) specify the use of proper procedures for conversion from a temporary practice to a permanent one, including de-watering, cleanout and stabilization.

8.2. Construction Sequence

The following is a typical construction sequence to properly install a Dry Swale, although the steps may be modified to adapt to different site conditions.

Step 1: Protection during Site Construction. As noted above, Dry Swales should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. However, this is seldom practical given that swales are a key part of the drainage system at most sites. In these cases, temporary E&S controls such as dikes, silt fences and other similar measures should be integrated into the swale design throughout the construction sequence. Specifically, barriers should be installed at key check dam locations, erosion control fabric should be used to protect the channel, and excavation should be no deeper than 2 feet above the proposed invert of the bottom of the planned underdrain. Dry Swales that lack underdrains (and rely on filtration) must be fully protected by silt fence or construction fencing to prevent compaction by heavy equipment during construction.

Step 2. Installation may only begin after the entire contributing drainage area has been stabilized by vegetation. The designer should check the boundaries of the contributing drainage area to ensure it conforms to original design. Additional E&S controls may be needed during swale construction, particularly to divert stormwater from the Dry Swale until the filter bed and side slopes are fully stabilized. Pre-treatment cells should be excavated first to trap sediments before they reach the planned filter beds.

Step 3. Excavators or backhoes should work from the sides to excavate the Dry Swale area to the appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the Dry Swale area.

Step 4. The bottom of the Dry Swale should be ripped, roto-tilled or otherwise scarified to promote greater infiltration.

Step 5. Place an acceptable filter fabric on the underground (excavated) sides of the dry swale with a minimum 6 inch overlap. Place the stone needed for storage layer over the filter bed. Perforate the underdrain pipe and check its slope. Add the remaining stone jacket, and then pack #57 stone to 3 inches above the top of the underdrain, and then add 3 inches of pea gravel as a filter layer.

Step 6. Add the soil media in 12-inch lifts until the desired top elevation of the Dry Swale is achieved. Wait a few days to check for settlement, and add additional media as needed.

Step 7. Install check dams, driveway culverts and internal pre-treatment features, as specified in the plan.

Step 8. Prepare planting holes for specified trees and shrubs, install erosion control fabric where needed, spread seed or lay sod, and install any temporary irrigation.

Step 9. Plant landscaping materials as shown in the landscaping plan, and water them weekly during the first 2 months. The construction contract should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction.

Step 10. Conduct a final construction inspection and develop a punchlist for facility acceptance.

8.3. Construction Inspection

Inspections are needed during construction to ensure that the Dry Swale practice is built in accordance with these specifications. Detailed inspection checklists should be used that include sign-offs by qualified individuals at critical stages of construction, to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. An example construction phase inspection checklist for Dry Swales can be accessed at the CWP website at:

http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/sm.htm
(scroll to Tool6: Plan Review, BMP Construction, and Maintenance Checklists)

Some common pitfalls can be avoided by careful construction supervision that focuses on the following key aspects of dry swale installation.

- Check the filter media to confirm that it meets specifications and is installed to the correct depth.
- Check elevations such as the invert of the underdrain, inverts for the inflow and outflow points, and the ponding depth provided between the surface of the filter bed and the overflow structure.
- Ensure that caps are placed on the upstream (but not the downstream) ends of the underdrains.

- Make sure the desired coverage of turf or erosion control fabric has been achieved following construction, both on the filter beds and their contributing side-slopes.
- Inspect check dams and pre-treatment structures to make sure they are properly installed and working effectively.
- Check that outfall protection/energy dissipation measures at concentrated inflow and outflow points are stable.

The real test of a Dry Swale occurs after its first big storm. The post-storm inspection should focus on whether the desired sheetflow, shallow concentrated flows or fully concentrated flows assumed in the plan actually occur in the field. Also, inspectors should check that the Dry Swale drains completely within minimum 6 hour drawdown period. Minor adjustments are normally needed as a result of this post-storm inspection (e.g., spot reseeding, gully repair, added armoring at inlets or outfalls, and check dam realignment.

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

Section 4 VAC 50-60-124 of the regulations specifies the circumstances under which a maintenance agreement must be executed between the owner and the local program. This section sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

If a Dry Swale is located on a residential lot, the existence and purpose of the Dry Swale must be noted on the deed of record. Homeowners will need to be provided a simple document that explains their purpose and routine maintenance needs. A deed restriction, drainage easement or other mechanism enforceable by the qualifying local program must be in place to help ensure that dry swales are maintained. The mechanism should, if possible, grant authority for local agencies to access the property for inspection or corrective action. In addition, the GPS coordinates should be logged for all Dry Swales, upon facility acceptance, and submitted for entry into the local BMP maintenance tracking database.

9.2. Maintenance Inspections

Annual inspections are used to trigger maintenance operations such as sediment removal, spot revegetation and inlet stabilization. The following is a list of several key maintenance inspection points:

- Add reinforcement planting to maintain 95% turf cover or vegetation density. Reseed any salt-killed vegetation.
- Remove any accumulated sand or sediment deposits on the filter bed surface or in pre-treatment cells.
- Inspect upstream and downstream of check dams for evidence of undercutting or erosion, and remove trash or blockages at weepholes.
- Examine filter beds for evidence of braiding, erosion, excessive ponding or dead grass.

- Check inflow points for clogging, and remove any sediment.
- Inspect side slopes and grass filter strips for evidence of any rill or gully erosion, and repair as needed.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize immediately.

Ideally, inspections should be conducted in the spring of each year. Example maintenance inspection checklists for Dry Swales can be accessed in Appendix C of Chapter 9 of the *Virginia Stormwater Management Handbook* (2010) or at CWP website at:

http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/sm.htm
(scroll to Tool6: Plan Review, BMP Construction, and Maintenance Checklists)

9.3 Routine Maintenance and Operation

Once established, Dry Swales have minimal maintenance needs outside of the spring clean up, regular mowing, and pruning and management of trees and shrubs. The surface of the filter bed can become clogged with fine sediment over time, but this can be alleviated through core aeration or deep tilling of the filter bed. Additional effort may be needed to repair check dams, stabilize inlet points, and remove deposited sediment from pre-treatment cells.

NORTH SWALE TYPICAL SECTION
NTS

SOUTH SWALE TYPICAL SECTION
NTS

NORTH SWALE WEIR ELEVATION
NTS

SOUTH SWALE WEIR ELEVATION
NTS

NOTICE TO DRAWING HOLDER

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REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION
N-S PROJECT NO.: NS.12213.000
FILENAME: C-4 - GRADING STANDARDS.DWG
CADD TYPE: AutoCAD
SURVEYED BY: PARRISH LAYNE DESIGN GROUP
DSGN: EBR DATE: 10/15
DRWN: CWF DATE: 10/15
CHKD: BEB DATE: 10/15
QA/QC: BJR DATE: 10/15

PINNACLE AGRICULTURE HOLDINGS, LLC
PHASE 1 CONSTRUCTION PLANS
FRANKLIN, VIRGINIA

BRADLEY ERWIN BIVENS
Lic. No. 051434
SEAL:

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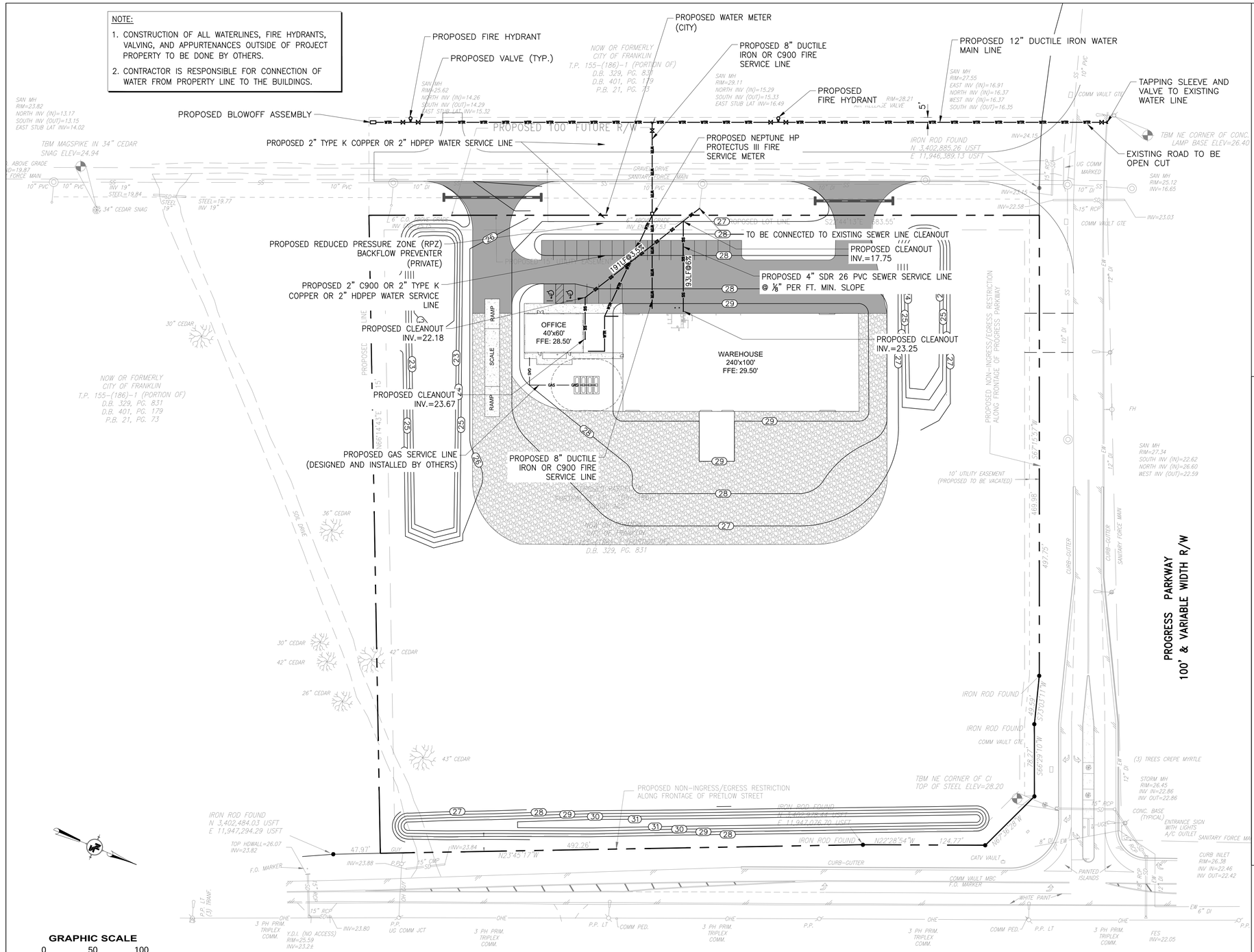
GRADING STANDARD DETAILS

WORKING NUMBER:

DRAWING NUMBER:
C-4

NOTE:

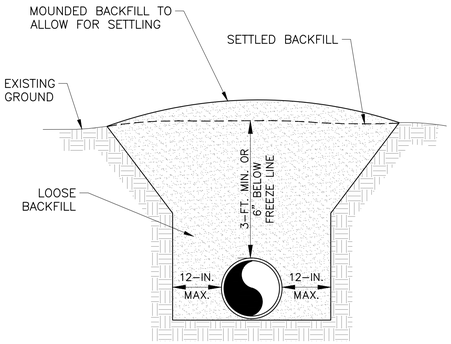
1. CONSTRUCTION OF ALL WATERLINES, FIRE HYDRANTS, VALVING, AND APPURTENANCES OUTSIDE OF PROJECT PROPERTY TO BE DONE BY OTHERS.
2. CONTRACTOR IS RESPONSIBLE FOR CONNECTION OF WATER FROM PROPERTY LINE TO THE BUILDINGS.



UTILITY NOTES

1. ALL UTILITIES SHALL CONFORM TO CITY OF FRANKLIN CONSTRUCTION STANDARDS UNLESS OTHERWISE APPROVED. REFERENCE SHEET C-6 & CITY OF FRANKLIN CONSTRUCTION STANDARDS FOR DETAILS.
2. WATER METER SHALL BE 2" NEPTUNE FLANGED WITH R900i PIT MIU REGISTER.
3. WATER METER SETTER SHALL BE A FORD # VBHH77-12B-11-77 OR EQUIVALENT.
4. WATER MAINS 4 INCHES OR LARGER SHALL BE DUCTILE IRON OR C900 PIPE. WATER LINE WILL HAVE TRACER WIRE ATTACHED TO TOP OF WATER LINE AND WATER LINE MARKER TAPE 12-18" ABOVE WATER MAIN.
5. ALL VALVES AND HYDRANTS IN THE RIGHT OF WAY SHALL BE MANUFACTURED BY AMERICAN AVK PER THE CITY OF FRANKLIN CONSTRUCTION STANDARD.
6. 2" SERVICE LINE SHALL BE TYPE K COPPER OR HDPEP FROM THE WATER MAIN TO THE INLET WITH A 2" AVK VALVE PRIOR TO METER SETTER.
7. METER BOX SHALL BE MADE BY BROOKS, CARSON OR EQUIVALENT IN NONE TRAFFIC AREA, ARMOR CAST SHALL BE USED IN TRAFFIC AREA. A TWO INCH HOLE WILL BE PROVIDED IN METER LID FOR THE EXTERNAL ANTENNA.
8. BACKFLOW PREVENTER SHALL BE REDUCED PRESSURE ZONE (RPZ) INSTALLED ABOVE GROUND IN A HOT BOX.
9. SEE MECHANICAL PLANS FOR UTILITY CONNECTION DETAILS AT BUILDING.
10. THE *SITE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH THE MOST CURRENT DATA PROVIDED BY THE OWNER.*

THE SITE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE SITE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



NOTES:

1. PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH BY UNDISTURBED EARTH. DIG OUT HOLLOW AT PIPE BELL.
2. TRENCH SHALL BE DRY DURING PLACEMENT.
3. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, STICKS, ROOTS & OTHER DEBRIS.
4. ALL BACKFILL SHALL BE COMPACTED TO 95% DENSITY OF AASHTO T-180 MODIFIED PROCTOR.
5. WATER LINES SHALL BE LAID AT LEAST TEN FEET, HORIZONTALLY FROM ANY SEWER OR SEWER MANHOLE WHEREVER POSSIBLE.
6. WATER PIPES CROSSING SEWERS SHALL BE CONSTRUCTED TO PROVIDE A VERTICAL SEPARATION OF AT LEAST 18 INCHES BETWEEN THE INVERT ELEVATION OF THE ABOVE PIPE AND THE TOP OF THE LOWER WHEREVER POSSIBLE.

TYPE I TRENCH DETAIL

SCALE: N.T.S.

GRAPHIC SCALE
0 50 100
(IN FEET)
1 INCH = 50 FT.

UTILITIES PLAN

SCALE: 1"=50'-0"

1 / C-5

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: C-5 - UTILITIES.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
				DRWN: CWF	DATE: 10/15
				CHKD: BEB	DATE: 10/15
				QA/QC: BJR	DATE: 10/15

PINNACLE AGRICULTURE HOLDINGS, LLC
PHASE 1 CONSTRUCTION PLANS
FRANKLIN, VIRGINIA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
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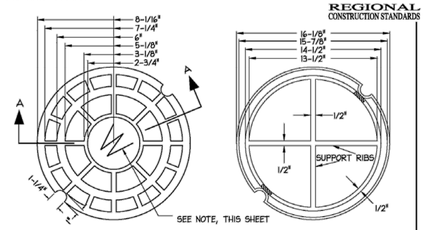
UTILITIES PLAN

WORKING NUMBER:

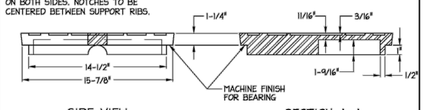
DRAWING NUMBER: C-5

NOTE:
MARK WITH A "W" FOR WATER DISTRIBUTION SYSTEMS OR "S" FOR SANITARY SYSTEMS. TOP & BOTTOM OF LETTER DESIGNATION TO BE IN LINE WITH NOTCHES.



COVER: TOP COVER: BOTTOM

BOTTOM SUPPORT RING TO BE NOTCHED DIRECTLY UNDER PICK HOLE ON BOTH SIDES. NOTCHES TO BE CENTERED BETWEEN SUPPORT RIBS.



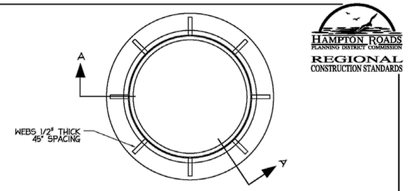
SIDE VIEW SECTION A-A

SEE WS_01, SHEET 2 OF 2 FOR NOTES & FRAME DETAILS.

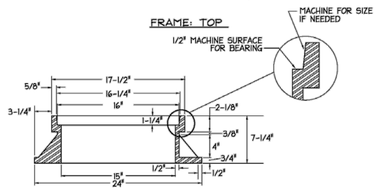
STANDARD VALVE BOX FRAME AND COVER

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,801,803	WATER & SANITARY	01/03	1 OF 2	WS_01



FRAME: TOP



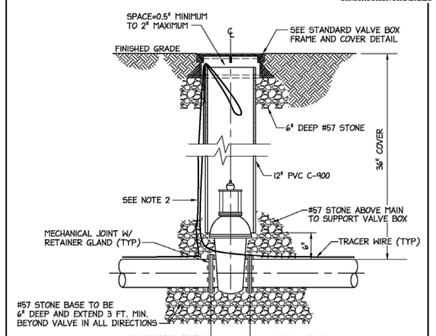
SECTION A-A

NOTES:
1. VALVE BOX FRAME AND COVER TO BE SUPPLIED BY CAPITAL FOUNDRY OF VIRGINIA, INC., MODEL #NPA-934N, 160 LBS., OR APPROVED EQUAL.
2. ALL GRAY IRON CASTINGS SHALL CONFORM TO LATEST EDITION OF ASTM A-48, CLASS 30 AND SHALL BE OF UNIFORM QUALITY.
3. ALL CASTING DIMENSIONS SHALL HAVE A TOLERANCE OF 1/8"±.
4. ALL CASTINGS SHALL BE CLEANED BY SHOT BLASTING AND HAND CHIPPING UTILIZING STANDARD INDUSTRY PRACTICES PRIOR TO SHOP APPLICATION OF ASPHALTIC COATING, BY DIPPING.

STANDARD VALVE BOX FRAME AND COVER

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,801,803	WATER & SANITARY	01/03	2 OF 2	WS_01



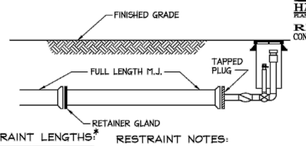
NOTES:
1. IF OPERATING NUT IS GREATER THAN 48" BELOW TOP OF VALVE BOX FRAME, A VALVE STEM EXTENSION MAY BE INSTALLED. THE EXTENSION SHALL REPLACE OR BE SECURELY ATTACHED TO THE NORMAL 2 INCH SQUARE OPERATING NUT, SHALL BE AT LEAST AS STRONG AS THE VALVE STEM, AND SHALL BE COATED IN ACCORDANCE WITH AWWA C550. VALVE STEM EXTENSIONS MUST BE APPROVED BY THE LOCALITY.
2. PLASTIC COATED 10 GAUGE SOLID COPPER TRACER WIRE TO BE ATTACHED WITH PLASTIC STRAPPING EVERY 10 FEET OF LENGTH. WIRE TO BE LOOPED THROUGH VALVE BOX AND EXTEND 12 INCHES ABOVE FINISHED GRADE AND COILED BACK INTO VALVE BOX.

VALVE SETTING DETAIL

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,801,803	WATER & SANITARY	01/03	1 OF 1	WS_02

* RESTRAINT LENGTHS BASED ON DUCTILE IRON PIPE ONLY. WHEN PVC PIPE IS USED, RESTRAINT LENGTHS MUST BE RECALCULATED.

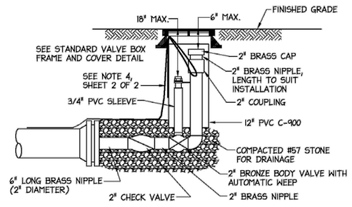


RESTRAINT LENGTHS*

PIPE DIAMETER	LENGTH OF PIPE
4 INCHES	36 FEET
8 INCHES	36 FEET
10-12 INCHES	54 FEET
16 INCHES	72 FEET

RESTRAINT NOTES:
1. SPECIAL DESIGN REQUIRED FOR MAINS GREATER THAN 48" IN DEPTH OR IN SOILS WITH SHEAR STRENGTH LESS THAN 30 LBS/FT.
2. IF THE RESTRAINED JOINTS ARE LESS THAN THE LENGTHS SHOWN, THEN A SPECIAL RESTRAINT DESIGN MUST BE SUBMITTED FOR APPROVAL.

TYPICAL RESTRAINT



BLOW-OFF ASSEMBLY

SEE WD_05, SHEET 2 OF 2 FOR BLOW-OFF ASSEMBLY NOTES.

BLOW-OFF ASSEMBLY

NOT TO SCALE

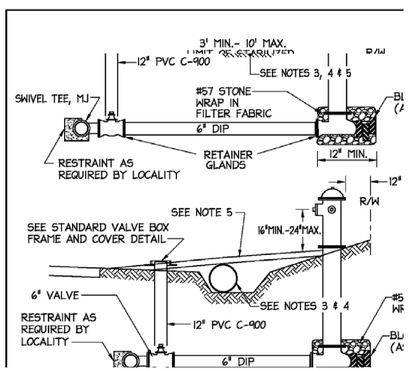
REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,801	WATER DISTRIBUTION	01/03	1 OF 2	WD_05

NOTES:
1. BLOW-OFF ASSEMBLY TO BE SUPPLIED BY GIL INDUSTRIES (MODEL: SLIM LINE 2" FLUSHING HYDRANT) OR APPROVED EQUAL.
2. A BLOW-OFF IS TO BE USED ON PIPE SIZES 10" IN DIAMETER OR LESS.
3. A FIRE HYDRANT IS TO BE USED AS A BLOW-OFF ASSEMBLY FOR PIPE SIZES 12" OR GREATER.
4. PLASTIC COATED 10 GAUGE SOLID COPPER TRACER WIRE TO BE ATTACHED WITH PLASTIC STRAPPING EVERY 10 FEET OF LENGTH. WIRE TO BE LOOPED THROUGH VALVE BOX AND EXTEND 12 INCHES ABOVE FINISHED GRADE AND COILED BACK INTO VALVE BOX.

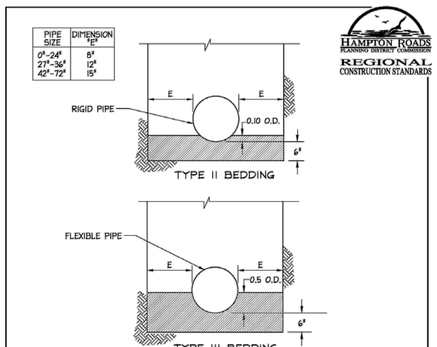
BLOW-OFF ASSEMBLY

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,801	WATER DISTRIBUTION	01/03	2 OF 2	WD_05



PIPE SIZE	DIMENSION "E"
0"-24"	6"
27"-36"	12"
42"-72"	15"

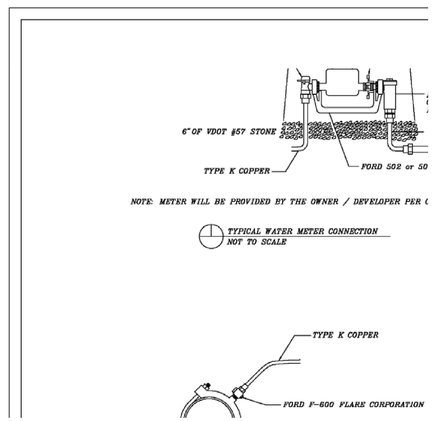


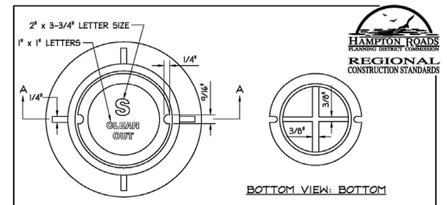
NOTES:
1. BEDDING MATERIAL TO BE APPROVED BY LOCALITY BEFORE USE.
2. TRENCH BOTTOM TO BE FREE OF WATER BEFORE PLACING BEDDING.
3. SHAPE RECESSES FOR BELL OF PIPE BY HAND.
4. BACKFILL ABOVE BEDDING WITH SPECIFIED BACKFILL MATERIAL. SEE SPECIFICATIONS SECTION 303.
5. REFER TO CONTRACT DOCUMENTS FOR TYPE OF BEDDING MATERIAL.
6. MINIMUM TRENCH WIDTH SHALL CONFORM TO PIPE MANUFACTURER'S RECOMMENDATIONS IF MORE STRINGENT.

PIPE BEDDING DETAILS

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,303	EARTHWORK	01/03	1 OF 1	EW_01





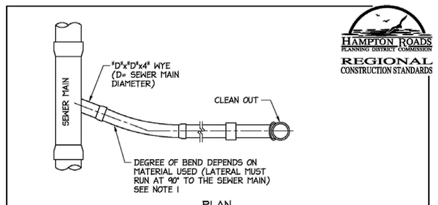
SECTION A-A

NOTES:
1. CLEAN OUT FRAME & COVER TO BE SUPPLIED BY CAPITAL FOUNDRY OF VIRGINIA, INC. OR APPROVED EQUAL.
2. ALL GRAY IRON CASTINGS SHALL CONFORM TO LATEST EDITION OF ASTM A-48, CLASS 30 AND SHALL BE OF UNIFORM QUALITY.
3. ALL CASTING DIMENSIONS SHALL HAVE A TOLERANCE OF 1/8"±.
4. ALL CASTINGS SHALL BE CLEANED BY SHOT BLASTING AND HAND CHIPPING UTILIZING STANDARD INDUSTRY PRACTICES PRIOR TO SHOP APPLICATION OF ASPHALTIC COATING, BY DIPPING.

SANITARY SERVICE LATERAL CLEAN OUT FRAME AND COVER

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,802	SANITARY SYSTEMS	01/03	1 OF 1	SS_11



ELEVATION

NOTES:
1. LATERAL PIPE SHALL BE PVC, ASTM D-3034, SDR 26, UNLESS DUE TO SPECIAL CIRCUMSTANCES THE LOCALITY REQUIRES THE PIPE TO BE DUCTILE IRON.
2. SEE PLANS FOR LOCATION OF CLEAN OUT.

SANITARY SEWER SERVICE CONNECTION

NOT TO SCALE

REFERENCE	CATEGORY	DATE	SHEET No.	DETAIL No.
200,802	SANITARY SYSTEMS	01/03	1 OF 1	SS_14

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: C-6 - UTILITIES STANDARDS.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
				DRWN: CWF	DATE: 10/15
				CHKD: BEB	DATE: 10/15
				QA/QC: BJR	DATE: 10/15

PINNACLE AGRICULTURE HOLDINGS, LLC
PHASE 1 CONSTRUCTION PLANS
FRANKLIN, VIRGINIA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL:

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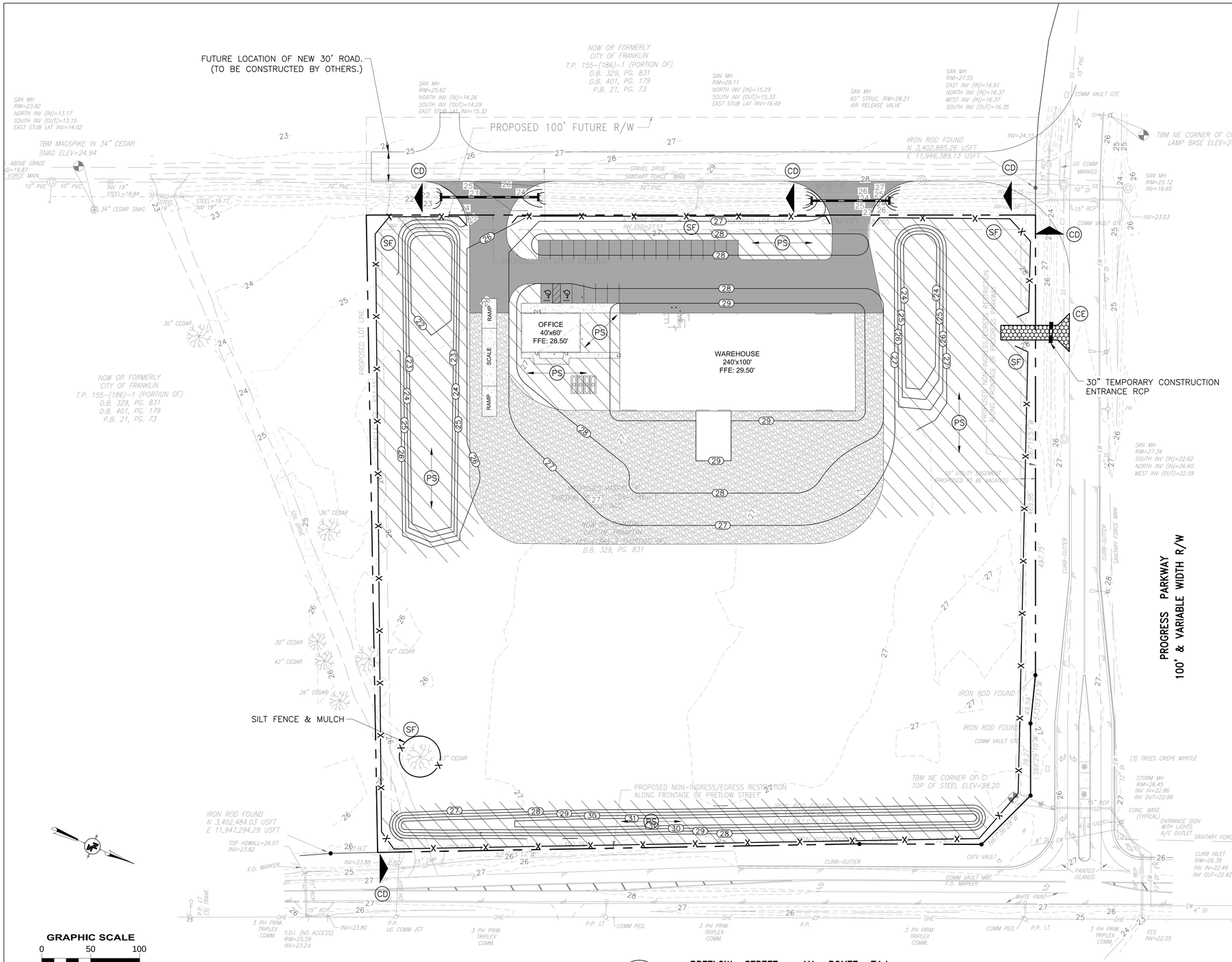
UTILITY STANDARD DETAILS

WORKING NUMBER:

DRAWING NUMBER: C-6



GRAPHIC SCALE
0 50 100
(IN FEET)
1 INCH = 50 FT.

EROSION & SEDIMENT CONTROL PLAN

SCALE: 1"=50'-0"

1 / C-7

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

E & S LEGEND

TITLE	SYMBOL	KEY	NO.
TEMPORARY STONE CONSTRUCTION ENTRANCE w/ WASHRACK		CE	3.02
SILT FENCE	-x-x-	SF	3.05
ROCK CHECK DAMS		CD	3.20
PERMANENT SEEDING		PS	3.32

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: C-7 - ESC PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
				DRWN: CWF	DATE: 10/15
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PINNACLE AGRICULTURE HOLDINGS, LLC
PHASE 1 CONSTRUCTION PLANS
FRANKLIN, VIRGINIA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
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NEEL-SCHAFFER
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EROSION & SEDIMENT CONTROL PLAN

WORKING NUMBER:

DRAWING NUMBER: C-7

EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS (9VAC-25-840-40)

MS-1: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

MS-2: DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

MS-3: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

MS-4: SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

MS-5: STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

MS-6: SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.

A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.

B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.

MS-7: CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

MS-8: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

MS-9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

MS-10: ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

MS-11: BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

MS-12: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

MS-13: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.

MS-14: ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

MS-15: THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

MS-16: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER.

F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.

MS-17: WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

MS-18: ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

MS-19: PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:

A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.

B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR

(2)

(A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.

(B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND

(C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.

C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:

(1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR

(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;

(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR

(4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.

E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.

F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.

G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.

H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.

I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.

J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.

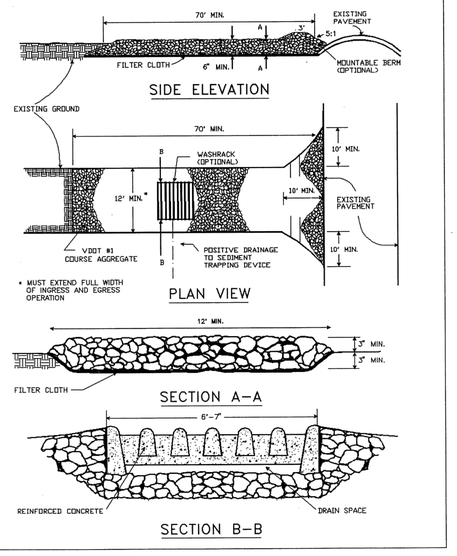
K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.

M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS.

N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.

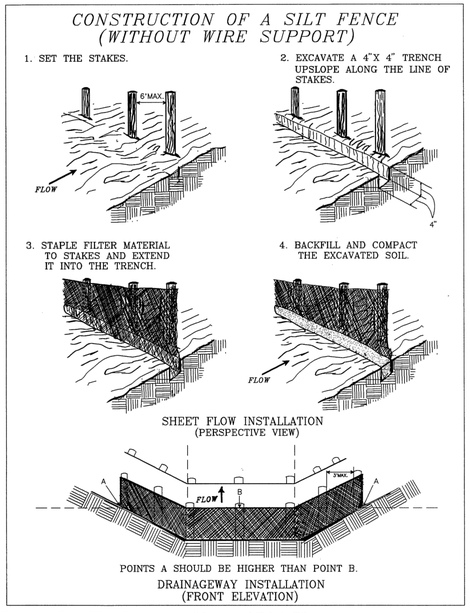
STONE CONSTRUCTION ENTRANCE



Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC

Plate 3.02-1

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

Plate 3.05-2

TABLE 3.32-D

SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA

	Total Lbs. Per Acre
Minimum Care Lawn	
- Commercial or Residential	
- Kentucky 31 or Turf-Type Tall Fescue	175-200 lbs.
or	
- Common Bermudagrass **	75 lbs.
High-Maintenance Lawn	
- Kentucky 31 or Turf-Type Tall Fescue	200-250 lbs.
or	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled)
or	30 lbs. (hulled)
- Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
	150 lbs.
Low Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Tall Fescue	93-108 lbs.
- Common Bermudagrass **	0-15 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Sericea Lespedeza **	20 lbs.
	150 lbs.

* Use seasonal nurse crop in accordance with seeding dates as stated below:
February, March through April ..... Annual Rye
May 1st through August ..... Foxtail Millet
September, October through November 15th ..... Annual Rye
November 16th through January ..... Winter Rye

** May through October, use hulled seed. All other seeding periods, use unhulled seed. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

CONSTRUCTION SEQUENCE

The following construction sequence is planned to minimize the amount of sediment movement through the storm drain system. Installation and maintenance of these measures are considered critical for controlling sediment movement at this project site.

Construction Access
Access to the construction site shall be from Progress Parkway. At the egress point, it is required that stabilized gravel construction drives (about 50 feet) be established. This will provide an opportunity for trucks to clean mud from their wheels prior to entering adjacent streets.

Sediment Control Measures
This project will be constructed in one phase utilizing associated sediment control measures. Silt fences will be utilized and shall be installed in the following sequence to minimize soil movement and loss:

1. Silt Fence: Silt fence is to be installed according to manufacturer's recommendations.
   a. Install a single line of silt fence as shown on the drawings as soon as clearing and grubbing of this fence area is completed.
   b. Remove silt fence when area is ready for final compaction, grading and placement of surface topping.

SITE PLAN NOTES

1. All unsurfaced areas are to receive four inches of seeding with topsoil or sod and watered until a healthy stand of grass is obtained as indicated on the landscape plan.
2. Contractor is responsible for protecting existing benchmark.
3. Contractor shall be responsible for all relocations, including but not limited to all utilities, storm drainage, signs, traffic signals & poles, etc. as required for the construction of this project. All work shall be in accordance with governing authorities specifications and shall be approved by such.
4. All necessary permits and approvals from agencies governing the construction of this work shall be secured prior to beginning construction by the Contractor.
5. The Contractor is responsible for repairs of damage to any existing improvements during construction, such as, but not limited to, drainage, utilities, pavement, sidewalks, driveways, etc. Repairs shall be equal to better than existing conditions.
6. Contractor shall match existing pavement in grade and alignment, at connections to city streets.
7. Construction shall comply with all governing codes and be constructed to the same.

STREET CLEANING PLAN

The following is planned to minimize the amount of dirt and sediment tracked onto roadways by construction vehicles. Inspection and maintenance of these measures are considered critical for controlling mud tracking at this project site.

Construction Access to the construction site shall be from Progress Parkway. All vehicles must be mud free before exiting the site. Vehicles shall use the wash rack area to remove all dirt from tires. This will provide an opportunity for trucks to clean mud from their wheels prior to entering adjacent streets.

The street shall be cleaned before each midday peak hour and at the end of construction activities each day. If the street requires cleaning between these times, Unless there is an event that requires the street to be cleaned, it shall be cleaned to restore it to pre construction.

INSPECTION & MAINTENANCE PLAN

The administrator or any duly authorized agent of the administrator shall inspect the land-disturbing activity during construction for:

(1) Compliance with the approved erosion and sediment control plan;

(2) Compliance with the approved stormwater management plan;

(3) Development, updating, and implementation of a stormwater pollution prevention plan; and

(4) Development and implementation of any additional control measures necessary to address a TMDL.

(b) In accordance with a performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement or instrument, the administrator may also enter any establishment or upon any property, public or private, for the purpose of initiating or maintaining appropriate actions which are required by the permit conditions associated with a land-disturbing activity when a permittee, after proper notice, has failed to take acceptable action within the time specified.

(c) Pursuant to § 62.1-44.15:40 of the Code of Virginia, the administrator may require every VSMP authority permit applicant or permittee, or any such person subject to VSMP authority permit requirements under this chapter, to furnish when requested such application materials, plans, specifications, and other pertinent information as may be necessary to determine the effect of his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of this chapter.

(e) Post-construction inspections of stormwater management facilities required by the provisions of this chapter shall be conducted by the administrator or any duly authorized agent of the administrator pursuant to the locality's adopted and state board approved inspection program, and shall occur, at minimum, at least once every five (5) years except as may otherwise be provided for in this article.

Both the short-term (during construction) and long term (after construction) maintenance needs must be addressed.

Short Term
All erosion and sediment control practices will be checked for stability and operation following every runoff producing rainfall but in no case, less than every week. Any needed repairs will be made immediately to maintain the practice performance as designed.

The access road exit area shall be maintained in a smooth, well compacted condition. Excess soil and debris shall be removed as needed to maintain a gravel exposed surface.

Sediment will be removed from the upstream face of the silt fence when it increases to about a 6-inch depth at the fence. The silt fence will be replaced as necessary to maintain a barrier.

All vegetated areas will be fertilized, and re-vegetated as needed to maintain a vigorous and dense vegetative cover.

Long Term
All vegetated areas will be maintained in adequate condition to provide proper ground cover and reduce any areas of potential erosion. Where vegetation is lost, the area will be fertilized and seeded or other acceptable methods used to restore proper cover.

As needed, new employees responsible for working the area will be informed about the requirements of the Maintenance Plan.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.12213.000	
FILENAME: C-8 - ESC NOTES.DWG	
CADD TYPE: AutoCAD	
SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
DSGN: EBR	DATE: 10/15
DRWN: CWF	DATE: 10/15
CHKD: BEB	DATE: 10/15
QA/QC: BJR	DATE: 10/15

PINNACLE AGRICULTURE HOLDINGS, LLC
PHASE 1 CONSTRUCTION PLANS
FRANKLIN, VIRGINIA

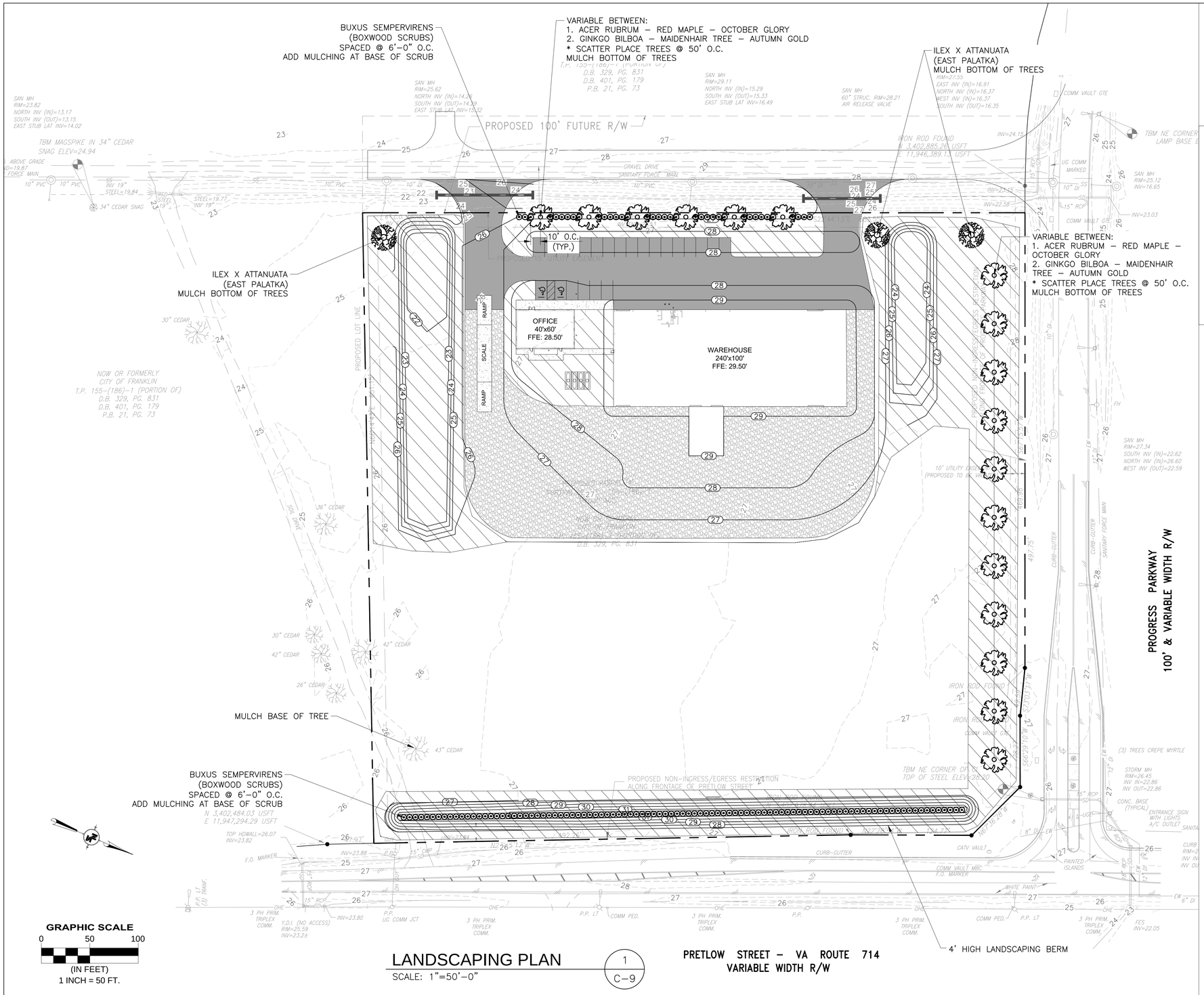
COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL:

NEEL-SCHAFFER
Solutions you can build upon

EROSION & SEDIMENT CONTROL NOTES

WORKING NUMBER:

DRAWING NUMBER: C-8



GRAPHIC SCALE
0 50 100
(IN FEET)
1 INCH = 50 FT.

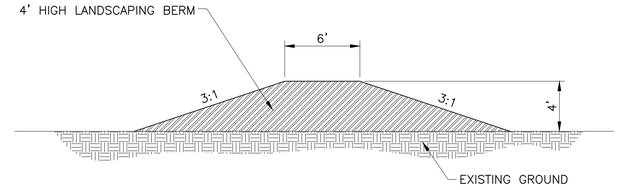
LANDSCAPING PLAN

SCALE: 1"=50'-0"

1
C-9

LANDSCAPING NOTES

1. TREES & SCRUBS ALONG THE NEW BUSINESS DRIVE ROADWAY SHALL BE PLANTED AFTER THE CONSTRUCTION OF BUSINESS DRIVE ROADWAY IS COMPLETED.



LANDSCAPING BERM DETAIL

SCALE: N.T.S.

LEGEND

SEEDED AREA

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: C-9 - LANDSCAPE PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY: PARRISH LAYNE DESIGN GROUP	
				DSGN: EBR	DATE: 10/15
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LANDSCAPING PLAN

WORKING NUMBER:

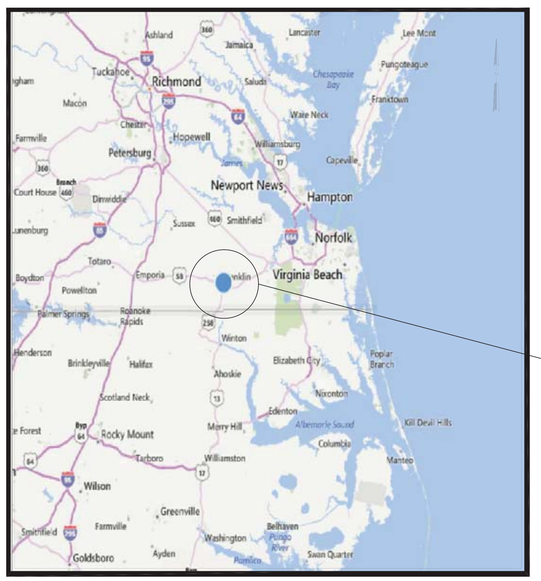
DRAWING NUMBER: C-9

2,400 S.F. OFFICE BUILDING
FOR
PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VIRGINIA

AUGUST, 2015

NEEL-SCHAFFER
Solutions you can build upon
2008 12th Street
P.O. Drawer 2725
Tuscaloosa, Alabama 35403
(205) 349-2100 Voice
(205) 349-2107 Fax



Vicinity Map
No Scale

PROJECT LOCATION

INDEX

Approved by:
Neel–Schaffer

GENERAL:

1. GENERAL BUILDING CODE: INTERNATIONAL BUILDING CODE, 2009 EDITION.

2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN ALL CONTRACT DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES OR OMISSIONS.

3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO BIDDING OF ANY DISCREPANCY BETWEEN PLANS, DETAILS, AND/OR SPECIFICATIONS.

4. DESIGN LOADS:

A. DEAD LOADS:
SEE STRUCTURAL DRAWINGS FOR THE CONSTRUCTION MATERIALS USED IN THE PROJECT. ANY CHANGES IN CONSTRUCTION MATERIALS FROM THOSE SHOWN ON THE DRAWINGS SHALL BE REPORTED TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF THE CAPACITY OF THE STRUCTURE.

B. LIVE LOADS (psf):
ROOF (REDUCIBLE).....20
FLOOR.....100

C. SNOW LOADS:
GROUND SNOW LOAD (Pg).....20.0 psf
SNOW LOAD IMPORTANCE FACTOR (Is).....1.0
THERMAL FACTOR (Ct).....1.0

D. WIND LOADS:
BASIC WIND SPEED (3 SECOND GUST).....90 MPH
BUILDING CATEGORY:.....II
WIND IMPORTANCE FACTOR.....1.0
EXPOSURE CATEGORY:.....C
INTERNAL PRESSURE COEFFICIENT (GCpi):.....±0.18
DESIGN WIND PRESSURE FOR COMPONENTS & CLADDING (psf):
REFERENCE 1/S001

E. SEISMIC LOADS:
EARTHQUAKE IMPORTANCE FACTOR (Ie):.....1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS: (Ss).....0.150
(S1).....0.060
SITE CLASS (ASSUMED):.....D
SPECTRAL RESPONSE COEFFICIENTS: (SDS).....0.1608
(SD1).....0.096
SEISMIC DESIGN CATEGORY:.....A
BASIC SEISMIC–FORCE RESISTING SYSTEM:
STRUCTURAL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE

DESIGN BASE SHEAR (kips):.....0.046W
SEISMIC RESPONSE COEFFICIENT (Cs):.....0.046
RESPONSE MODIFICATION COEFFICIENT (R):.....3.5
ANALYSIS PROCEDURE:.....ELFP

5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARE NOTED.

6. SPECIAL INSPECTIONS ARE REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. VISUAL OBSERVATIONS BY THE STRUCTURAL ENGINEER'S OFFICE DOES NOT REPLACE REQUIRED INSPECTIONS OR TESTING PERFORMED BY THE TESTING AGENCY OR SPECIAL INSPECTOR.

7. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION.

8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION MATERIALS ARE SPREAD OUT ON FRAMED FLOORS/ROOF SUCH THAT THE DESIGN LOADS LISTED ABOVE ARE NOT EXCEEDED.

SITE PREPARATION:

1. ALL FOOTINGS AND FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF. FOOTINGS ARE TO BEAR ON UNDISTURBED SOIL OR SATISFACTORY, COMPACTED STRUCTURAL FILL AS APPROVED BY A GEOTECHNICAL ENGINEER DURING CONSTRUCTION.

2. CONTRACTOR TO INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE EXCAVATING, AND ADVISE ENGINEER OF ANY VARIATIONS. ALL EXCAVATIONS NEAR THESE LINES TO BE CARRIED OUT WITH EXTREME CAUTION.

3. PROVIDE 4" OF POROUS FILL AND POLYETHYLENE VAPOR BARRIER UNDER ALL INTERIOR SLABS ON GRADE.

4. THE OWNER SHALL HIRE A GEOTECHNICAL ENGINEER TO REVIEW THE FOUNDATION BEARING SURFACE AND ENSURE THAT THE ALLOWABLE SOIL BEARING LISTED ABOVE THAT WAS USED IN THE STRUCTURAL DESIGN IS MET.

5. COMPACTED FILL SHALL EXTEND 5'–0" OUTSIDE THE EXTERIOR BUILDING LINE.

6. CONTRACTOR SHALL FOLLOW RECOMMENDATIONS FOR SITE PREPARATIONS IN SOIL REPORT BY ECS, DATED 05/20/15.

METAL BUILDING:

1. COORDINATE FOUNDATION PLAN WITH METAL BUILDING ANCHOR BOLT PLAN PROVIDED BY THE METAL BUILDING MANUFACTURER. ACTUAL COLUMN LOCATIONS MAY NOT MATCH FOUNDATION PLAN. NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE NOTED.

2. ALL METAL BUILDING COLUMN BASES SHALL BE STRUCTURALLY PINNED BASES.

3. METAL BUILDING SUBMITTALS INCLUDING ANCHOR BOLT PLAN AND FOUNDATION REACTIONS SHALL BE REVIEWED BY THE CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION OF FOUNDATION.

4. METAL BUILDING MANUFACTURER SHALL LIMIT BUILDING DRIFT TO h/240.

5. DO NOT PROVIDE ADDITIONAL VERTICAL BRACING OR ADDITIONAL COLUMNS.

6. LIMIT METAL BUILDING COLUMN DEPTHS 24" AT THE BASE. LIMIT METAL BUILDING COLUMN WIDTHS 10" AT THE BASE.

7. METAL BUILDING MANUFACTURER TO DESIGN AND LOCATE PURLINS TO SUPPORT LIGHT FIXTURES AND MECHANICAL DUCTS AS REQUIRED.

COLLATERAL LOADING:

OFFICE BUILDING – 9 psf

ITEMS SUPPORTED BY METAL BUILDING FRAME:
*SPRINKLER SYSTEM
*HVAC DUCTS
*LIGHTING
*INSULATION
*LAY–IN CEILIING

CONCRETE:

1. CONCRETE DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE – ACI 318–08.

2. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS, CONCRETE SHALL DEVELOP A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

3. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATING STEEL SHALL BE GRADE 60, DEFORMED BARS, CONFORMING TO ASTM A615.

4. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO ACI DETAILING MANUAL SP–66 (2004) AND ACI 318.

5. ALL BAR SPLICES SHALL BE CLASS 'B' TENSION SPLICES, AS SPECIFIED IN ACI 318–08, UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL NOT BE WELDED UNLESS APPROVED BY THE ENGINEER.

TENSION LAP SPLICE LENGTHS

BAR SIZE	fc=4000 psi	
	TOP BARS	OTHER BARS
	B	B
#3	25"	19"
#4	33"	25"
#5	41"	31"
#6	49"	37"
#7	71"	54"
#8	81"	62"
#9	91"	70"
#10	102"	79"
#11	114"	87"

NOTE:
1. ABOVE CHART IS APPLICABLE TO GRADE 60 REINFORCEMENT.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CAST BELOW THE BAR.
3. WHEN BAR COVER IS EQUAL TO OR LESS THAN THE BAR DIAMETER OR THE BAR SPACING IS TWICE THE BAR DIAMETER OR LESS, SPLICE LENGTHS SHALL BE INCREASED BY 100%.

6. ALL EMBEDDED STRUCTURAL STEEL SHALL BE ASTM A36, UNLESS NOTED OTHERWISE. ANCHOR BOLTS SHALL BE A307 UNLESS NOTED OTHERWISE. ALL BOLTS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.

7. PROVIDE 2 – #4 DIAGONAL RODS IN THE TOP FACE OF SLAB ON GRADE AT ALL RE–ENTRANT CORNERS.

8. EXTEND REINFORCING BARS PAST RE–ENTRANT CORNERS A MINIMUM OF TENSION DEVELOPMENT LENGTH (Ld).

9. UNLESS OTHERWISE NOTED, REINFORCE ALL CONCRETE SLABS ON GRADE WITH 6 x 6 – W2.9 x W2.9 WELDED WIRE FABRIC AT MID DEPTH OF SLAB.

10. WELDED WIRE FABRIC REINFORCING SHALL LAP TWO FULL MESHES AND BE SECURELY WIRED AT EACH SIDE AND END.

11. CONTRACTOR TO REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

12. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS WITH THE MECHANICAL AND ELECTRICAL DETAILS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITY LINES THROUGHOUT BUILDING.

13. SET ALL FLOOR DRAINS 1/2" BELOW FIN. FLOOR ELEVATION AND PROVIDE 4'–0" DIA. SLOPED AREA AROUND DRAIN, UNLESS OTHERWISE NOTED OR REQUIRED BY OTHER TRADE SPECIFICATIONS.

14. PROVIDE CONCRETE COVERAGE OF REINFORCEMENT AS FOLLOWS: (PER ACI 318)
FOOTINGS: 3" BOTTOM & SIDES.....1 1/2" TOP

15. PROVIDE CORNER BARS TO SPLICE WITH ALL CONTINUOUS REINFORCEMENT.

16. ALL CONCRETE SHALL BE CURED USING WET METHODS OR CURING COMPOUND PER ACI 301. COMPLY WITH ACI 301 FOR MIXING, TRANSPORTING, FORMING, PLACING, AND CURING CONCRETE.

17. MAXIMUM SPACING OF CONTROL JOINTS IN SLABS SHALL BE 16'–0" EACH WAY UNLESS SHOWN OTHERWISE ON THE PLANS.

18. ALL EPOXY SHALL CONFORM TO THE REQUIREMENTS OF HILTI HY 150 OR APPROVED EQUAL.

SCHEDULE OF SPECIAL INSPECTIONS

Item	Inspection / Test / Certification	C or P	Extent / Comments	Agent
1.00	**Fabricators**			
1.01	Review the quality control procedures of the following fabricators for completeness and adequacy relative to the fabricator's scope of work: Metal building manufacturer.	Periodic		1
2.00	**Soils**			
2.01	Verify bearing capacities of soils beneath footings.	Periodic	As recommended in approved soils report and specified in earthwork specifications.	1
2.02	Verify excavations are extended to the proper depth and have reached proper material	Periodic	As recommended by geotechnical engineer during construction.	1
2.03	Perform classification and testing of compacted fill materials.	Periodic	As recommended by geotechnical engineer during construction.	1
2.04	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Continuous	As recommended in approved soils report and specified in earthwork specifications.	1
2.05	Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Periodic	As recommended by geotechnical engineer during construction.	1
3.00	**Concrete Construction**			
3.01	Inspect bolts to be installed in concrete prior to and during placement of concrete.	Continuous	During placement and concreting operations.	1
3.02	Inspection of anchors installed in hardened concrete. A pull test shall be performed on all post-installed anchor bolts.	Periodic	Prior to and during anchor installation.	1
5.00	**Architectural / MEP Components**			
5.01	Test smoke control systems.			
INSPECTION AGENTS				
1	Qualified Testing Agency			

Note: The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Inspection Agent(s) may be subject to the approval of the Building Official.

COMP. & CLADDING WIND LOADS FOR WALLS (psf)

	EFFECTIVE WIND AREA (sq. ft.)	90 MPH WIND SPEED	
ZONE 4	10	17.7	-19.3
	20	16.9	-18.5
	50	15.9	-17.4
	100	15.1	-16.6
	500	13.2	-14.7
ZONE 5	10	17.7	-23.8
	20	16.9	-22.2
	50	15.9	-20.1
	100	15.1	-18.5
	500	13.2	-14.7

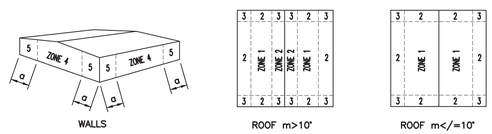
COMP. & CLADDING WIND LOADS FOR ROOF (psf)

	EFFECTIVE WIND AREA (sq. ft.)	SLOPED TRUSS ROOF 90 MPH WIND SPEED	
ZONE 1	10	10.2	-16.2
	20	10.0	-15.8
	50	10.0	-15.2
	100	10.0	-14.7
ZONE 2	10	10.2	-28.3
	20	10.0	-26.0
	50	10.0	-23.0
	100	10.0	-20.8
ZONE 3	10	10.2	-41.8
	20	10.0	-39.1
	50	10.0	-35.5
	100	10.0	-32.8

COMP. & CLADDING WIND LOADS FOR ROOF OVERHANG (psf)

	EFFECTIVE WIND AREA (sq. ft.)	SLOPED TRUSS ROOF 90 MPH WIND SPEED
ZONE 2	10	-36.5
	20	-36.5
	50	-36.5
	100	-36.5
ZONE 3	10	-59.5
	20	-54.1
	50	-46.4
	100	-41.1

NOTES:
1. WIDTH OF EDGE STRIP a = 4' - 1".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO INTERNATIONAL BUILDING CODE TABLE 1609.6.2.1(4) AND IMPORTANCE FACTOR.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
4. EFFECTIVE WIND AREA IS THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE-THIRD THE SPAN LENGTH.
5. CONSIDER 3 PSF MINIMUM DEAD LOAD FOR UPLIFT CALCULATIONS FOR ROOF FRAMING AND 0 PSF MINIMUM DEAD LOAD FOR UPLIFT CALCULATIONS.



WALLS

ROOF m>10°

ROOF m</=10°

1 / S001 WIND LOAD TABLES
SCALE: N.T.S.

FILE: $FILE$ TIME: $TIME$ USER: $USER$
DATE: $DATE$

NOTICE TO DRAWING HOLDER

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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N–S PROJECT NO.: NS.12213.011	
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				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: W.K.M.	DATE: 06/00/15
				DRWN: J.D.M.	DATE: 06/00/15
				CHKD:	DATE:
				QA/QC:	DATE: 06/00/15

PINNACLE AGRICULTURE HOLDINGS, LLC
2,400 S.F. RIGHT HAND OFFICE BUILDING

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL: 09/18/15

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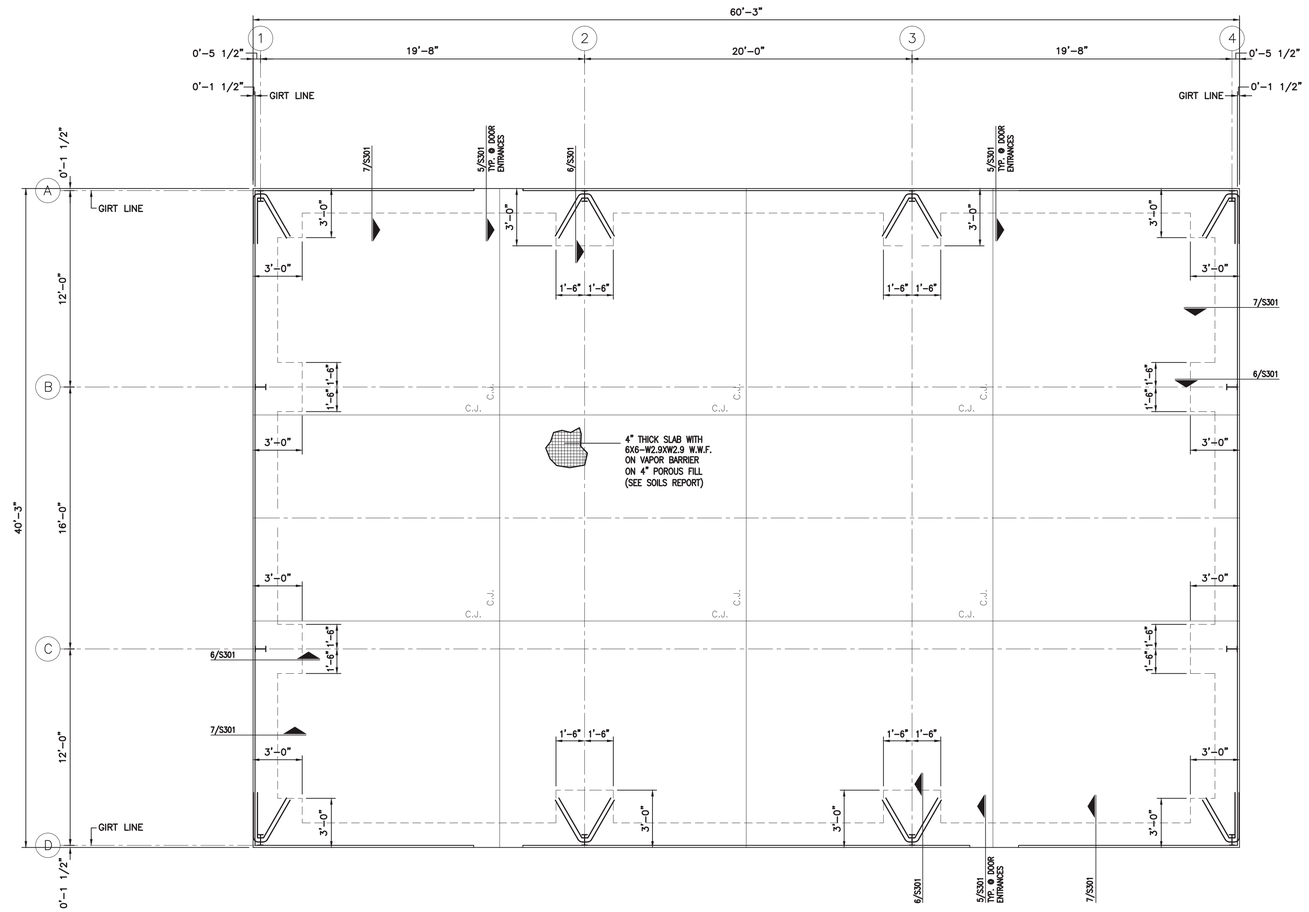
GENERAL NOTES

WORKING NUMBER: OB-S001
DRAWING NUMBER: 2 of 5



FOUNDATION PLAN

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

PLAN LEGEND

	NON-LOADBEARING STUD WALL – REFERENCE ARCHITECTURAL DWGS
I	METAL BUILDING COLUMN
	METAL BUILDING CROSS BRACING
C.J.	HAIR-PIN REINFORCEMENT (REF. 4/S002)
	CONTROL JOINT (REFERENCE 1/S002)

PLAN NOTES

1. FINISH FLOOR ELEVATION = 28.5' (ASSUMED) (0'-0" AFF)

2. CONTRACTOR SHALL COORDINATE WITH MEP REQUIREMENTS FOR UTILITY LOCATIONS AND STEP FOOTINGS AS REQUIRED. REFERENCE 2/S002 AND 3/S002 FOR TYPICAL FOOTING STEP DETAILS.

3. METAL BUILDING COLUMN FOOTINGS WERE DESIGNED FOR THE REACTIONS SHOWN BELOW. METAL BUILDING MANUFACTURER SHALL NOTIFY THE ENGINEER IF REACTIONS ARE LARGER THAN WHAT IS INDICATED.
DL: 1.1 KIPS
CL: 2.5 KIPS
LL: 8.0 KIPS
WL: 2.8 KIPS (UPLIFT)

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.011	
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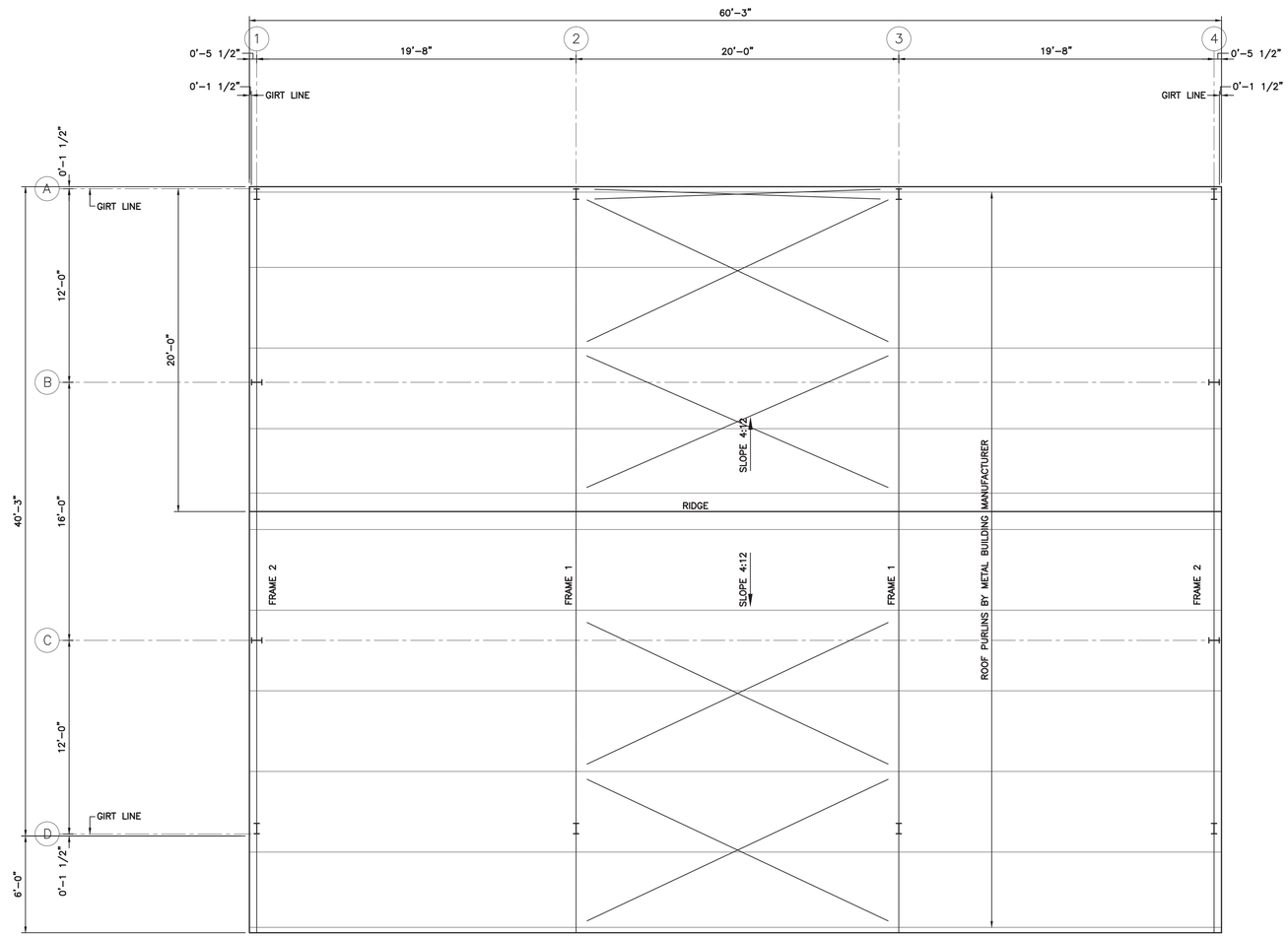
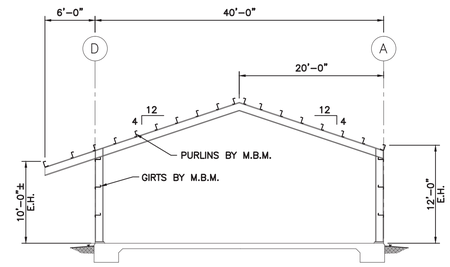
FOUNDATION PLAN

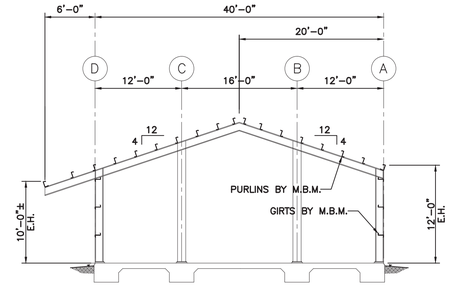
WORKING NUMBER:	DRAWING NUMBER:
OB-S101	3 of 5



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



1/S102 FRAME 1
SCALE: N.T.S.



2/S102 FRAME 2
SCALE: N.T.S.

PLAN LEGEND

- NON-LOADBEARING STUD WALL – REFERENCE ARCHITECTURAL DWGS.
- METAL BUILDING COLUMN
- METAL BUILDING CROSS BRACING

PLAN NOTES

1. METAL BUILDING MANUFACTURER TO DESIGN AND LOCATE PURLINS TO SUPPORT LIGHT FIXTURES, CEILINGS, MECHANICAL DUCTS, ETC. AS REQUIRED.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.011	
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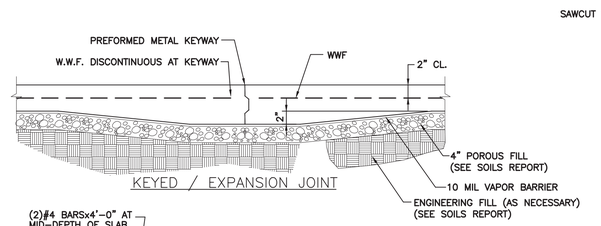
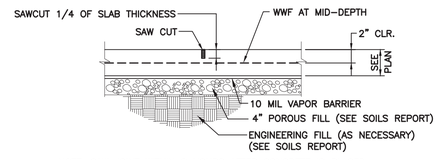
ROOF FRAMING PLAN

WORKING NUMBER:	DRAWING NUMBER:
OB-S102	4 of 5

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

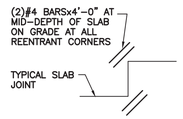


KEYED / EXPANSION JOINT

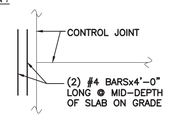


NOTE: SAW JOINT WITHIN 8 HOURS AFTER CONCRETE IS PLACED.

SAWED JOINT



RE-ENTRANT CORNER DETAIL

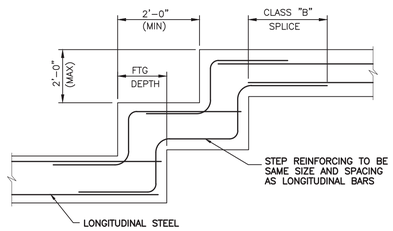


NOTE: DETAIL APPLIES ONLY AT LOCATIONS WHERE ONE CONTROL JOINT TERMINATES AT A PERPENDICULAR CONTROL JOINT.

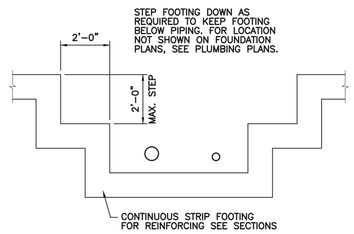
CONTROL JOINT TERMINATION

NOTE: PROVIDE KEYED CONSTRUCTION JOINTS WHERE NECESSARY.

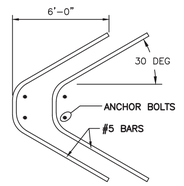
1 / S301 TYP. SLAB CONTROL JOINT DETAILS
SCALE: N.T.S.



2 / S301 TYP. FOOTING STEP DETAIL
SCALE: N.T.S.

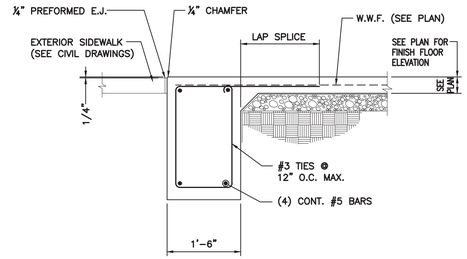


3 / S301 TYP. FOUNDATION WALL AT PIPING
SCALE: 3/4"=1'-0"

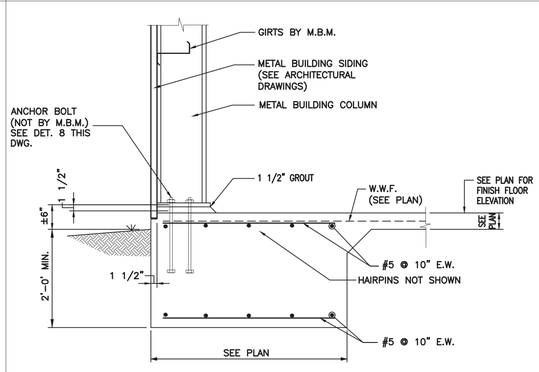


LOCATE 2" BELOW TOP OF SLAB AT ALL SIDEWALL COLUMNS

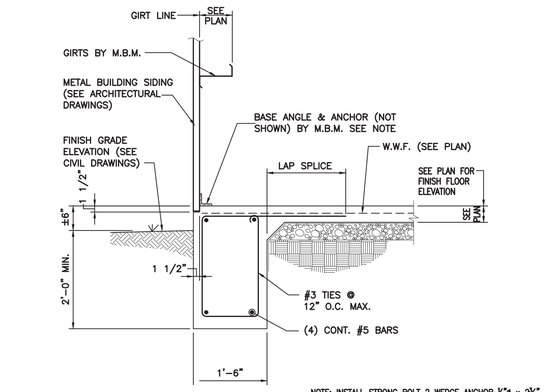
4 / S301 TYPICAL HAIR-PIN DETAIL
SCALE: N.T.S.



5 / S301 SECTION @ DOOR ENTRANCES
SCALE: 3/4"=1'-0"

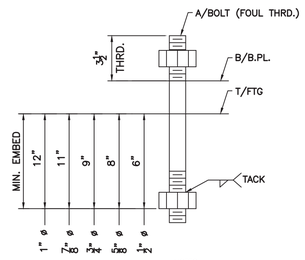


6 / S301 SECTION
SCALE: 3/4"=1'-0"



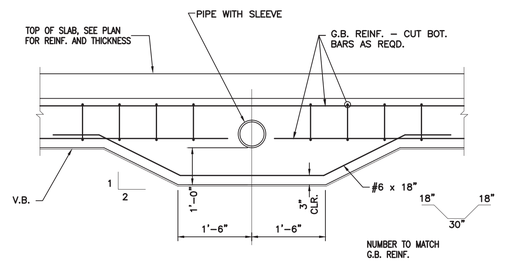
NOTE: INSTALL STRONG BOLT 2 WEDGE ANCHOR ½"ø x 2¾" EMBED. AT 48" C/C (BY SIMPSON OR EQUIV.)

7 / S301 SECTION
SCALE: 3/4"=1'-0"



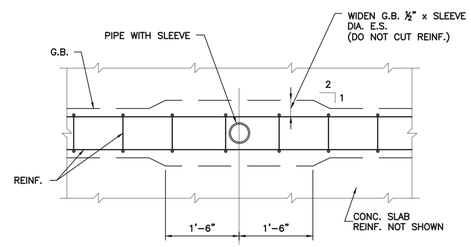
NOTES:
1. LEVELING NUT NOT SHOWN
2. NON-SHRINK GROUT SHALL BE 1" MIN. UNO.
3. ALL NUTS SHALL BE SNUG-TIGHTENED PER AISC AFTER CONC. IS 14 DAYS OLD.
4. ANCHOR BOLT SIZES & LOCATIONS TO BE PROVIDED BY M.B.M. (GC SHALL VERIFY WITH APPROVED ANCHOR BOLT PLAN.)

8 / S301 TYPICAL ANCHOR BOLT DETAIL
SCALE: N.T.S.



9 / S301 TYPICAL DETAIL OF HORIZONTAL PIPE PENETRATION THROUGH GRADE BEAM
SCALE: N.T.S.

NOTE: DO NOT CUT REINF. WITHOUT PRIOR APPROVAL FROM EOR.



10 / S301 TYPICAL DETAIL OF VERTICAL PIPE PENETRATION THROUGH INTERIOR GRADE BEAM
SCALE: N.T.S.

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N=S PROJECT NO.: NS.12213.011	
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				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: W.K.M.	DATE: 06/00/15
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				CHKD:	DATE:
				QA/QC:	DATE: 06/00/15

PINNACLE AGRICULTURE HOLDINGS, LLC
2,400 S.F. RIGHT HAND OFFICE BUILDING

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL: 09/18/15

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TYPICAL DETAILS

WORKING NUMBER:	DRAWING NUMBER:
OB-S301	5 of 5

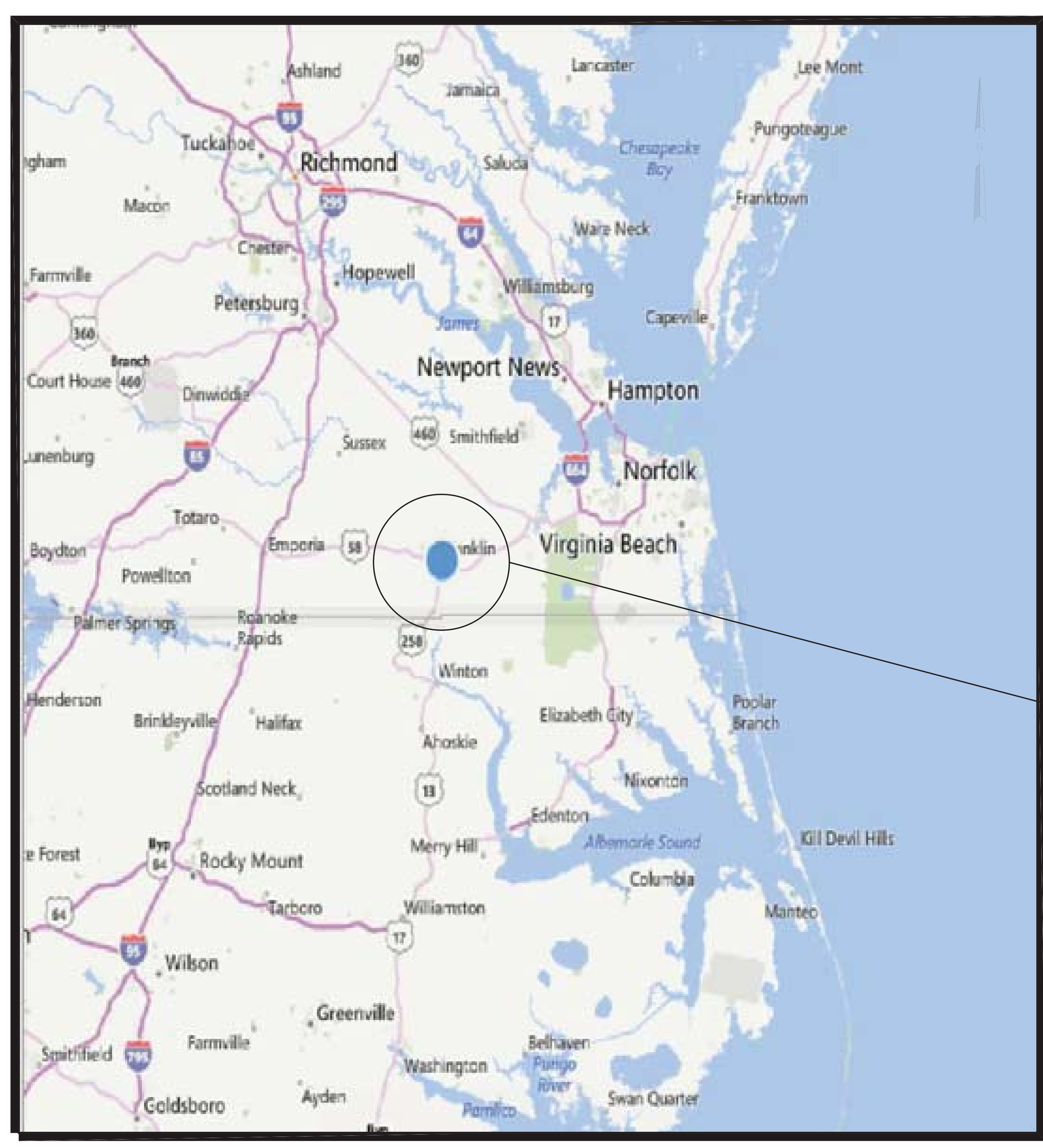
WAREHOUSE

FOR

PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VIRGINIA

AUGUST, 2015



PROJECT LOCATION

Vicinity Map
No Scale

INDEX

Approved by:
Neel-Schaffer

NEEL-SCHAFFER
2008 12th Street
P.O. Drawer 2729
Tuscaloosa, Alabama 35403
(205) 349-2100 Voice
(205) 349-2107 Fax

GENERAL:

1. GENERAL BUILDING CODE: INTERNATIONAL BUILDING CODE, 2009 EDITION.

2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN ALL CONTRACT DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES OR OMISSIONS.

3. THE CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO BIDDING OF ANY DISCREPANCY BETWEEN PLANS, DETAILS, AND/OR SPECIFICATIONS.

4. DESIGN LOADS:

A. DEAD LOADS:
SEE STRUCTURAL DRAWINGS FOR THE CONSTRUCTION MATERIALS USED IN THE PROJECT. ANY CHANGES IN CONSTRUCTION MATERIALS FROM THOSE SHOWN ON THE DRAWINGS SHALL BE REPORTED TO THE STRUCTURAL ENGINEER FOR VERIFICATION OF THE CAPACITY OF THE STRUCTURE.

B. LIVE LOADS (psf):
ROOF (REDUCIBLE).....20
FLOOR.....100

C. SNOW LOADS:
GROUND SNOW LOAD (Pg).....20.0 psf
SNOW LOAD IMPORTANCE FACTOR (Is).....1.0
THERMAL FACTOR (Ct).....1.0

D. WIND LOADS:
BASIC WIND SPEED (3 SECOND GUST).....90 MPH
BUILDING CATEGORY:.....II
WIND IMPORTANCE FACTOR.....1.0
EXPOSURE CATEGORY:.....C
INTERNAL PRESSURE COEFFICIENT (GCpi):.....±0.18
DESIGN WIND PRESSURE FOR COMPONENTS & CLADDING (psf):
REFERENCE 1/S001

E. SEISMIC LOADS:
EARTHQUAKE IMPORTANCE FACTOR (Ie):.....1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS: (Ss).....0.150
(S1).....0.060
SITE CLASS (ASSUMED):.....D
SPECTRAL RESPONSE COEFFICIENTS: (SDS).....0.1608
(SD1).....0.096
SEISMIC DESIGN CATEGORY:.....A
BASIC SEISMIC-FORCE RESISTING SYSTEM:
STRUCTURAL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE

DESIGN BASE SHEAR (kips):.....046W
SEISMIC RESPONSE COEFFICIENT (Cs):.....0.046
RESPONSE MODIFICATION COEFFICIENT (R):.....3.5
ANALYSIS PROCEDURE:.....ELFP

F.FORKLIFT LOADS:
MODEL: TOYOTA 8FGU25 FORKLIFT
TIRE TYPE: PNEUMATIC
LOAD CAPACITY: 5,000 LBS

G.TRUCK LOAD: HSS 20-44
*TRUCK LOAD ONLY APPLIED TO TRUCK LANE INDICATED ON PLAN

5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES ARE NOTED.

6. SPECIAL INSPECTIONS ARE REQUIRED FOR THIS PROJECT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. VISUAL OBSERVATIONS BY THE STRUCTURAL ENGINEER'S OFFICE DOES NOT REPLACE REQUIRED INSPECTIONS OR TESTING PERFORMED BY THE TESTING AGENCY OR SPECIAL INSPECTOR.

7. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION.

8. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION MATERIALS ARE SPREAD OUT ON FRAMED FLOORS/ROOF SUCH THAT THE DESIGN LOADS LISTED ABOVE ARE NOT EXCEEDED.

SITE PREPARATION:

1. ALL FOOTINGS AND FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF. FOOTINGS ARE TO BEAR ON UNDISTURBED SOIL OR SATISFACTORY, COMPACTED STRUCTURAL FILL AS APPROVED BY THE GEOTECHNICAL ENGINEER.

2. CONTRACTOR TO INVESTIGATE ACTUAL LOCATIONS OF UNDERGROUND LINES AND UTILITIES BEFORE EXCAVATING, AND ADVISE ENGINEER OF ANY VARIATIONS. ALL EXCAVATIONS NEAR THESE LINES TO BE CARRIED OUT WITH EXTREME CAUTION.

3. PROVIDE 6" OF COMPACTED CRUSHED STONE AND POLYETHYLENE VAPOR BARRIER UNDER ALL SLABS ON GRADE. CRUSHED STONE SHALL BE AS SPECIFIED BY THE GEOTECH REPORT.

4. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT BY ECS CONSULTANTS AND FOLLOW ALL RECOMMENDATIONS.

5. COMPACTED FILL SHALL EXTEND 5'-0" OUTSIDE THE EXTERIOR BUILDING LINE.

6. CONTRACTOR SHALL FOLLOW RECOMMENDATIONS FOR SITE PREPARATION IN SOIL REPORT BY ECS, DATED 05/20/15.

METAL BUILDING:

1. COORDINATE FOUNDATION PLAN WITH METAL BUILDING ANCHOR BOLT PLAN PROVIDED BY THE METAL BUILDING MANUFACTURER. ACTUAL COLUMN LOCATIONS MAY NOT MATCH FOUNDATION PLAN. NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE NOTED.

2. ALL METAL BUILDING COLUMN BASES SHALL BE STRUCTURALLY PINNED BASES.

3. METAL BUILDING SUBMITTALS INCLUDING ANCHOR BOLT PLAN AND FOUNDATION REACTIONS SHALL BE REVIEWED BY THE CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION OF FOUNDATION.

4. METAL BUILDING MANUFACTURER SHALL LIMIT BUILDING DRIFT TO h/120.

5. DO NOT PROVIDE ADDITIONAL VERTICAL BRACING OR ADDITIONAL COLUMNS.

6. LIMIT METAL BUILDING COLUMN DEPTHS 24" AT THE BASE. LIMIT METAL BUILDING COLUMN WIDTHS 10" AT THE BASE.

7. METAL BUILDING MANUFACTURER TO DESIGN AND LOCATE PURLINS TO SUPPORT LIGHT FIXTURES AND MECHANICAL DUCTS AS REQUIRED.

COLLATERAL LOADING:

WAREHOUSE BUILDING – 8 psf

ITEMS SUPPORTED BY METAL BUILDING FRAME:
*SPRINKLER SYSTEM
*HVAC DUCTS
*LIGHTING
*INSULATION

STRUCTURAL STEEL:

1. STRUCTURAL STEEL DESIGN CODE: AISC STEEL CONSTRUCTION MANUAL (THIRTEENTH ED.).

2. ALL STRUCTURAL STEEL PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. STEEL PIPING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A53, GRADE B (SCHEDULE 80). COORDINATE STEEL FINISHES WITH OWNER.

3. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE REQUIREMENTS OF THE AISC SPECIFICATIONS FOR BUILDINGS, LATEST EDITION.

4. UNLESS OTHERWISE NOTED, ALL SHOP CONNECTIONS SHALL BE MADE BY WELDING OR HIGH STRENGTH BOLTING. (3/4" DIA. BOLTS).

5. WELDS SHALL BE MADE WITH E-70XX ELECTRODES, MINIMUM SIZE FILLET WELD SHALL BE 3/16".

6. UNLESS OTHERWISE NOTED, ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIA HIGH STRENGTH BOLTS (ASTM A-325). CONNECTIONS SHALL BE DESIGNED AS BEARING TYPE WITH THREADS IN SHEAR PLANE. ALL A-325 BOLTS SHALL BE INSTALLED USING THE "TURN OF THE NUT" METHOD AS SPECIFIED IN THE MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.

7. CONTRACTOR TO PROVIDE ADEQUATE BRACING FOR STRUCTURE SO THAT IT WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURE AND FOUNDATIONS ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND THEREFORE REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION.

CONCRETE:

1. CONCRETE DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE – ACI 318-08.

2. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS, CONCRETE SHALL DEVELOP A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

3. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATING STEEL SHALL BE GRADE 60, DEFORMED BARS, CONFORMING TO ASTM A615.

4. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-SP-66-LATEST EDITION).

5. ALL BAR SPLICES SHALL BE CLASS 'B' TENSION SPLICES, AS SPECIFIED IN ACI 318-08, UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL NOT BE WELDED UNLESS APPROVED BY THE ENGINEER.

TENSION LAP SPLICE LENGTHS

BAR SIZE	fc=4000 psi	
	TOP BARS	OTHER BARS
	B	B
#3	25"	19"
#4	33"	25"
#5	41"	31"
#6	49"	37"
#7	71"	54"
#8	81"	62"
#9	91"	70"
#10	102"	79"
#11	114"	87"

NOTE:
1. ABOVE CHART IS APPLICABLE TO GRADE 60 REINFORCEMENT.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CAST BELOW THE BAR.
3. WHEN BAR COVER IS EQUAL TO OR LESS THAN THE BAR DIAMETER OR THE BAR SPACING IS TWICE THE BAR DIAMETER OR LESS, SPLICE LENGTHS SHALL BE INCREASED BY 100%.

6. ALL EMBEDDED STRUCTURAL STEEL SHALL BE ASTM A36, UNLESS NOTED OTHERWISE. ANCHOR BOLTS SHALL BE A307 UNLESS NOTED OTHERWISE. ALL BOLTS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE GALVANIZED OR STAINLESS STEEL.

7. PROVIDE 2 – #4 DIAGONAL RODS IN THE TOP FACE OF SLAB ON GRADE AT ALL RE-ENTRANT CORNERS.

8. EXTEND REINFORCING BARS PAST RE-ENTRANT CORNERS A MINIMUM OF TENSION DEVELOPMENT LENGTH (Ld).

9. UNLESS OTHERWISE NOTED, REINFORCE ALL CONCRETE SLABS ON GRADE WITH #3 BARS @ 12" O.C. EACH WAY AT MID DEPTH OF SLAB.

10. CONTRACTOR TO REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

11. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS WITH THE MECHANICAL AND ELECTRICAL DETAILS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITY LINES THROUGHOUT BUILDING.

12. REFERENCE ARCHITECTURAL AND/OR PLUMBING DRAWINGS FOR ALL DRAIN REQUIREMENTS INCLUDING ANY CONCRETE FINISH REQUIREMENTS THAT MAY BE REQUIRED AROUND THESE DRAINS.

13. PROVIDE CONCRETE COVERAGE OF REINFORCEMENT AS FOLLOWS: (PER ACI 318)
FOOTINGS: 3" BOTTOM & SIDES.....1 1/2" TOP

14. PROVIDE CORNER BARS TO SPLICE WITH ALL CONTINUOUS REINFORCEMENT (REF. 8/S002).

15. ALL CONCRETE SHALL BE CURED USING WET METHODS OR CURING COMPOUND PER ACI 301. COMPLY WITH ACI 301 FOR MIXING, TRANSPORTING, FORMING, PLACING, AND CURING CONCRETE.

16. MAXIMUM SPACING OF CONTROL JOINTS IN SLABS SHALL BE 16'-0" EACH WAY UNLESS SHOWN OTHERWISE ON THE PLANS.

17. ALL EPOXY SHALL CONFORM TO THE REQUIREMENTS OF HILTI HY 150 OR APPROVED EQUAL.

SCHEDULE OF SPECIAL INSPECTIONS

Item	Inspection / Test / Certification	C or P	Extent / Comments	Agent
1.00	**Fabricators**			
1.01	Review the quality control procedures of the following fabricators for completeness and adequacy relative to the fabricator's scope of work: Metal building manufacturer.	Periodic		1
2.00	**Soils**			
2.01	Verify bearing capacities of soils beneath footings.	Periodic	As recommended in approved soils report and specified in earthwork specifications.	1
2.02	Verify excavations are extended to the proper depth and have reached proper material	Periodic	As recommended by geotechnical engineer during construction.	1
2.03	Perform classification and testing of compacted fill materials.	Periodic	As recommended by geotechnical engineer during construction.	1
2.04	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Continuous	As recommended in approved soils report and specified in earthwork specifications.	1
2.05	Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Periodic	As recommended by geotechnical engineer during construction.	1
3.00	**Concrete Construction**			
3.01	Inspect bolts to be installed in concrete prior to and during placement of concrete.	Continuous	During placement and concreting operations.	1
3.02	Inspection of anchors installed in hardened concrete. A pull test shall be performed on all post-installed anchor bolts.	Periodic	Prior to and during anchor installation.	1
5.00	**Architectural / MEP Components**			
5.01	Test smoke control systems.			
INSPECTION AGENTS				
1	Qualified Testing Agency			

Note: The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Inspection Agent(s) may be subject to the approval of the Building Official.

COMP. & CLADDING WIND LOADS FOR WALLS (psf)

	EFFECTIVE WIND AREA (sq. ft.)	90 MPH WIND SPEED	
ZONE 4	10	19.61	-21.24
	20	18.74	-20.37
	50	17.59	-19.22
	100	16.72	-18.35
	500	14.70	-16.34
ZONE 5	10	19.61	-26.14
	20	18.74	-24.40
	50	17.59	-22.11
	100	16.72	-20.37
	500	14.70	-16.34

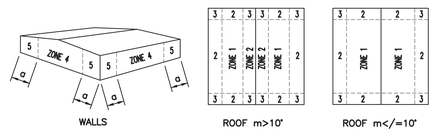
COMP. & CLADDING WIND LOADS FOR ROOF (psf)

	EFFECTIVE WIND AREA (sq. ft.)	SLOPED ROOF 90 MPH WIND SPEED	
ZONE 1	10	10.00	-21.42
	20	10.00	-20.88
	50	10.00	-20.15
	100	10.00	-19.61
ZONE 2	10	10.00	-35.94
	20	10.00	-32.12
	50	10.00	-27.06
	100	10.00	-23.24
ZONE 3	10	10.00	-54.10
	20	10.00	-44.81
	50	10.00	-32.53
	100	10.00	-23.24

COMP. & CLADDING WIND LOADS FOR ROOF OVERHANG (psf)

	EFFECTIVE WIND AREA (sq. ft.)	SLOPED ROOF 90 MPH WIND SPEED
ZONE 2	10	-43.20
	20	-43.20
	50	-43.20
	100	-43.20
ZONE 3	10	-70.42
	20	-64.07
	50	-54.99
	100	-48.64

NOTES:
1. WIDTH OF EDGE STRIP a=7'-6".
2. VALUES SHOWN ABOVE HAVE BEEN ADJUSTED FOR BUILDING HEIGHT AND EXPOSURE ACCORDING TO INTERNATIONAL BUILDING CODE TABLE 1609.6.2.1(4) AND IMPORTANCE FACTOR.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
4. EFFECTIVE WIND AREA IS THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE-THIRD THE SPAN LENGTH.
5. CONSIDER 3 PSF MINIMUM DEAD LOAD FOR UPLIFT CALCULATIONS FOR ROOF FRAMING AND 0 PSF MINIMUM DEAD LOAD FOR UPLIFT CALCULATIONS.



WALLS ROOF m>10° ROOF m</=10°

1 S001 WIND LOAD TABLES
SCALE: N.T.S.

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

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PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL: 09/18/15

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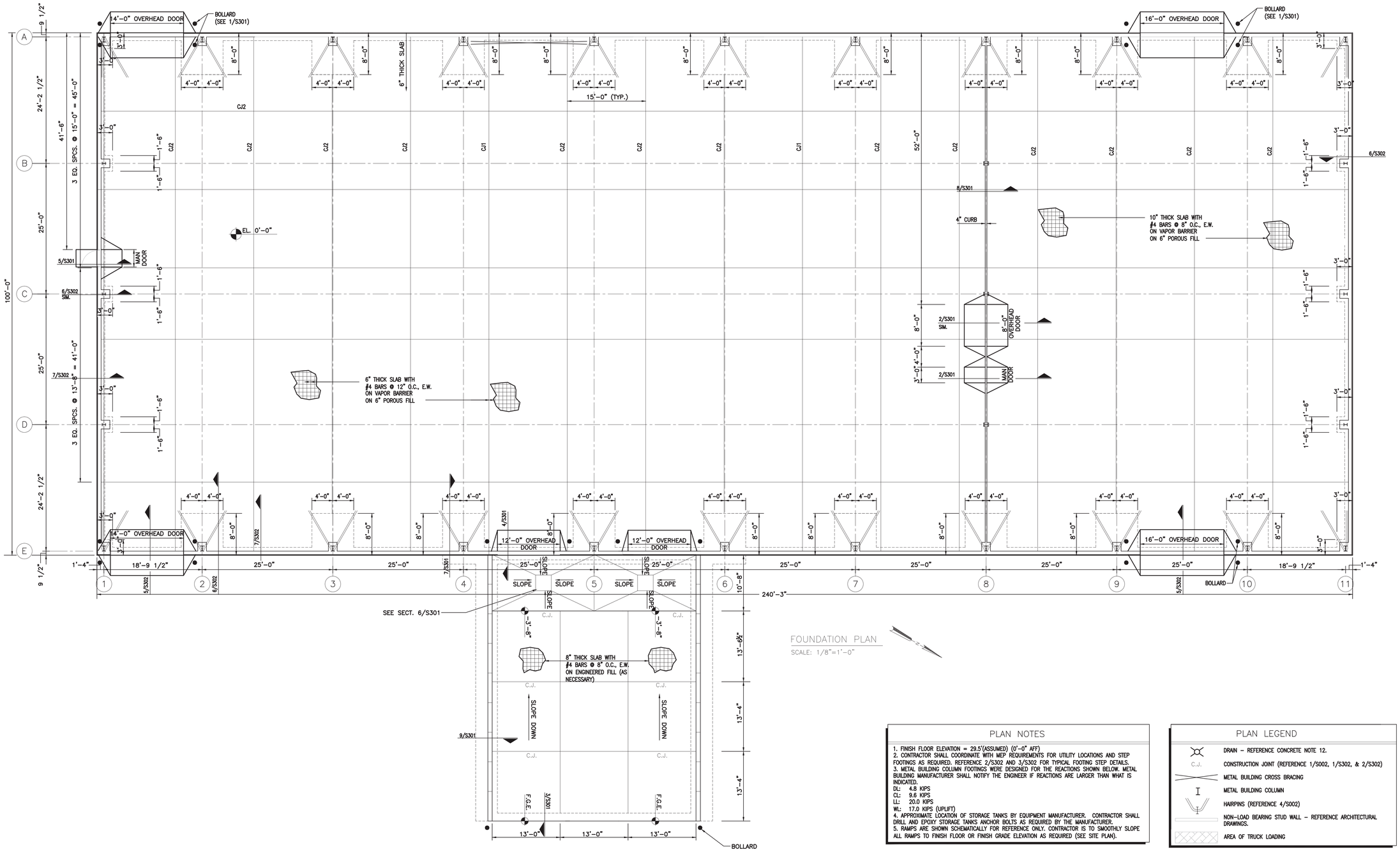
GENERAL NOTES

WORKING NUMBER: WH-S001
DRAWING NUMBER: 2 of 6



FOUNDATION PLAN

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

PLAN NOTES

1. FINISH FLOOR ELEVATION = 29.5'(ASSUMED) (0'-0" AFF)
2. CONTRACTOR SHALL COORDINATE WITH MEP REQUIREMENTS FOR UTILITY LOCATIONS AND STEP FOOTINGS AS REQUIRED. REFERENCE 2/S302 AND 3/S302 FOR TYPICAL FOOTING STEP DETAILS.
3. METAL BUILDING COLUMN FOOTINGS WERE DESIGNED FOR THE REACTIONS SHOWN BELOW. METAL BUILDING MANUFACTURER SHALL NOTIFY THE ENGINEER IF REACTIONS ARE LARGER THAN WHAT IS INDICATED.
   DL: 4.8 KIPS
   CL: 9.6 KIPS
   LL: 20.0 KIPS
   WL: 17.0 KIPS (UPLIFT)
4. APPROXIMATE LOCATION OF STORAGE TANKS BY EQUIPMENT MANUFACTURER. CONTRACTOR SHALL DRILL AND EPOXY STORAGE TANKS ANCHOR BOLTS AS REQUIRED BY THE MANUFACTURER.
5. RAMPS ARE SHOWN SCHEMATICALLY FOR REFERENCE ONLY. CONTRACTOR IS TO SMOOTHLY SLOPE ALL RAMPS TO FINISH FLOOR OR FINISH GRADE ELEVATION AS REQUIRED (SEE SITE PLAN).

PLAN LEGEND

- DRAIN – REFERENCE CONCRETE NOTE 12.
- C.J. — CONSTRUCTION JOINT (REFERENCE 1/S002, 1/S302, & 2/S302)
- METAL BUILDING CROSS BRACING
- METAL BUILDING COLUMN
- HAIRPINS (REFERENCE 4/S002)
- NON-LOAD BEARING STUD WALL – REFERENCE ARCHITECTURAL DRAWINGS.
- AREA OF TRUCK LOADING

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FOUNDATION PLAN

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WH-S101	3 of 6

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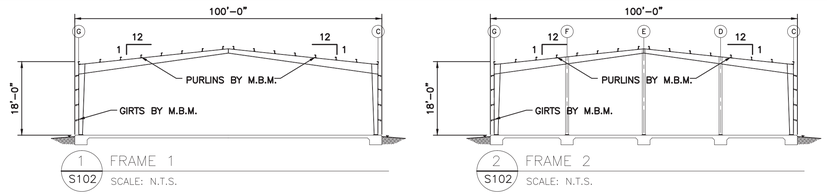


1 S102 FRAME 1
SCALE: N.T.S.

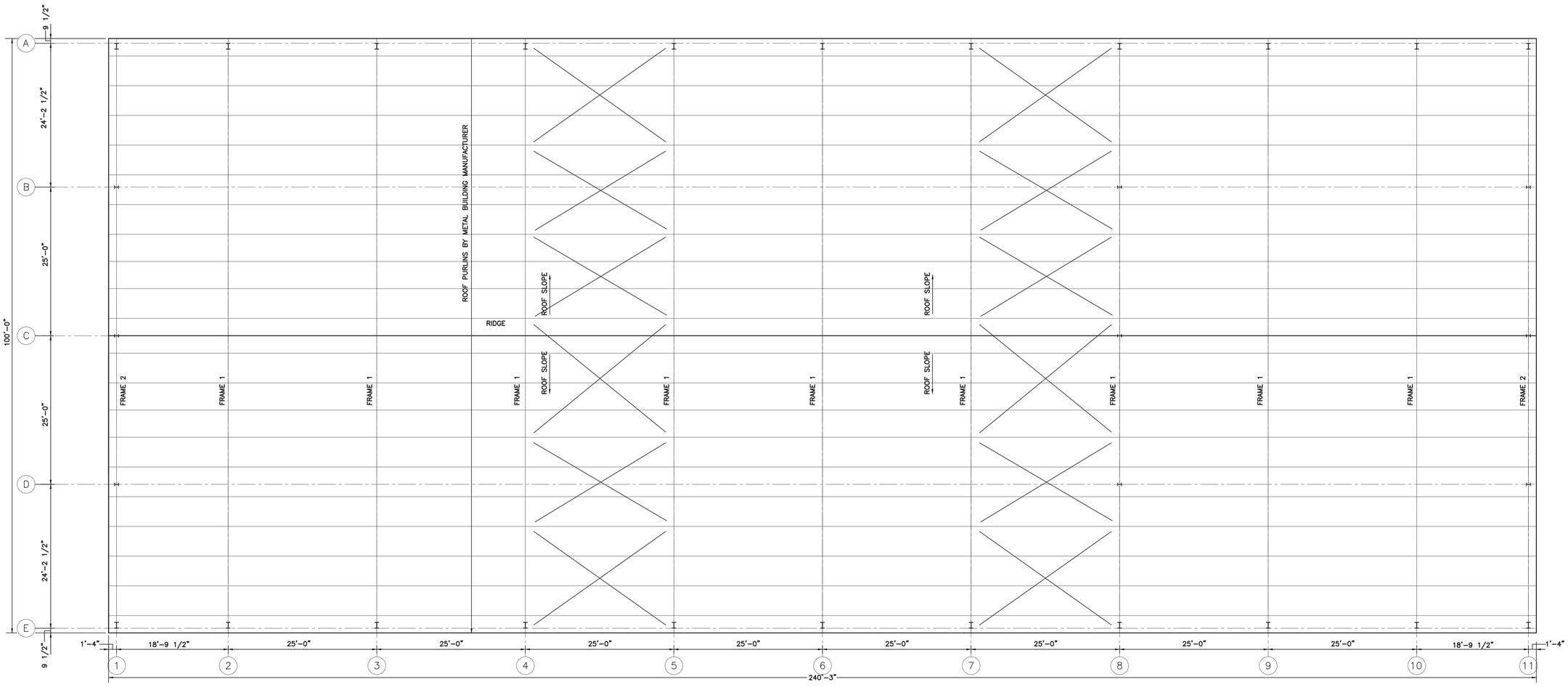
2 S102 FRAME 2
SCALE: N.T.S.

PLAN NOTES

1. METAL BUILDING MANUFACTURER TO DESIGN AND LOCATE PURLINS TO SUPPORT LIGHT FIXTURES, CEILINGS, MECHANICAL DUCTS, ETC. AS REQUIRED.

PLAN LEGEND

- METAL BUILDING CROSS BRACING
- I METAL BUILDING COLUMN



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

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				CHKD:	DATE:
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PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL: 09/18/15

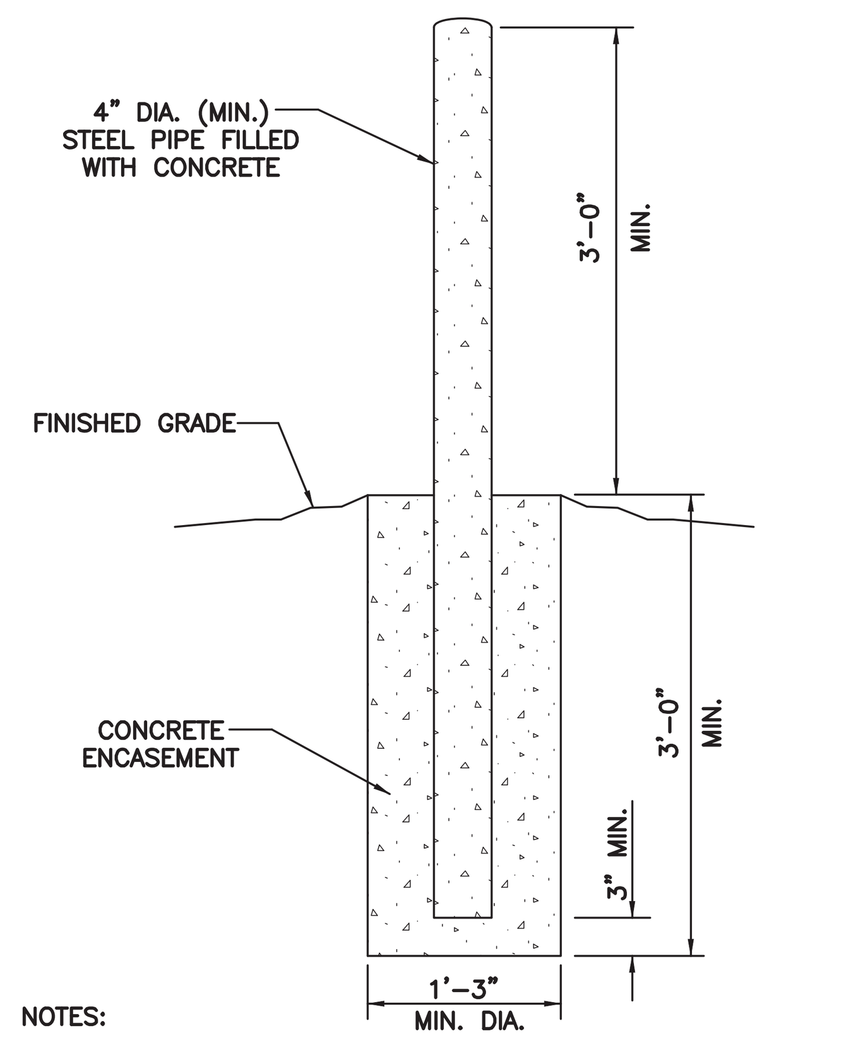
NEEL-SCHAFFER
Solutions you can build upon

ROOF FRAMING PLAN

WORKING NUMBER: **WH-S102**

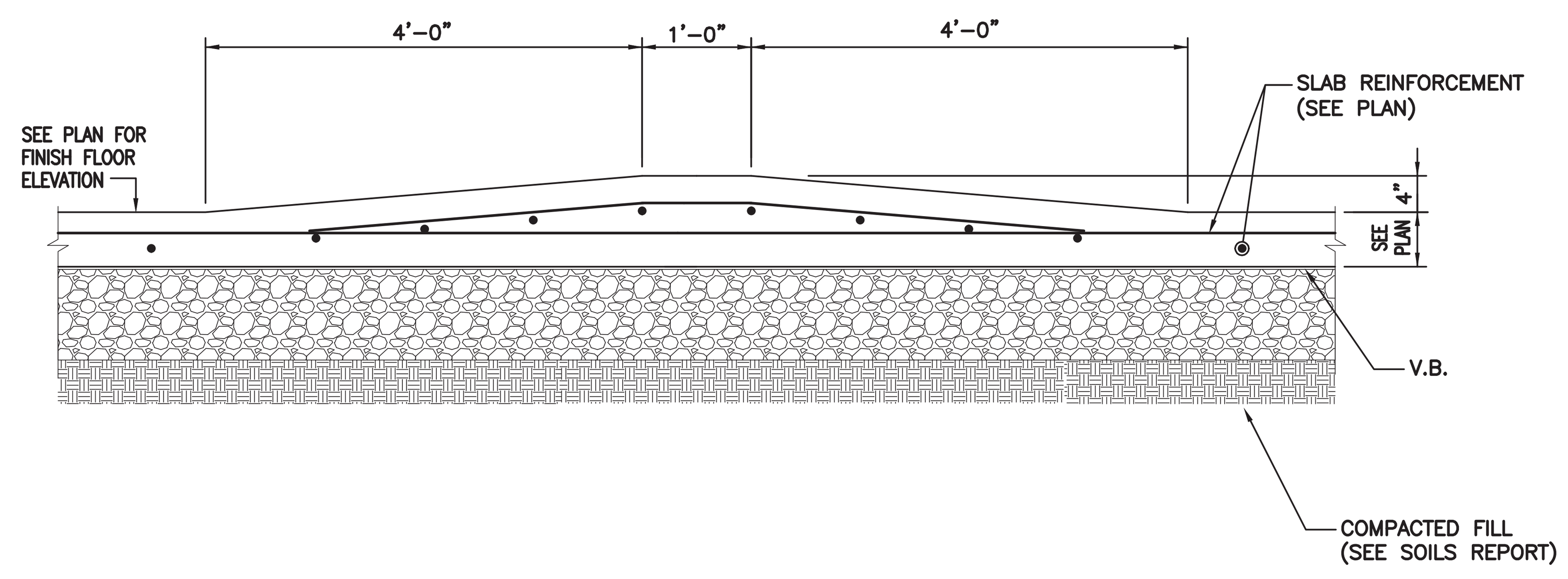
DRAWING NUMBER: **4 of 6**

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

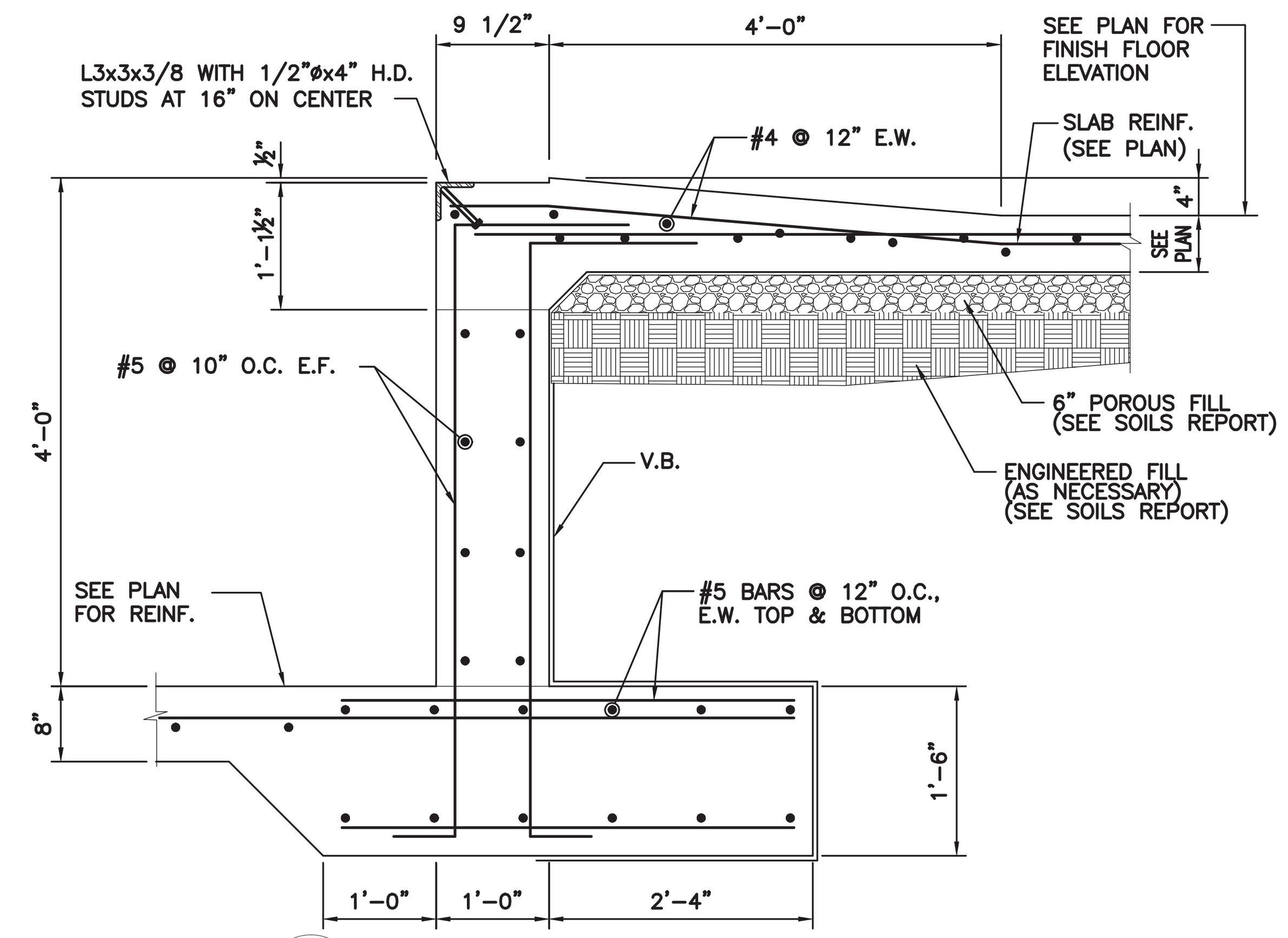


NOTES:
1. BOLLARDS SHALL BE LOCATED NOT LESS THAN 3' FROM THE PROTECTED OBJECT.
2. PRIME AND PAINT WITH TWO (2) COATS TRAFFIC YELLOW.

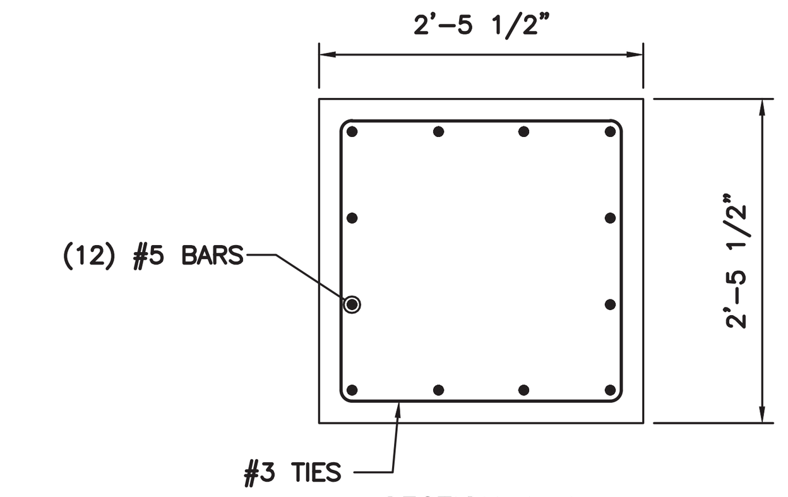
1 TYPICAL BOLLARD DETAIL
S301 SCALE: NOT TO SCALE



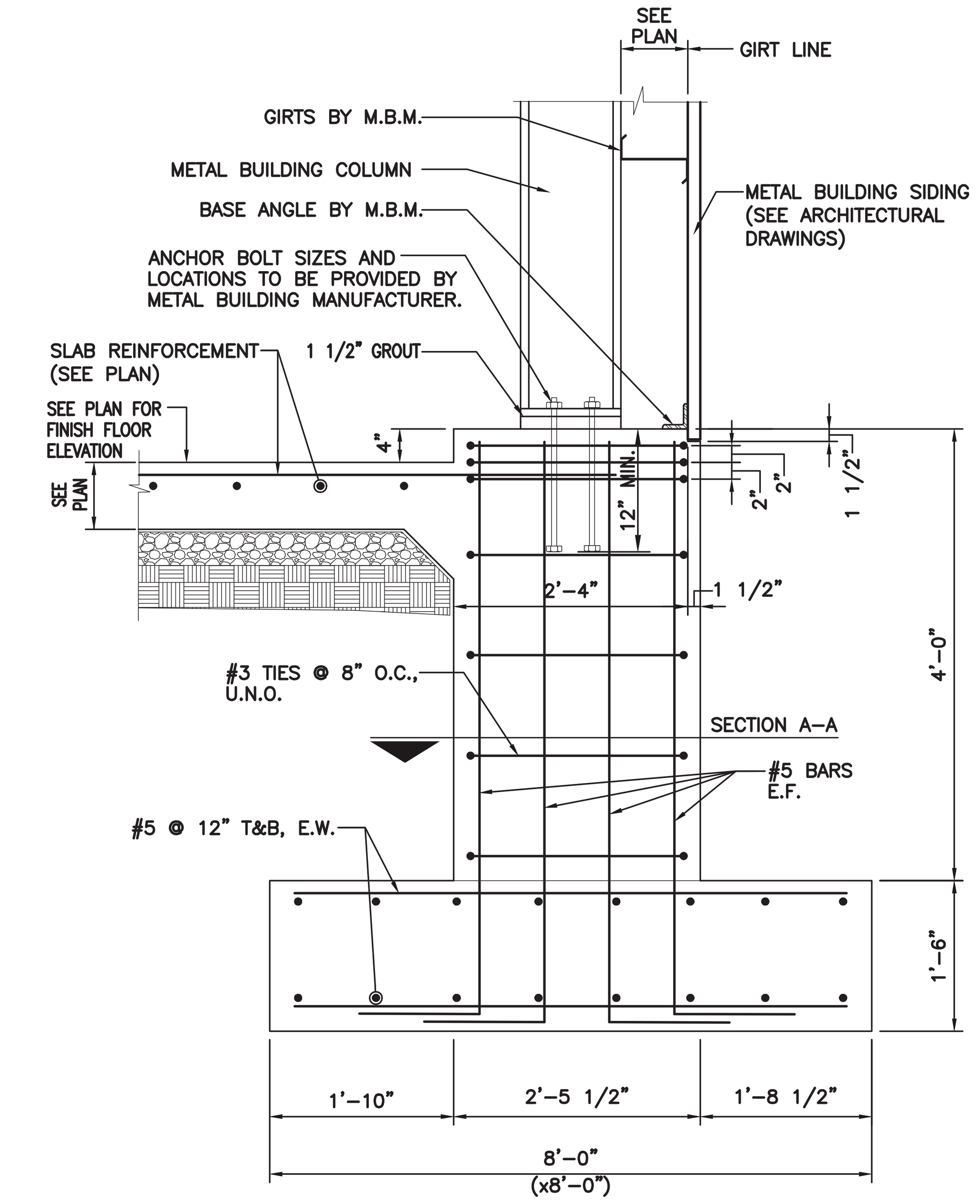
2 SECTION
S301 SCALE: 3/4"=1'-0"



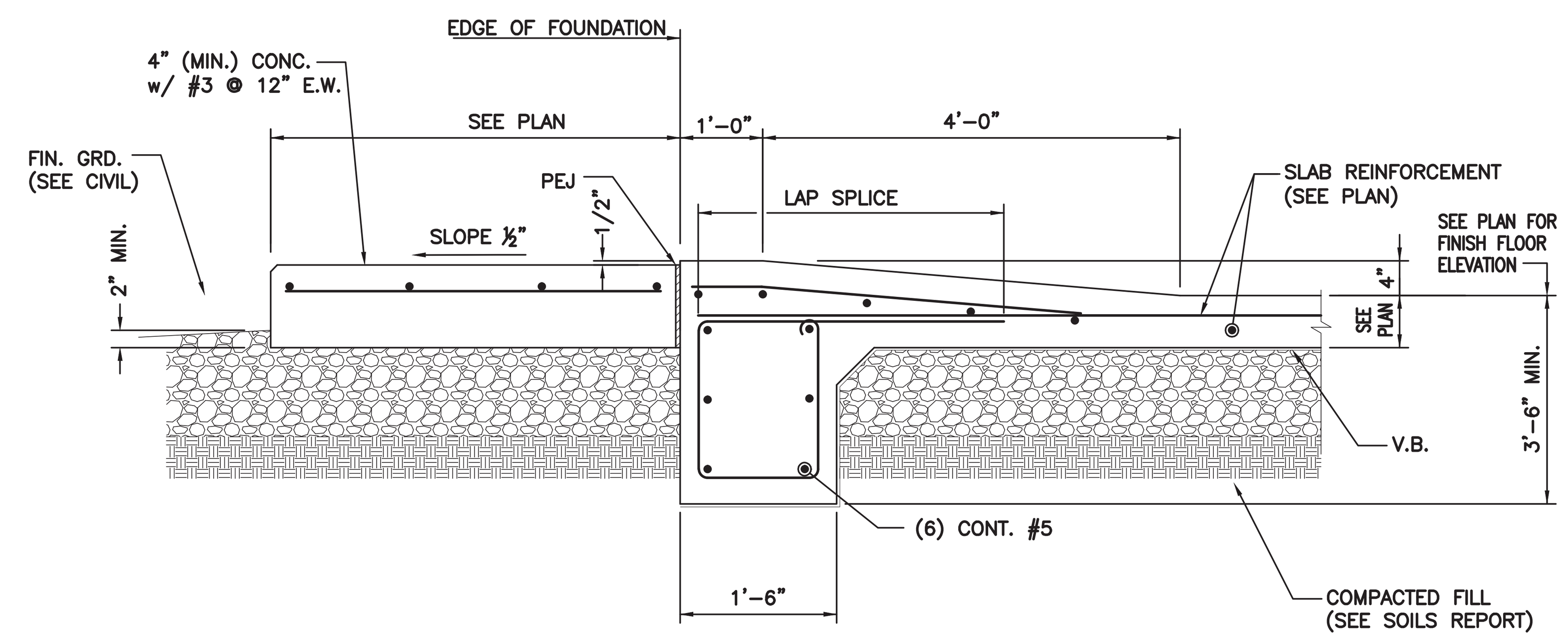
4 SECTION @ LOADING DOCK
S301 SCALE: N.T.S.



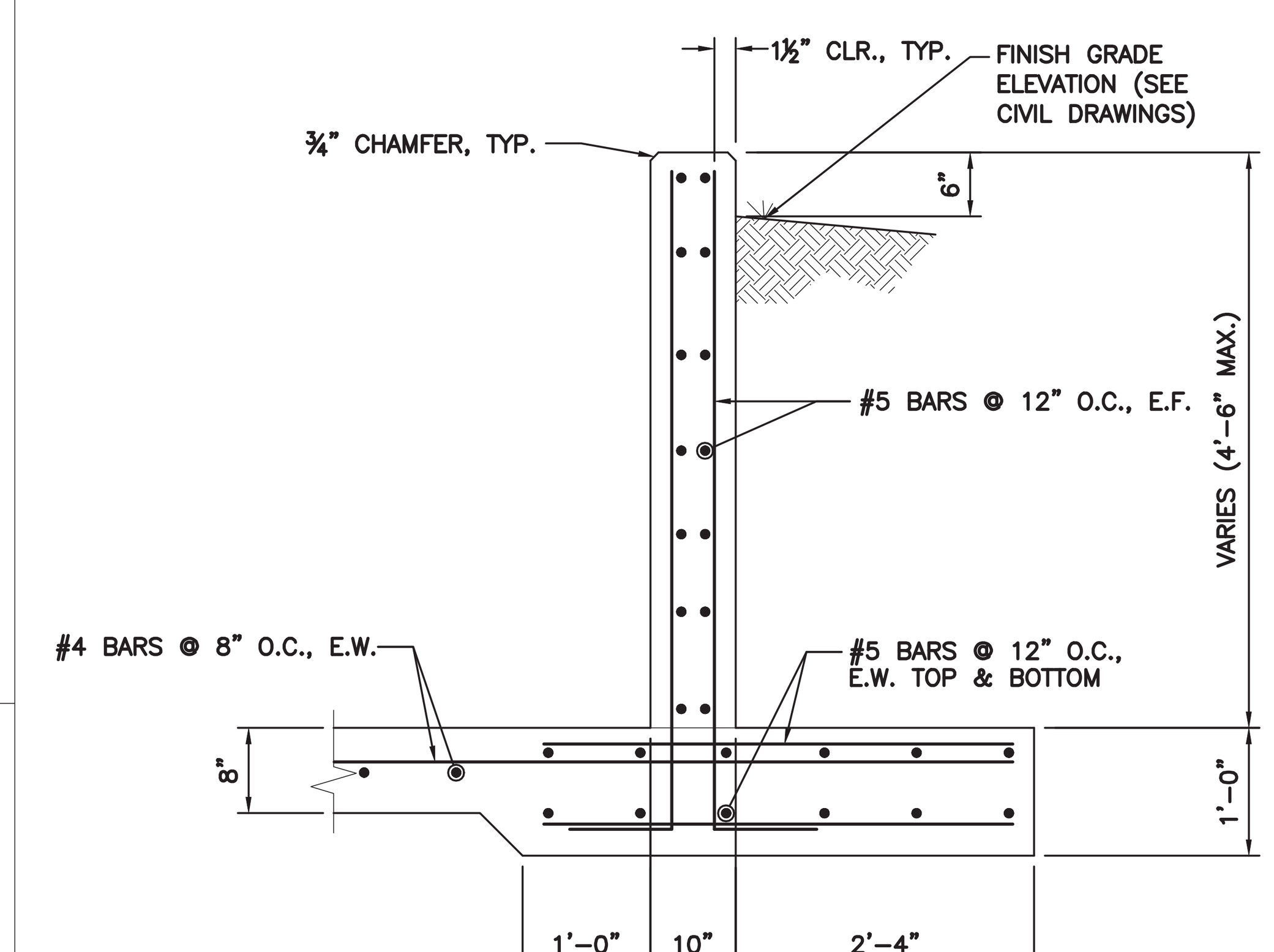
SECTION A-A



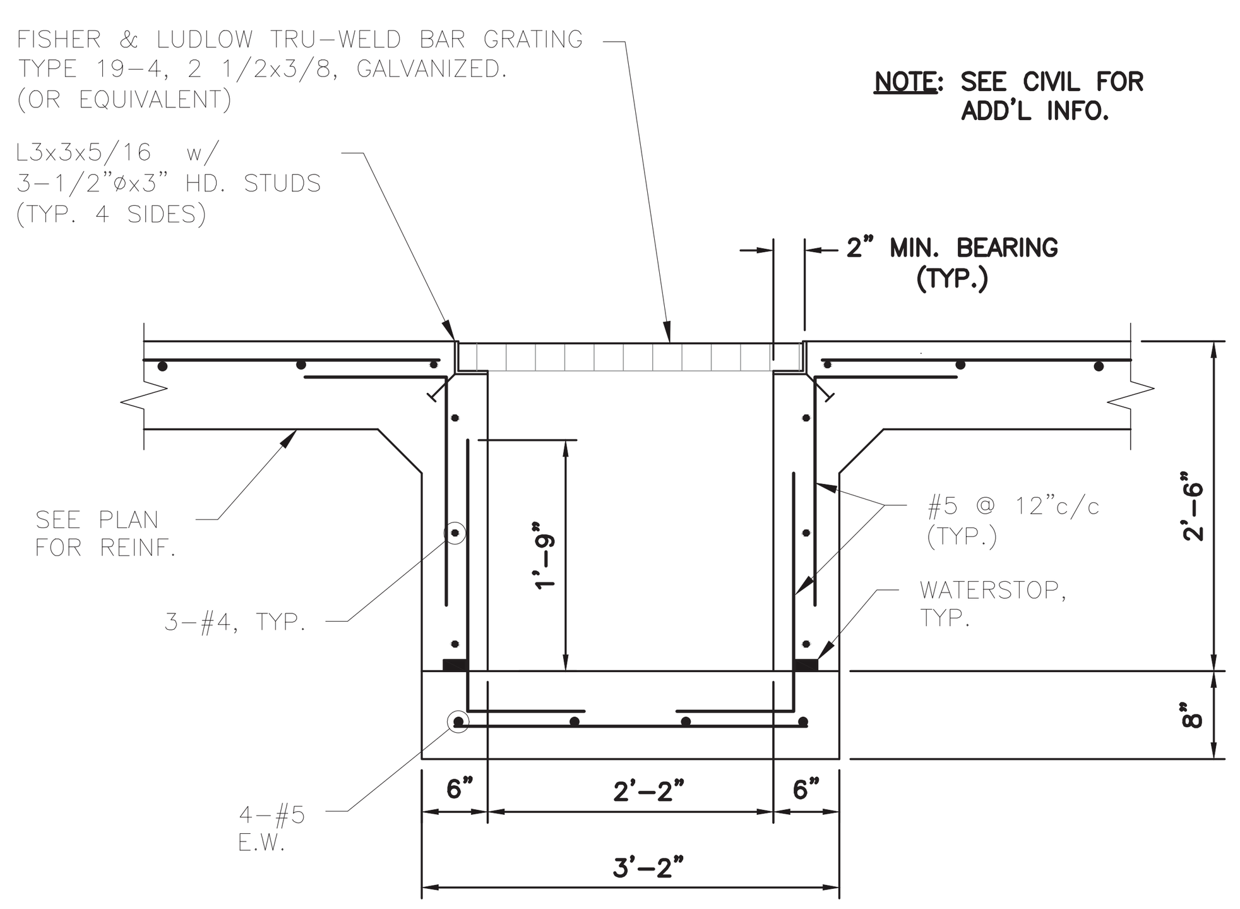
7 SECTION
S301 SCALE: N.T.S.



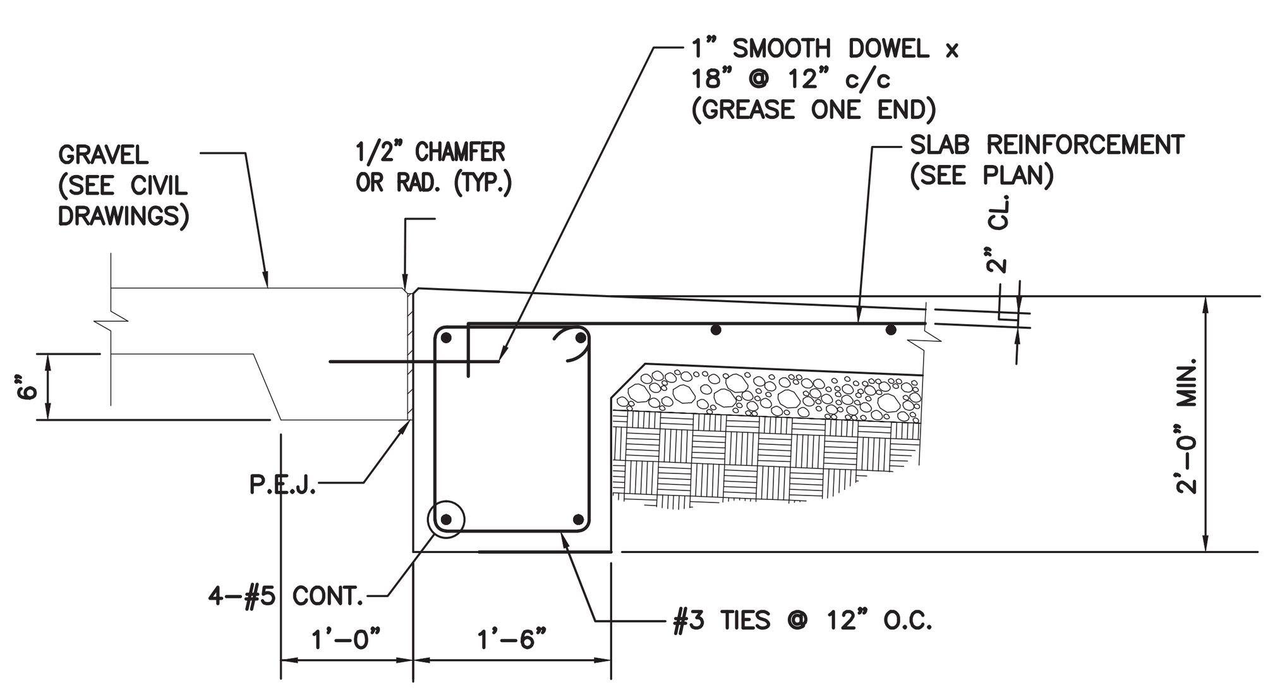
5 SECTION
S301 SCALE: 3/4"=1'-0"



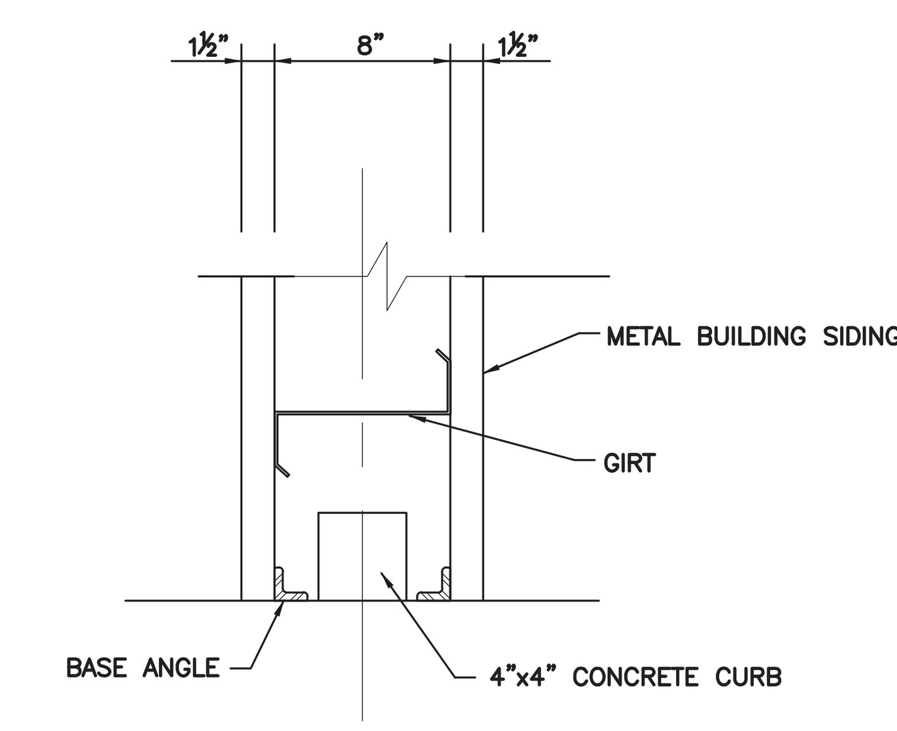
9 SECTION @ LOADING DOCK RETAINING WALL
S301 SCALE: N.T.S.



6 SUMP PIT DETAIL
S301 SCALE: N.T.S.



3 SECTION
S301 SCALE: N.T.S.



8 SECTION
S301 SCALE: N.T.S.

USER: $USER$ TIME: $TIME$ FILE: $FILE$ DATE: $DATE$

NOTICE TO DRAWING HOLDER

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.12213.011	
FILENAME:	
CADD TYPE: AutoCAD	
SURVEYED BY:	
DSGN: W.K.M.	DATE: 06/00/15
DRWN: J.D.M.	DATE: 06/00/15
CHKD:	DATE:
QA/QC:	DATE: 06/00/15

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

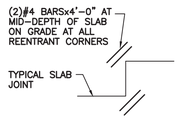
WAREHOUSE

COMMONWEALTH OF VIRGINIA BRADLEY ERWIN BIVENS Lic. No. 051434 PROFESSIONAL ENGINEER
SEAL: 09/18/15

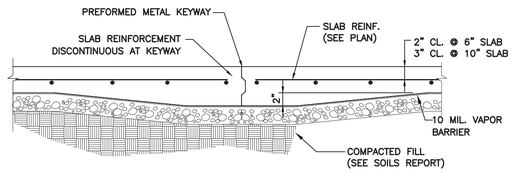
NEEL-SCHAFFER

SECTIONS

WORKING NUMBER:	DRAWING NUMBER:
WH-S301	5 of 6

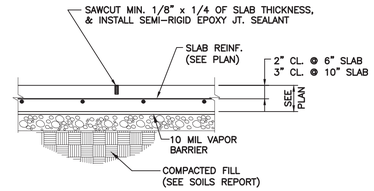


RE-ENTRANT CORNER DETAIL
SCALE: N.T.S.



CONSTRUCTION JOINT (CJ1)

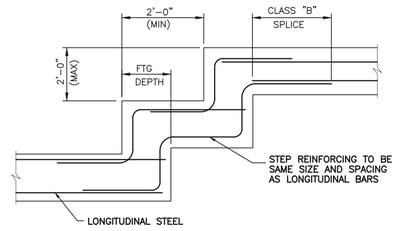
NOTE: PROVIDE KEYED CONSTRUCTION JOINTS WHERE NECESSARY.



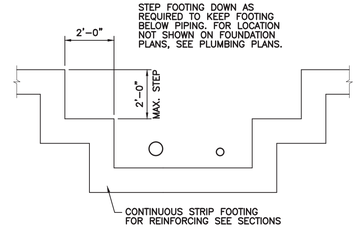
SAWED JOINT (CJ2)

NOTE: SAW JOINT WITHIN 8 HOURS AFTER CONCRETE IS PLACED (NORMAL WEATHER), WITHIN 4 HOURS (HOT WEATHER), AND WITHIN 12 HOURS (COLD WEATHER). SEE SPECS.

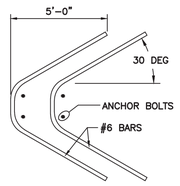
1 S302 TYP. SLAB CONSTRUCTION JOINT
SCALE: N.T.S.



2 S302 TYP. FOOTING STEP DETAIL
SCALE: N.T.S.



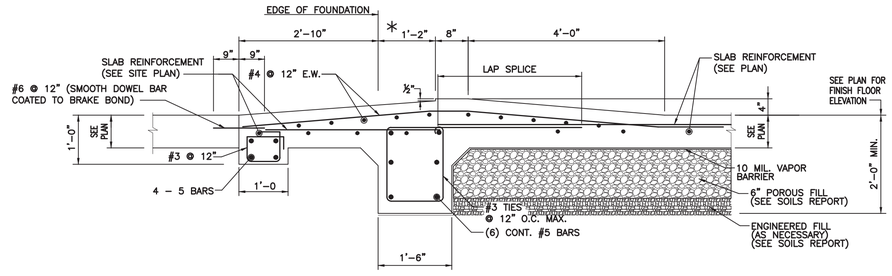
3 S302 TYP. FOUNDATION WALL AT PIPING
SCALE: 3/4"=1'-0"



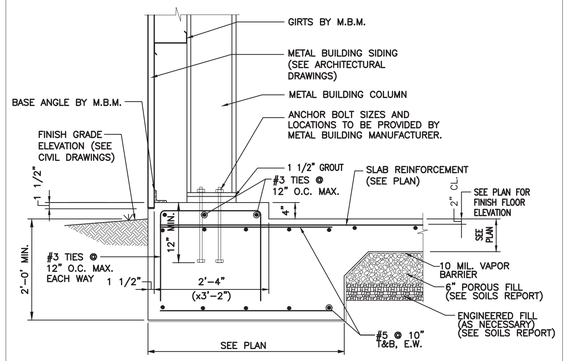
LOCATE 2" BELOW TOP OF SLAB AT ALL SIDEWALL COLUMNS

4 S302 TYPICAL HAIR-PIN DETAIL
SCALE: N.T.S.

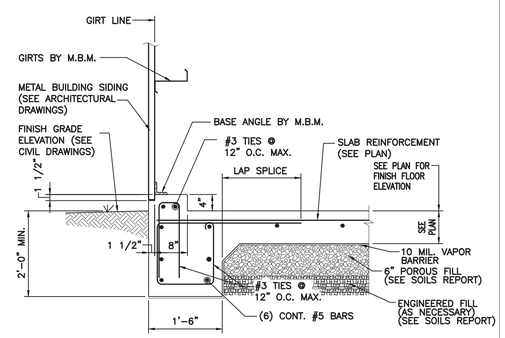
* CONTRACTOR TO VERIFY DIMENSION USING DOOR MANUFACTURER'S SHOP DRAWING SO THAT BASE OF DOOR FITS IN NOTCH TO PREVENT BLOWING RAIN FROM ENTERING BUILDING.



5 S302 SECTION @ TYPICAL RAMP
SCALE: N.T.S.

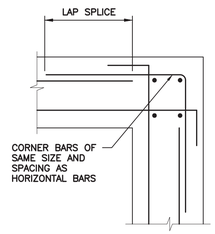


6 S302 SECTION @ TYPICAL COLUMN
SCALE: N.T.S.



7 S302 SECTION @ TYPICAL WALL
SCALE: N.T.S.

NOTE: TEE INTERSECTIONS ARE SIMILAR.



8 S302 TYP. CONC. WALL CORNER REINF. DETAIL
SCALE: N.T.S.

USER: $USER$
TIME: $TIME$
FILE: $FILE$
DATE: $DATE$

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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.011	
				FILENAME:	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: W.K.M.	DATE: 06/00/15
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				CHKD:	DATE:
				QA/QC:	DATE: 06/00/15

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL: 09/18/15

NEEL-SCHAFFER
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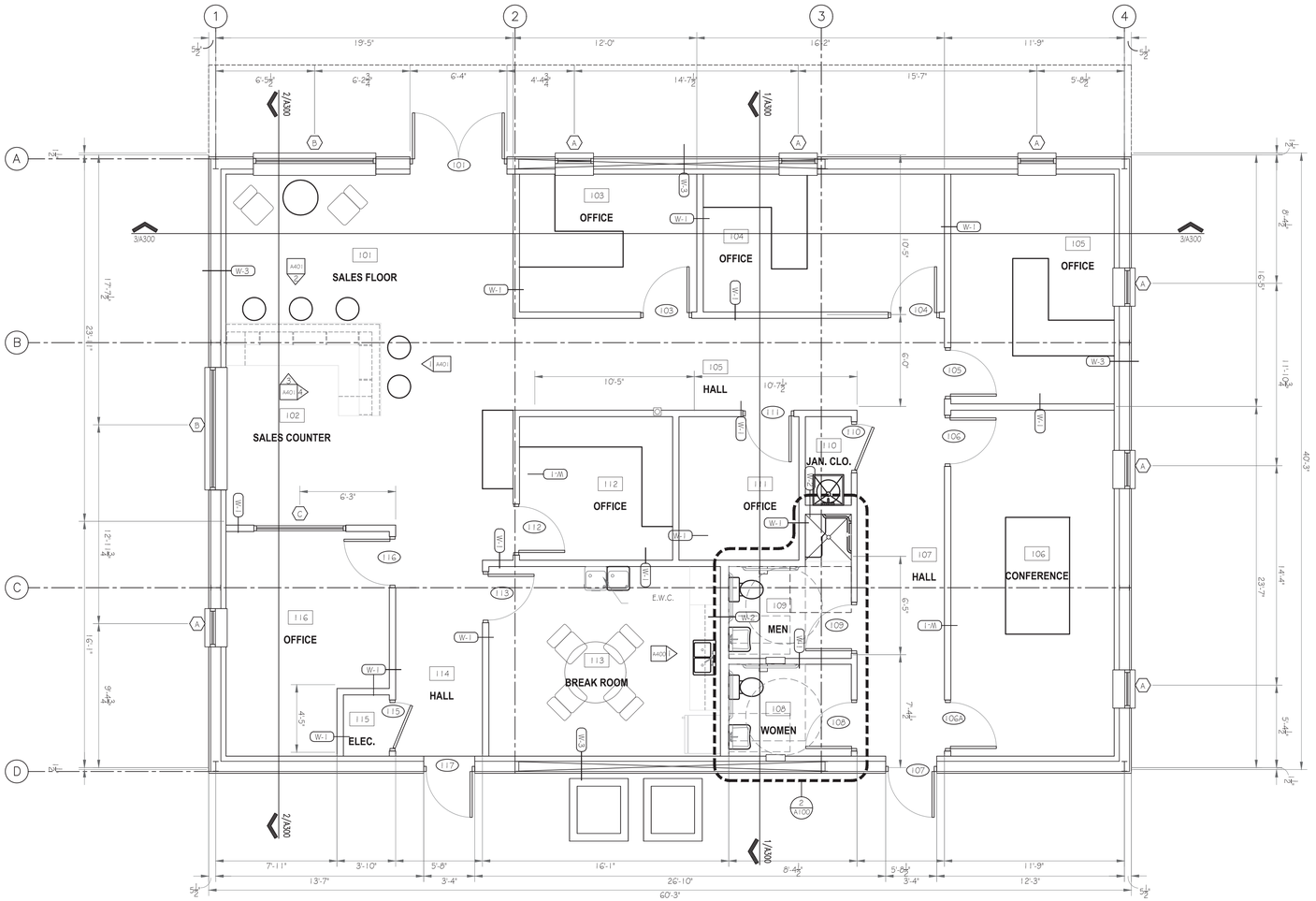
STANDARD DETAILS

WORKING NUMBER: **WH-S302**

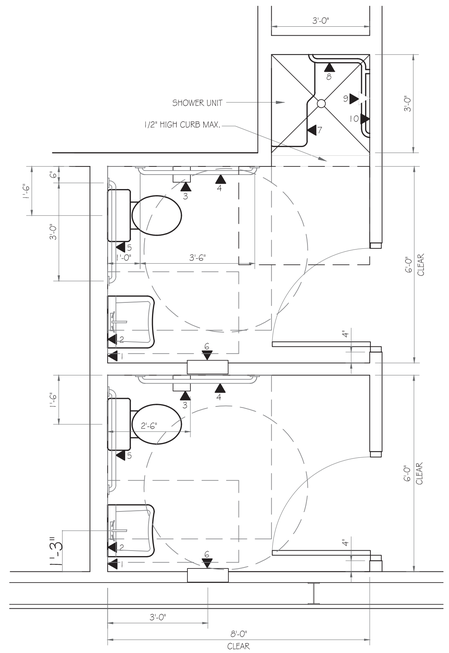
DRAWING NUMBER: **6 of 6**



1 Floor Plan

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

PROJECT NORTH



2 Enlarged Plan

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

PARTITION TYPES

- W-1 — 2x4 WOOD STUDS @ 16" O.C. W/ ONE LAYER OF 5/8" GYP. BD. EACH SIDE. SOUND BATT INSULATION. EXTEND WALL 6" ABOVE CEILING.
- W-2 — 2x6 WOOD STUDS @ 16" O.C. W/ ONE LAYER OF 5/8" GYP. BD. EACH SIDE. SOUND BATT INSULATION. EXTEND WALL 6" ABOVE CEILING.
- W-3 — METAL WALL PANEL, WALL GIRT, 3" VINYL FACED BATT INSULATION 2 x 4 WOOD STUDS @ 16" O.C., R13 BATT INSULATION. ONE LAYER OF 5/8" GYP. BD.

NOTE: ALL PLUMBING WALLS TO RECEIVE M.R. GYP. BD.

ACCESSORY LEGEND:

1. SOAP DISPENSER
2. MIRROR
3. TOILET PAPER DISPENSER
4. 42" GRAB BAR
5. 36" GRAB BAR
6. P.T. DISPENSER / RECEPTICAL
7. FOLDING SEAT
8. GRAB BAR
9. SHOWER SPRAY UNIT W/ 60" HOSE MIN.
10. SHOWER CONTROLS

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME:	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: J.M.	DATE: JUNE 15
				DRWN: J.M.	DATE: JUNE 15
				CHKD:	DATE:
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
OFFICE BUILDING

FRANKLIN, VA

SEAL:

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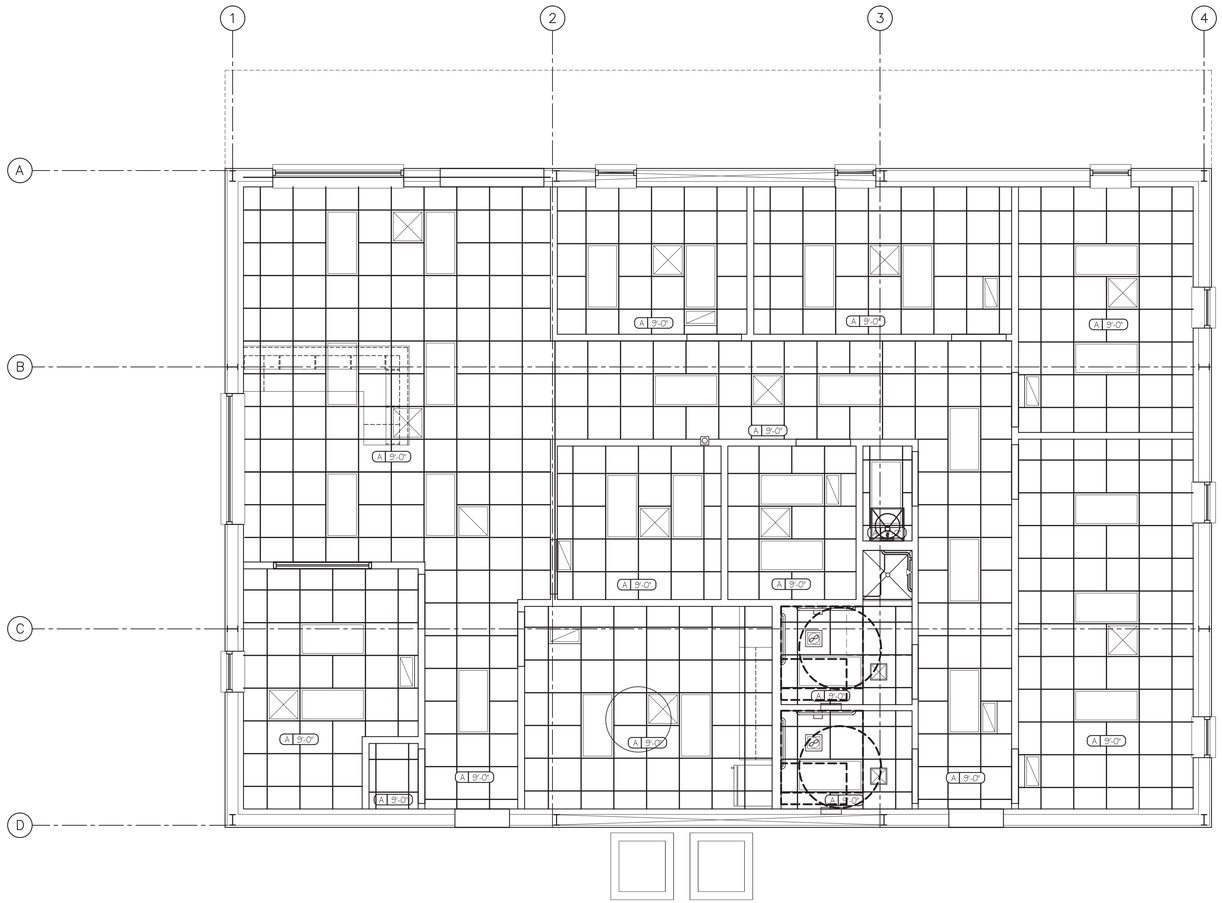
FLOOR PLAN
(FOR REFERENCE ONLY)

WORKING NUMBER:	DRAWING NUMBER:
OB-A100	1 of 9

FILE: $FILE$ DATE: $DATE$ TIME: $TIME$ USER: $USER$



1 Reflected Ceiling Plan

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

PROJECT NORTH

LEGEND

CEILING TYPE — CEILING HEIGHT (A 9'-0")

CEILING TYPES

A - 2 x 2 LAY-IN ACOUSTICAL - ARMSTRONG "CORTEGA" W/ 15/16" GRID.
B - 2 x 2 LAY-IN ACOUSTICAL -- ARMSTRONG "CORTEGA" W/ ANGLED TEGULAR EDGE AND 15/16" GRID.
C - E.I.F.S.
D - 1/2" GYP. BD. W/ SMOOTH FINISH

LEGEND

- EXHAUST FAN
- 2 x 4 FLUORESCENT LIGHT
- 2 x 2 FLUORESCENT LIGHT
- RETURN AIR GRILL
- AIR DIFFUSER

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

NOTICE TO DRAWING HOLDER

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				SURVEYED BY:	
				DSGN: J.M.	DATE: JUNE 15
				DRWN: J.M.	DATE: JUNE 15
				CHKD:	DATE:
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
OFFICE BUILDING

FRANKLIN, VA

SEAL:

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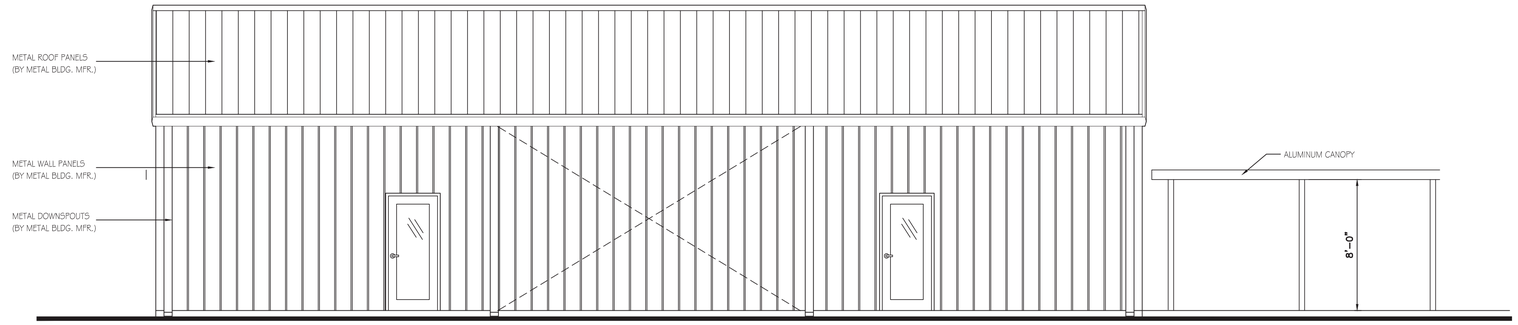
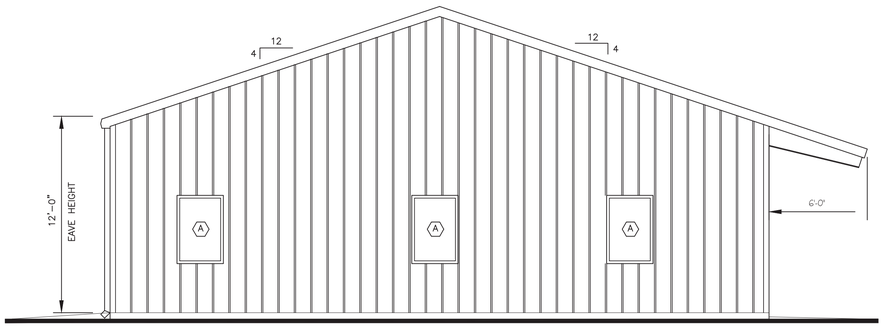
REFLECTED CEILING PLAN (FOR REFERENCE ONLY)

WORKING NUMBER: **OB-A101**

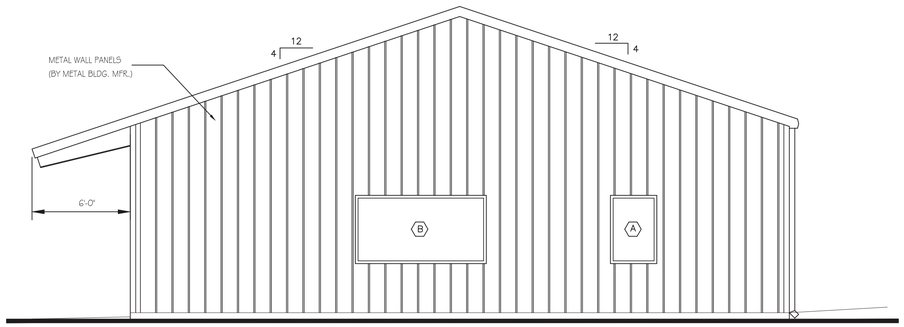
DRAWING NUMBER: **2 of 9**



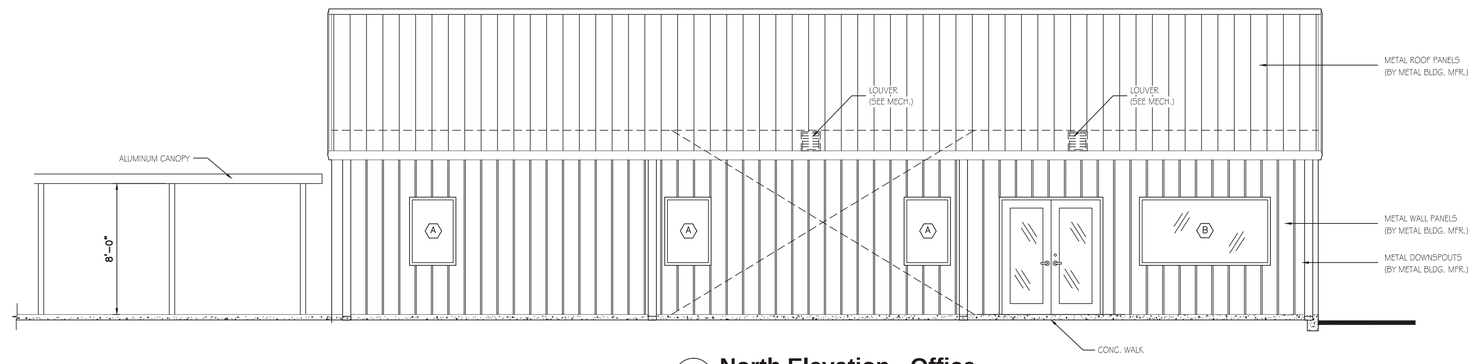
1 South Elevation - Office
SCALE: 1/4" = 1'-0"



2 East Elevation - Office
SCALE: 1/4" = 1'-0"



3 West Elevation - Office
SCALE: 1/4" = 1'-0"



4 North Elevation - Office
SCALE: 1/4" = 1'-0"

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME:	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: J.M.	DATE: JUNE 15
				DRWN: J.M.	DATE: JUNE 15
				CHKD:	DATE:
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
OFFICE BUILDING

FRANKLIN, VA

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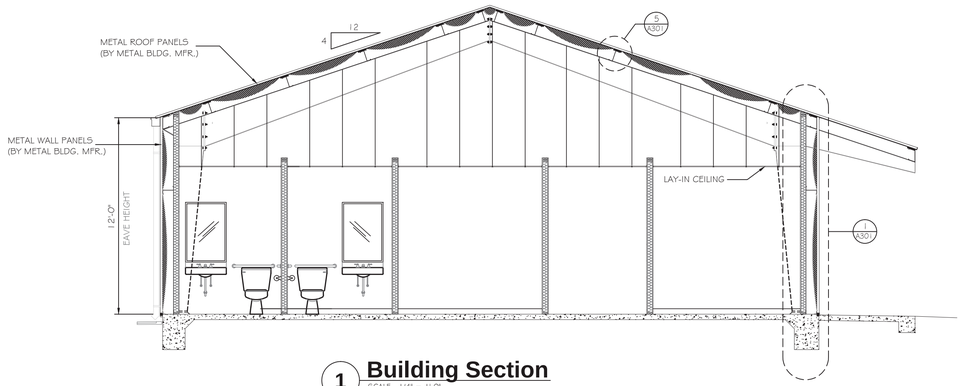
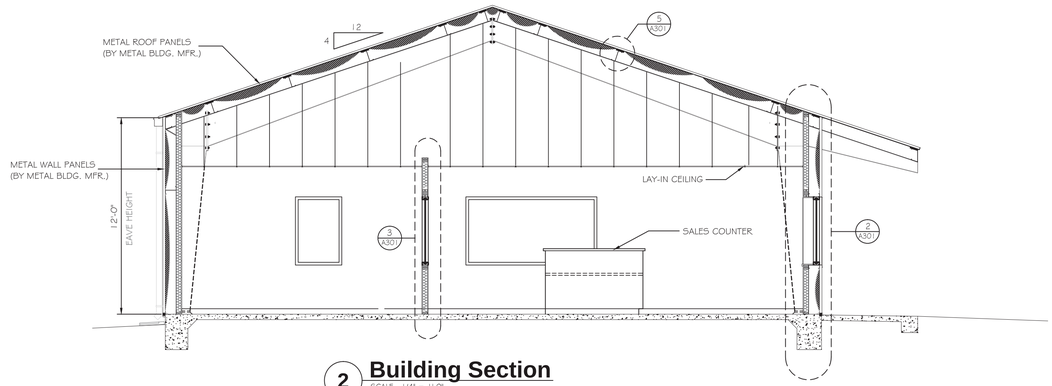
ELEVATIONS (FOR REFERENCE ONLY)

WORKING NUMBER: **OB-A200**

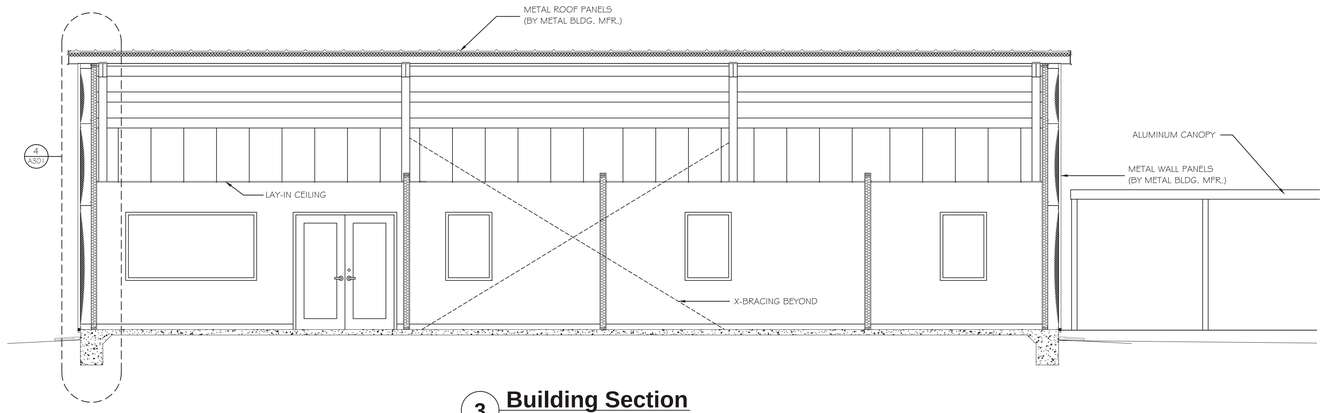
DRAWING NUMBER: **3 of 9**



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



2 Building Section
SCALE: 1/4" = 1'-0"



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

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

NOTICE TO DRAWING HOLDER

REVISIONS				DRAWING INFORMATION	
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				DSGN: J.M.	DATE: JUNE 15
				DRWN: J.M.	DATE: JUNE 15
				CHKD:	DATE:
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
OFFICE BUILDING

FRANKLIN, VA

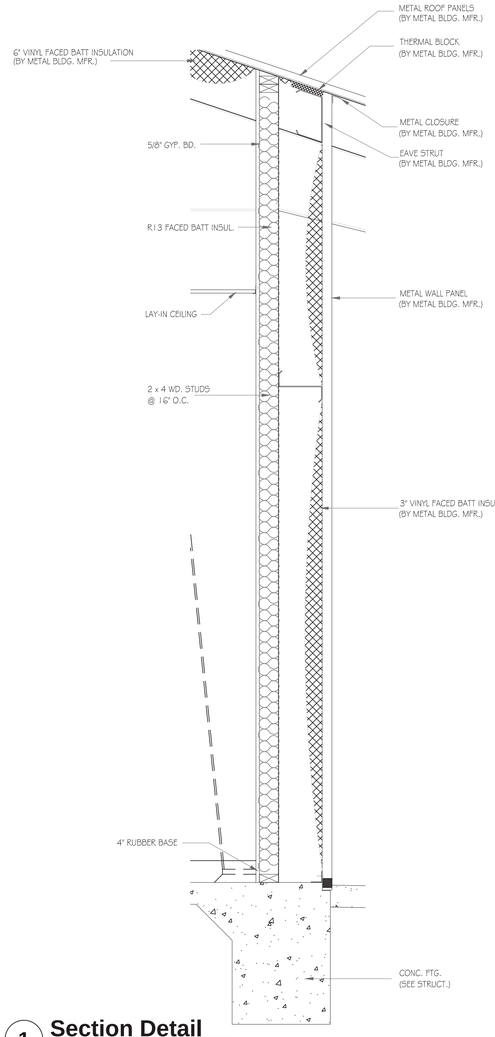
SEAL:

NEEL-SCHAFFER
Solutions you can build upon

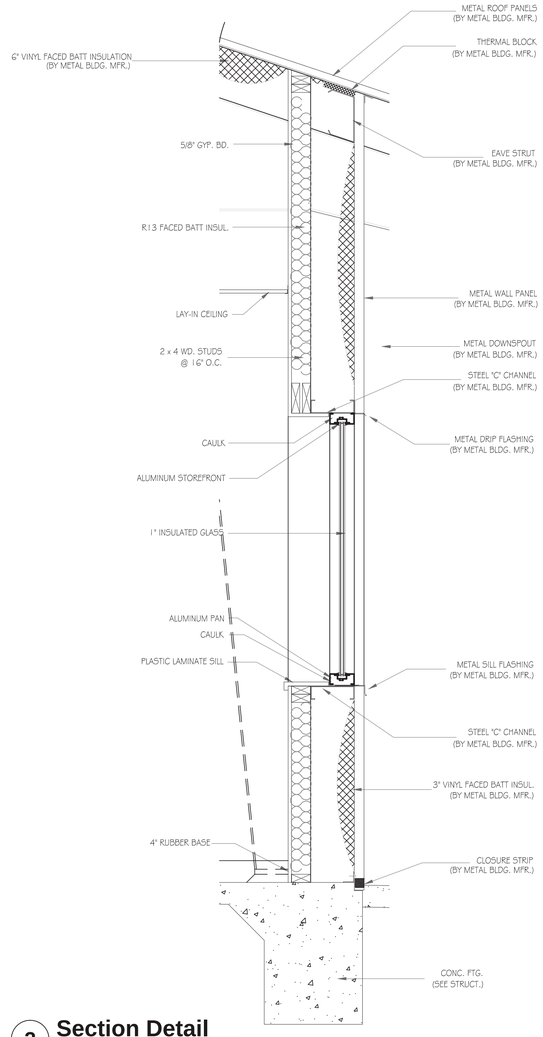
SECTIONS (FOR REFERENCE ONLY)

WORKING NUMBER: **OB-A300**

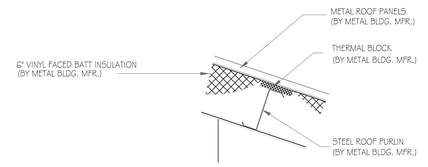
DRAWING NUMBER: **4 of 9**



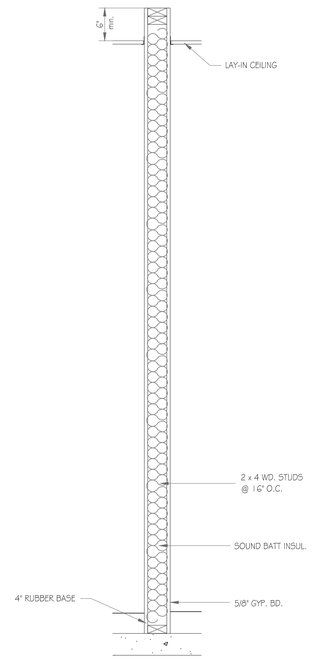
1 Section Detail
SCALE: 1" = 1'-0"



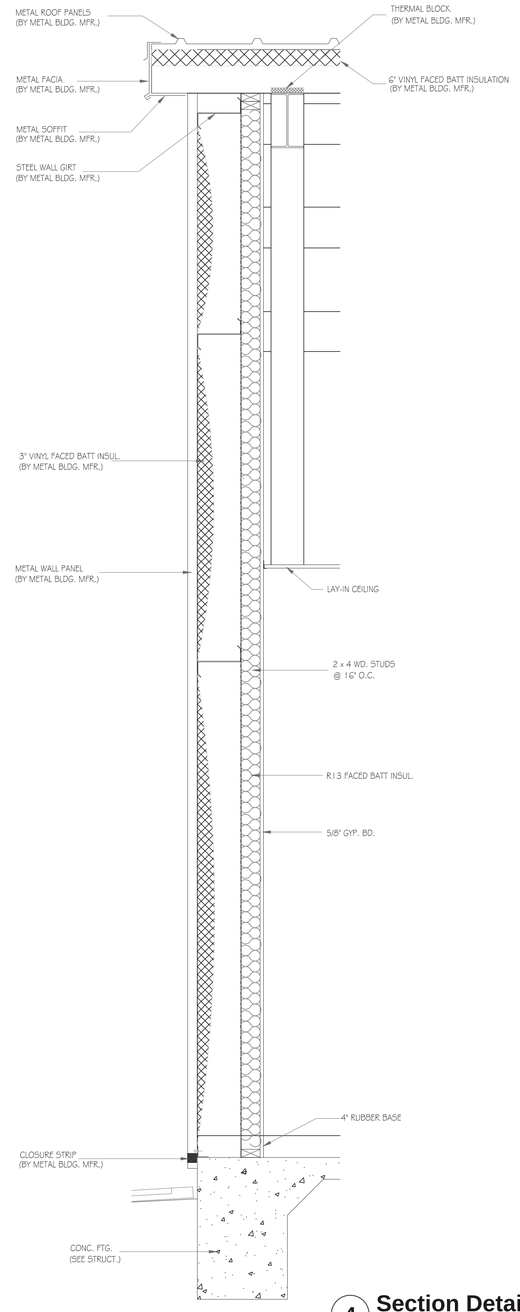
2 Section Detail
SCALE: 1" = 1'-0"



5 Section Detail
SCALE: 1" = 1'-0"



3 Section Detail
SCALE: 1" = 1'-0"



4 Section Detail
SCALE: 1" = 1'-0"

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

REVISIONS				DRAWING INFORMATION	
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				FILENAME:	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: J.M.	DATE: JUNE 15
				DRWN: J.M.	DATE: JUNE 15
				CHKD:	DATE:
				QA/QC:	DATE:

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OFFICE BUILDING

FRANKLIN, VA

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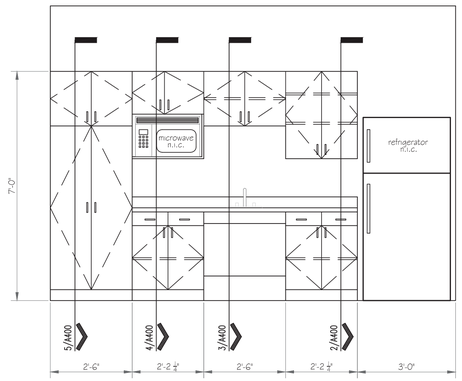
SECTION DETAILS (FOR REFERENCE ONLY)

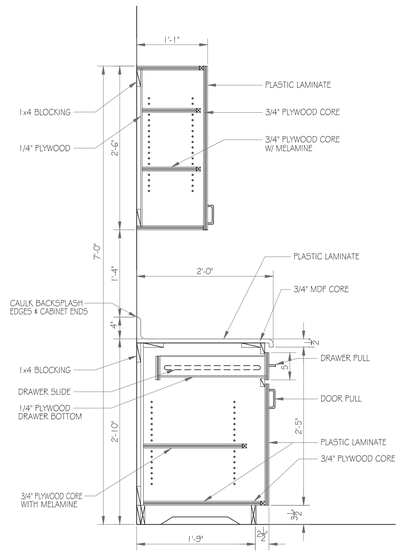
WORKING NUMBER: **OB-A301**

DRAWING NUMBER: **5 of 9**

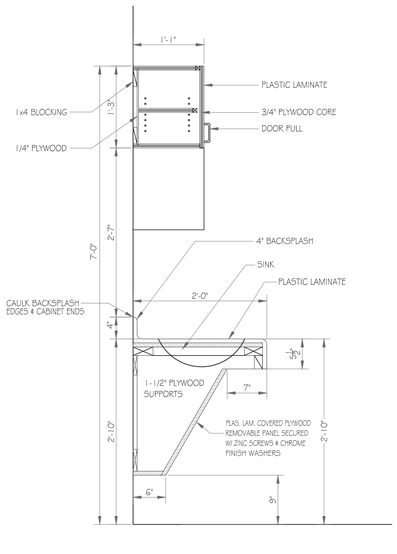


1 **Interior Elevation**
SCALE: 1/2" = 1'-0"

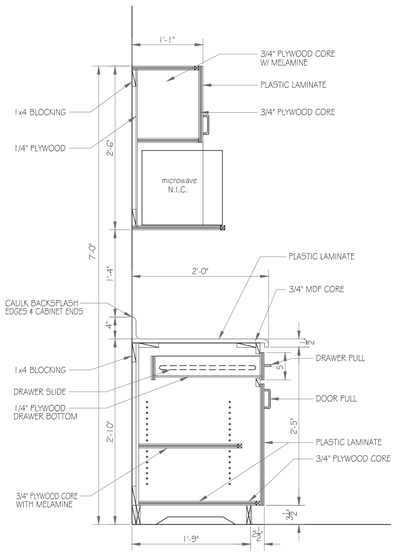
NOTE:
FINISH ALL EXPOSED SURFACES WITH PLASTIC LAMINATE, UNLESS NOTED OTHERWISE



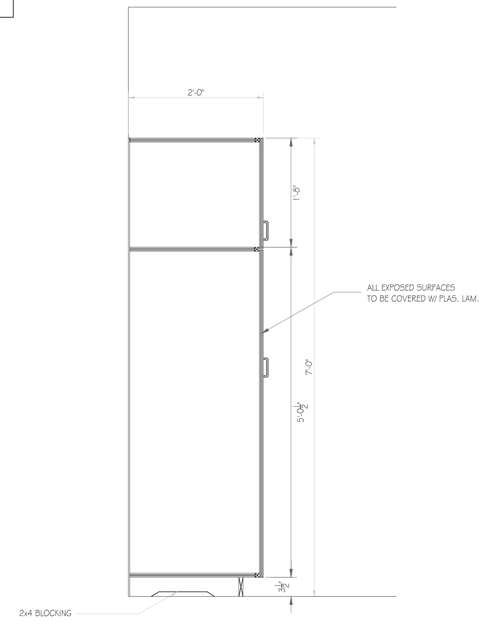
2 **Cabinet Section**
SCALE: 1" = 1'-0"



3 **Cabinet Section**
SCALE: 1" = 1'-0"



5 **Cabinet Section**
SCALE: 1" = 1'-0"



5 **Cabinet Section**
SCALE: 1" = 1'-0"

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FRANKLIN, VA

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INTERIOR ELEVATIONS & CABINET DETAILS
(FOR REFERENCE ONLY)

WORKING NUMBER: **OB-A400**

DRAWING NUMBER: **6 of 9**

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DATE: $DATE$
TIME: $TIME$
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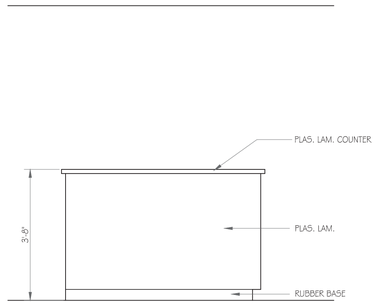
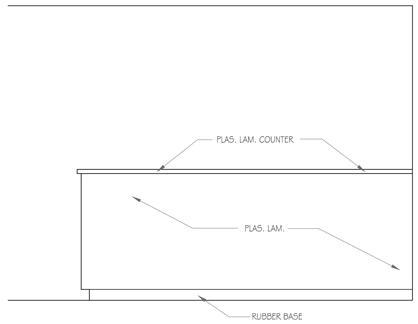
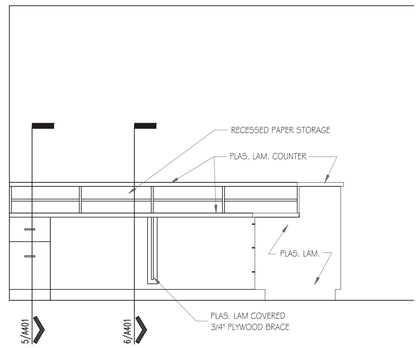


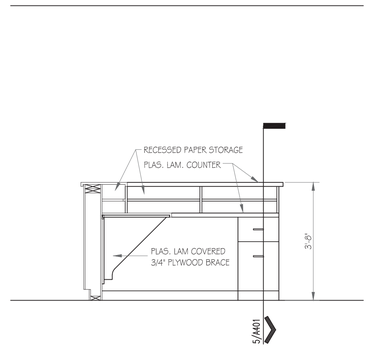
1 Interior Elevation
SCALE: 1/2" = 1'-0"



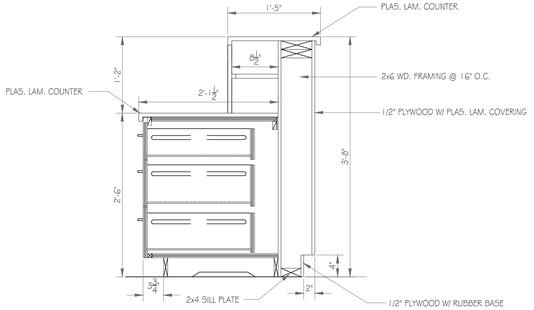
2 Interior Elevation
SCALE: 1/2" = 1'-0"



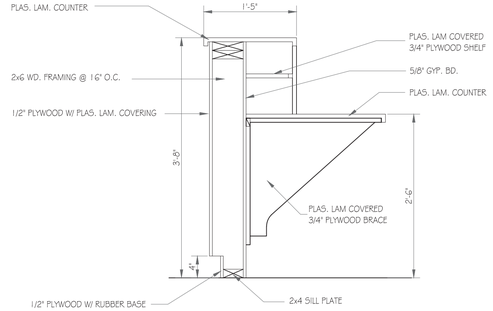
3 Interior Elevation
SCALE: 1/2" = 1'-0"



4 Interior Elevation
SCALE: 1/2" = 1'-0"



5 Cabinet Section
SCALE: 1" = 1'-0"



6 Cabinet Section
SCALE: 1" = 1'-0"

NOTE:
FINISH ALL EXPOSED SURFACES WITH PLASTIC LAMINATE, UNLESS NOTED OTHERWISE

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

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OFFICE BUILDING

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INTERIOR ELEVATIONS & CABINET DETAILS
(FOR REFERENCE ONLY)

WORKING NUMBER: **OB-A401**

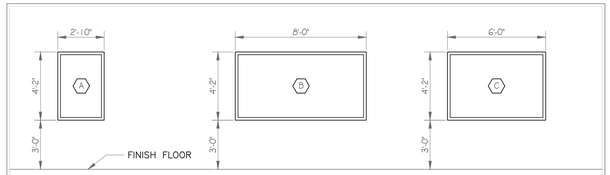
DRAWING NUMBER: **7 of 9**

DOOR SCHEDULE

DOOR #	TYPE	WIDTH	HEIGHT	THICK	MATL	FINISH	JAMB DETAIL	REMARKS:
101	A	3'0"	7'0"	0	ALUM.	ANOD.	02	
102	C	2'8"	7'0"	0	ALUM.	ANOD.	02	PAIR
103	C	2'8"	7'0"	0	WD.	STAIN	01	
104	C	2'8"	7'0"	0	WD.	STAIN	01	
105	C	2'8"	7'0"	0	WD.	STAIN	01	
106	C	2'8"	7'0"	0	WD.	STAIN	01	
106A	C	2'8"	7'0"	0	WD.	STAIN	01	
107	D	6'0"	7'0"	0	ALUM.	ANOD.	02	
108	A	3'0"	7'0"	0	WD.	STAIN	01	
109	A	3'0"	7'0"	0	WD.	STAIN	01	
110	A	3'0"	7'0"	0	WD.	STAIN	01	
111	C	2'8"	7'0"	0	WD.	STAIN	01	
112	C	2'8"	7'0"	0	WD.	STAIN	01	
113	B	2'8"	7'0"	0	WD.	STAIN	01	
114	D	6'0"	7'0"	0	ALUM.	ANOD.	02	
115	A	3'0"	7'0"	0	WD.	STAIN	01	
116	C	2'8"	7'0"	0	WD.	STAIN	01	

NOTES:
1. ALL DOORS TO BE 1 3/4" THK. SOLID-CORE WOOD UNLESS NOTED OTHERWISE.

WINDOW SCHEDULE



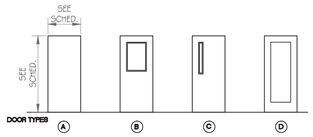
FRAME: ALUMINUM STOREFRONT
GLASS: 1", INSULATED, CLEAR

FRAME: ALUMINUM STOREFRONT
GLASS: 1", INSULATED, CLEAR

FRAME: ALUMINUM STOREFRONT
GLASS: 1", INSULATED, CLEAR

FINISH SCHEDULE

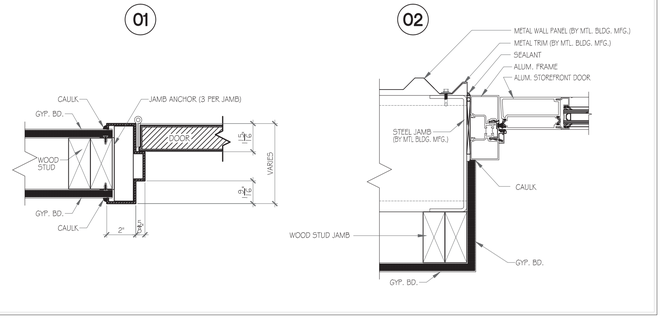
ROOM #	ROOM NAME	FLOOR: VINYL COMPOSITION TILE	BASE: 4" RUBBER	WALL: PAINTED GYP. BD.	WAINSCOAT: NONE	CEILING: 2 x 2 LAY-IN ACOUSTICAL	REMARKS:
101	SALES FLOOR	●	●	●	●	●	
102	SALES COUNTER	●	●	●	●	●	
103	OFFICE	●	●	●	●	●	
104	OFFICE	●	●	●	●	●	
105	OFFICE	●	●	●	●	●	
106	CONFERENCE	●	●	●	●	●	
107	HALL	●	●	●	●	●	
108	WOMEN	●	●	●	●	●	
109	MEN	●	●	●	●	●	
110	JANITOR CLOSET	●	●	●	●	●	
111	OFFICE	●	●	●	●	●	
112	OFFICE	●	●	●	●	●	
113	BREAK ROOM	●	●	●	●	●	
114	HALL	●	●	●	●	●	
115	ELECTRICAL	●	●	●	●	●	
116	OFFICE	●	●	●	●	●	
117	HALL	●	●	●	●	●	

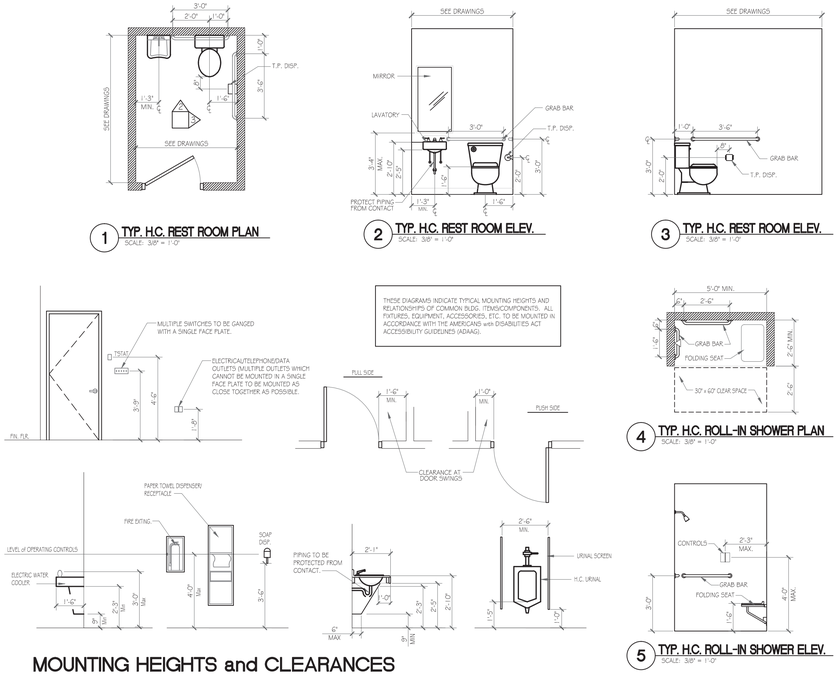


HARDWARE SCHEDULE

SET NO. 1	SET NO. 2	SET NO. 3	SET NO. 4
1 CYLINDER 1 CLOSER - BY DOOR MFR. 1 PUSH / 1 PULL - BY DOOR MFR. 1 THRESHOLD - BY DOOR MFR.	3 HINGES 3 SILENCERS 1 LOCKSET 1 STOP	1 CYLINDER 2 CLOSERS - BY DOOR MFR. 2 PUSH / 2 PULL - BY DOOR MFR. 1 THRESHOLD - BY DOOR MFR. 1 FLOOR BOLT - BY DOOR MFR. 1 HEAD BOLT - BY DOOR MFR.	3 HINGES 3 SILENCERS 1 PRIVACY SET 1 STOP

DOOR JAMB DETAILS





FILE: $FILE$
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PINNACLE AGRICULTURE HOLDINGS, LLC
OFFICE BUILDING

FRANKLIN, VA

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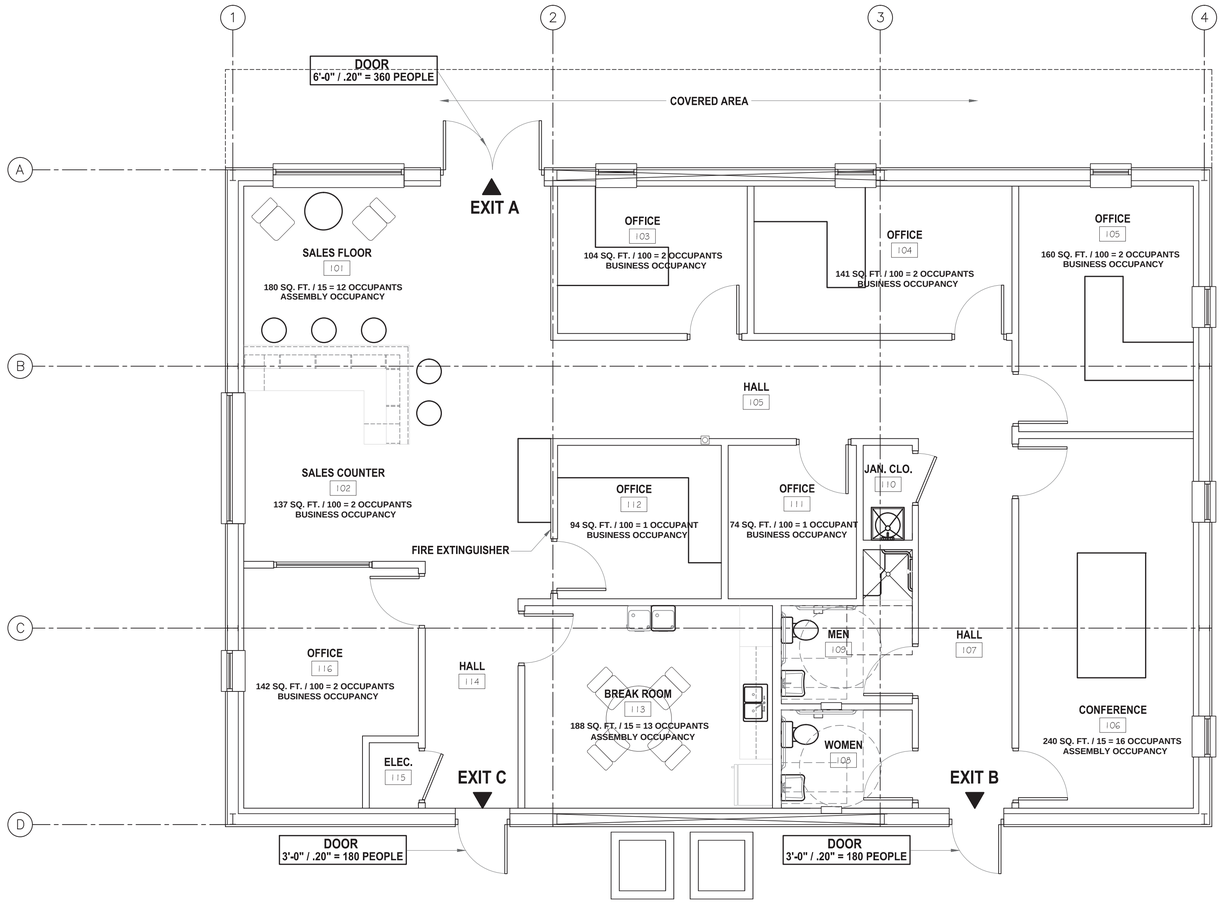
DOOR, WINDOW & ROOM FINISH SCHEDULES & DETAILS (FOR REFERENCE ONLY)

WORKING NUMBER: OB-A500

DRAWING NUMBER: 8 of 9



1 Life Safety Plan

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

PROJECT NORTH

EXIT WIDTH COMPLIANCE TABLE PER IBC 1005.1

EXIT	OCCUPANT LOAD	WIDTH / PERSON	WIDTH (INCHES) REQ'D	WIDTH (INCHES) ACTUAL	NOTES
A	15	0.2	3	72	
B	14	0.2	3	36	
C	14	0.2	3	36	
	43	TOTAL OCCUPANT LOAD			

PLUMBING FIXTURE COUNT COMPLIANCE TABLE PER IBC TABLE 2902.1

	TOILETS	LAVATORIES	URINALS	SHOWERS	DRINKING FOUNTAINS	SERVICE SINKS
FIXTURES REQUIRED						
MEN	1	1	--	0	1	1
WOMEN	1	1	--	0		
FIXTURES PROVIDED						
MEN	1	1	--	0	1	1
WOMEN	1	1	--	0		
NOTES						
NOTE 1	URINAL COUNT CAN REPLACE UP TO 2/3 REQUIRED TOILETS					

CODE COMPLIANCE TABLE

PROJECT: Pinnacle Ag - Office Building - Franklin, VA

APPLICABLE CODES AND STANDARDS

IBC - INTERNATIONAL BUILDING CODE - 2009 EDITION
IFC - INTERNATIONAL FIRE CODE - 2009 EDITION
NEC - NATIONAL ELECTRICAL CODE - 2008 EDITION
IPC - INTERNATIONAL PLUMBING CODE - 2009 EDITION
IMC - INTERNATIONAL MECHANICAL CODE - 2009 EDITION
ADAAG - AMERICANS WITH DISABILITIES ACT ARCHITECTURAL GUIDLINES - 2010

BUILDING COMPONENTS	CODE APPLICATION		CODE SECTIONS AND NOTES
USE AND OCCUPANCY CLASSIFICATION	**DESCRIPTION**	**VALUE**	
PRIMARY OCCUPANCY	BUSINESS - GROUP B		IBC 303
MIXED OCCUPANCY SEPARATION	N/A		IBC TABLE 508.4
CONSTRUCTION TYPE	V-B, UNSPRINKLERED		IBC 602.2
HEIGHT MODIFICATIONS			
TABULAR HEIGHT ALLOWED	40 FT.	12 FT	IBC TABLE 503
NO. OF STORIES INCREASE	N/A	0	IBC 504.2
TOTAL STORIES ALLOWED		2	
ACTUAL NO. OF STORIES =		1	HEIGHT IS IN COMPLIANCE
AREA MODIFICATIONS			IBC 506
BUILDING AREA			
TABULAR AREA ALLOWED	AREA ALLOWED PER FLOOR	9,000	IBC TABLE 503
FRONTAGE INCREASE FORMULA	=[F/P - 0.25] W/30		IBC 506.2
FRONTAGE INCREASE AMOUNT	75.0%	6,750	IBC 506.2
AUTOMATIC SPRINKLER INCREASE	0%	0	IBC 506.3
TOTAL AREA ALLOWED	WITH INCREASES	15,750	IBC 506.1
ACTUAL AREA	ACTUAL	2,786	AREA IS IN COMPLIANCE
INCIDENTAL USE AREAS	NO SEPARATION REQUIRED		IBC TABLE 508.2.5
ACCESORY USE AREAS	NONE OVER 10%		IBC 508.2.6
MIXED OCCUPANCY SEPARATION			
SEPARATED OCCUPANCIES	N/A		IBC TABLE 508.4
FIRE RESISTANCE RATINGS			
STRUCTURAL FRAME		0 HOUR	IBC TABLE 601
BEARING WALLS			
EXTERIOR		0 HOUR	IBC TABLES 601 AND 602
INTERIOR		0 HOUR	IBC TABLE 601
NON-BEARING WALLS AND PARTITIONS			
EXTERIOR	FIRE SEPARATION DISTANCE > 30 FT	0 HOUR	IBC TABLE 602
INTERIOR		0 HOUR	IBC TABLE 601
FLOOR / CEILING		0 HOUR	IBC TABLE 601
ROOF / CEILING		0 HOUR	IBC TABLE 601
FIRE RESISTANT PROTECTIVE CONSTRUCTION REQUIREMENTS			
MAX AREA OF EXTERIOR WALL OPENINGS	FIRE SEPARATION DISTANCE > 30 FT		IBC TABLE 705.8
PARAPETS AT EXTERIOR WALLS	FIRE SEPARATION DISTANCE > 30 FT		IBC 705.11
FIRE WALLS	NOT APPLICABLE		IBC 706.4
FIRE BARRIERS	NOT APPLICABLE		IBC 707
SHAFT ENCLOSURES	NOT APPLICABLE		IBC 707.3.1
EXIT ENCLOSURES	NOT APPLICABLE		IBC 1022.1
HORIZONTAL EXITS	NOT APPLICABLE		IBC 1026.1
FIRE PARTITIONS - CORRIDOR WALLS	NOT APPLICABLE		IBC 709 / IBC TABLE 1018.1
SMOKE BARRIERS	NOT APPLICABLE		IBC 710
SMOKE PARTITIONS	NOT APPLICABLE		IBC 711
HORIZONTAL ASSEMBLIES	NOT APPLICABLE		IBC 712
OPENING PROTECTIVES	NOT APPLICABLE		IBC 715
DOORS / SHUTTERS AT FIRE WALL	NOT APPLICABLE		IBC 705.8 / IBC TABLE 715.4
GLAZING AT FIRE WALL	NOT APPLICABLE		IBC TABLE 715.4
DUCT AND AIR TRANSFER OPENINGS	NOT APPLICABLE		IBC TABLE 716.3.2.1
CONCEALED SPACES			
DRAFT-STOPPING FLOORS & CEILINGS	NOT APPLICABLE	NONE	IBC 717.3
DRAFT-STOPPING ATTICS	NOT APPLICABLE	NONE	IBC 717.4
INTERIOR FINISHES			
EXIT ENCLOSURES AND PASSAGEWAYS	FINISH RATING REQUIRED	CLASS B	IBC TABLE 803.9
CORRIDORS	FINISH RATING REQUIRED	CLASS B	IBC TABLE 803.9
ROOMS AND ENCLOSED SPACES	FINISH RATING REQUIRED	CLASS C	IBC TABLE 803.9
FIRE PROTECTION SYSTEMS			
AUTOMATIC FIRE SPRINKLER SYSTEM	NOT REQUIRED		IBC 903.2.1.3 , 907.2.2
PORTABLE FIRE EXTINGUISHERS	PROVIDED		IBC 906.1
FIRE ALARM AND DETECTION SYSTEMS	NOT REQUIRED		IBC 907.2.1
MEANS OF EGRESS			
CEILING HEIGHT	MINIMUM ALLOWED	7'-6"	IBC 1003.2
OCCUPANT LOAD	P=(A,425/100)	25	IBC 1004
BUSINESS	GROSS SF / PERSON	100 SF	IBC TABLE 1004.1.1
COMMON PATH OF TRAVEL	MAXIMUM ALLOWED	75 FT	IBC 1014.3
EXIT ACCES TRAVEL DISTANCE	BUSINESS B UNSPRINKLERED	200 FT	IBC TABLE 1016.1
EXITS FROM STORIES	--	--	IBC TABLE 1021.2
EXIT ENCLOSURES	--	--	IBC TABLE 1022.1
NUMBER OF EXITS	MINIMUM FOR ENTIRE BUILDING	2	IBC TABLE 1021.1

FILE: $FILE$
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OFFICE BUILDING

FRANKLIN, VA

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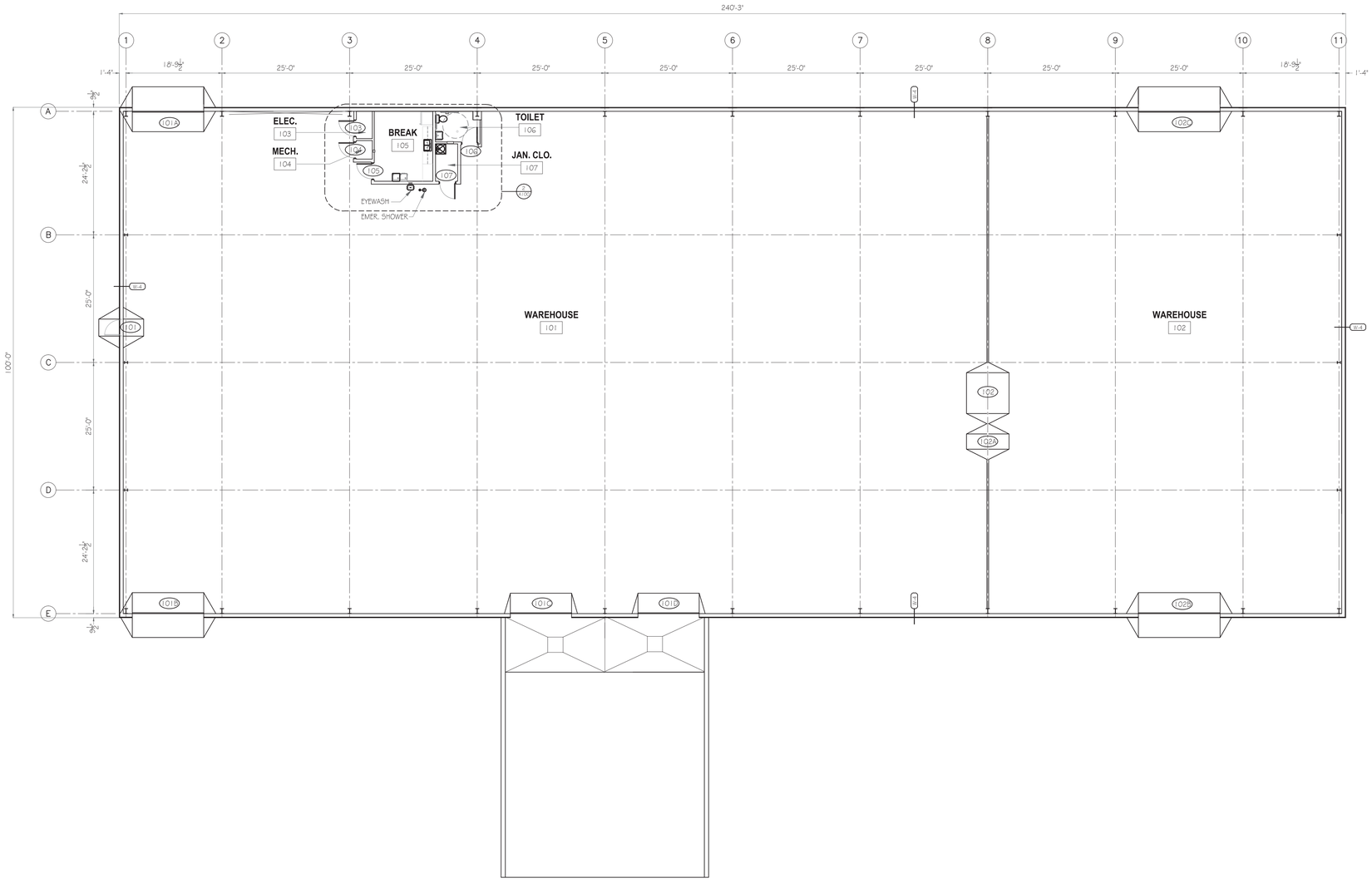
LIFE SAFETY PLAN (FOR REFERENCE ONLY)

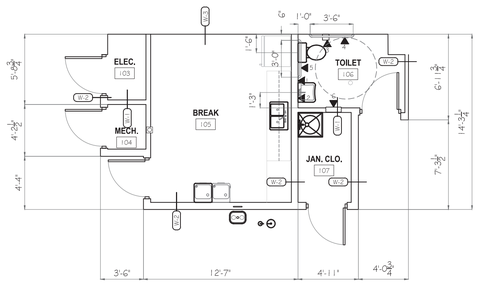
WORKING NUMBER: **OB-LS100**

DRAWING NUMBER: **9 of 9**



1 **Floor Plan**
SCALE: 3/32" = 1'-0"

PROJECT NORTH



2 **Enlarged Plan**

ACCESSORY LEGEND:

1	SOAP DISPENSER
2	MIRROR
3	TOILET PAPER DISPENSER
4	42" GRAB BAR
5	36" GRAB BAR
6	P.T. DISPENSER / RECEPTICAL

PARTITION TYPES

W-1	3-5/8", 25 GA. METAL STUDS @ 16" O.C. W/ ONE LAYER 5/8" GYP. BD. EACH SIDE. EXTEND WALL 6" ABOVE CEILING. SOUND BATT INSULATION.
W-2	6", 20 GA. METAL STUDS @ 16" O.C. W/ ONE LAYER 5/8" GYP. BD. EACH SIDE. SOUND BATT INSULATION.
W-3	METAL WALL PANELS, STEEL WALL GIRT, VINYL FACED BATT INSULATION, 3-5/8", 18 GA. METAL STUDS @ 16" O.C. W/ ONE LAYER 5/8" GYP. BD. ONE SIDE.
W-4	METAL WALL PANELS, STEEL WALL GIRT, VINYL FACED BATT INSULATION.

REVISIONS				DRAWING INFORMATION	
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				CHKD:	DATE:
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PINNACLE AGRICULTURE HOLDINGS, LLC
WAREHOUSE

FRANKLIN, VA

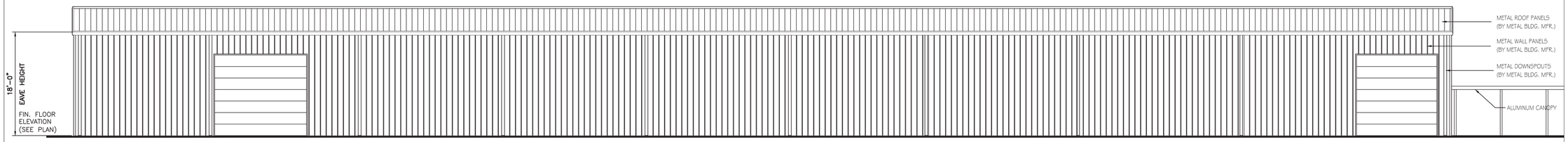
SEAL:

NEEL-SCHAFFER
Solutions you can build upon

FLOOR PLAN (FOR REFERENCE ONLY)

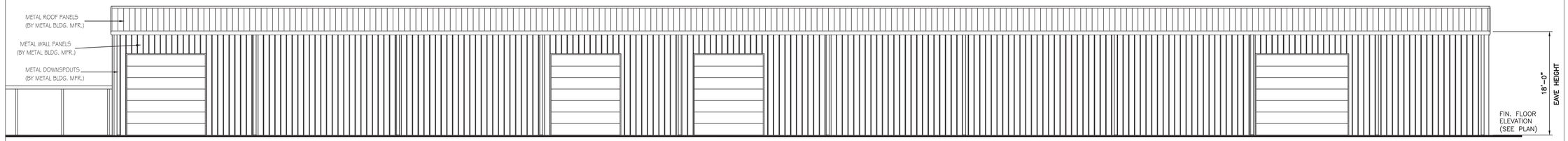
WORKING NUMBER:	DRAWING NUMBER:
WH-A100	**1 of 5**

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$



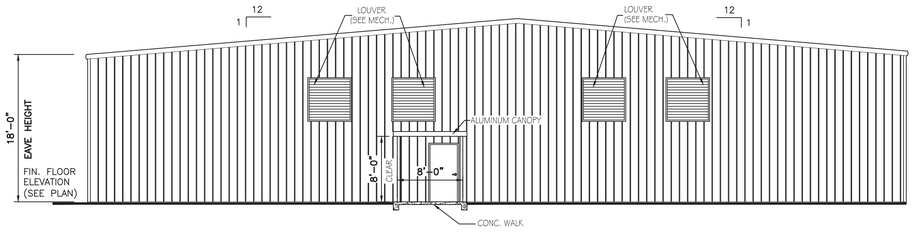
1 East Elevation - Warehouse

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



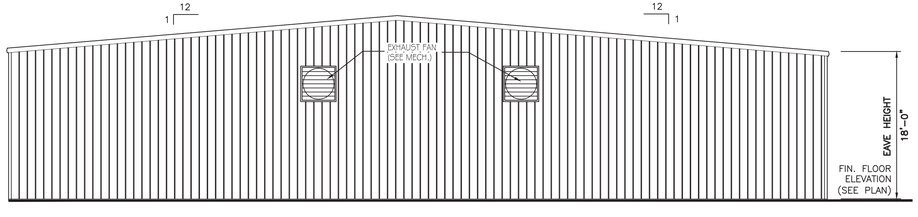
2 West Elevation - Warehouse

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



3 South Elevation - Warehouse

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



4 North Elevation - Warehouse

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

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

REVISIONS				DRAWING INFORMATION	
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				SURVEYED BY:	
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PINNACLE AGRICULTURE HOLDINGS, LLC
WAREHOUSE

FRANKLIN, VA

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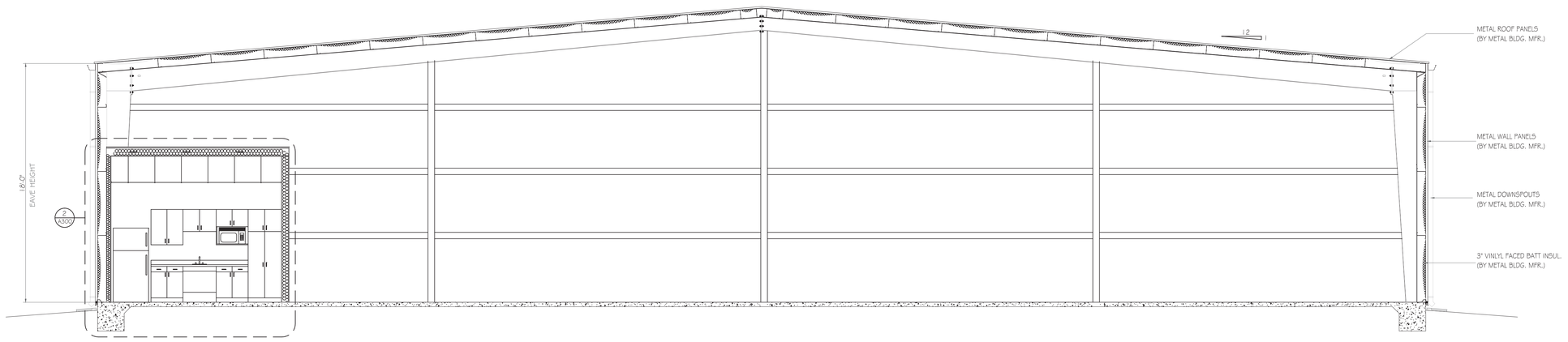
ELEVATIONS (FOR REFERENCE ONLY)

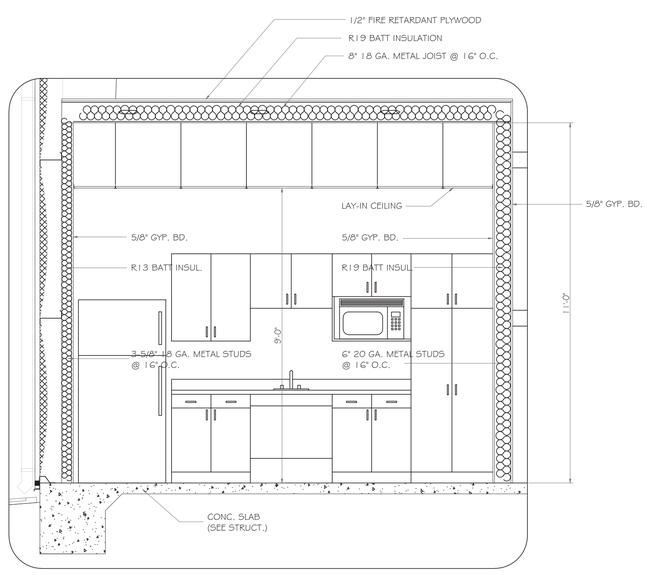
WORKING NUMBER: **WH-A200**

DRAWING NUMBER: **2 of 5**



1 Building Section

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



2 Enlarged Section

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

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

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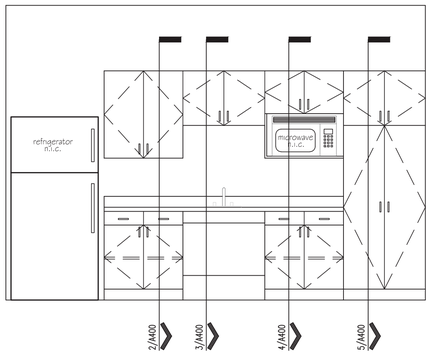
SECTIONS (FOR REFERENCE ONLY)

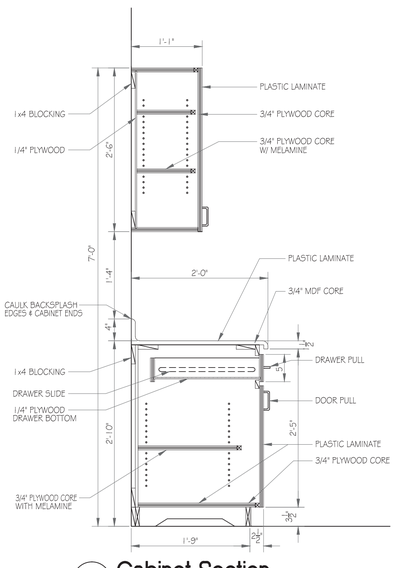
WORKING NUMBER: **WH-A300**

DRAWING NUMBER: **of 5**

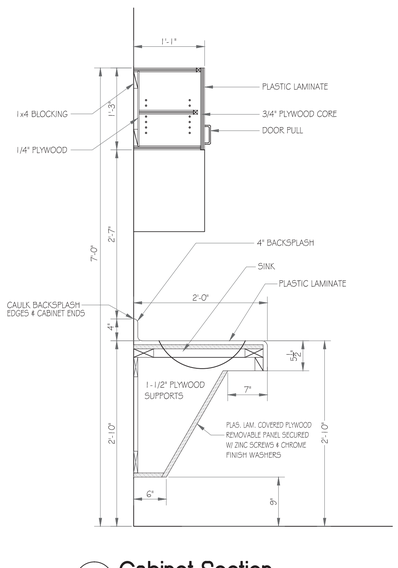


1 Interior Elevation
SCALE: 1/2" = 1'-0"

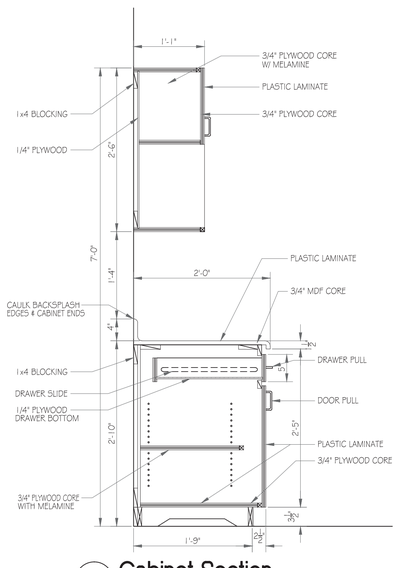
NOTE:
FINISH ALL EXPOSED SURFACES WITH PLASTIC LAMINATE, UNLESS NOTED OTHERWISE



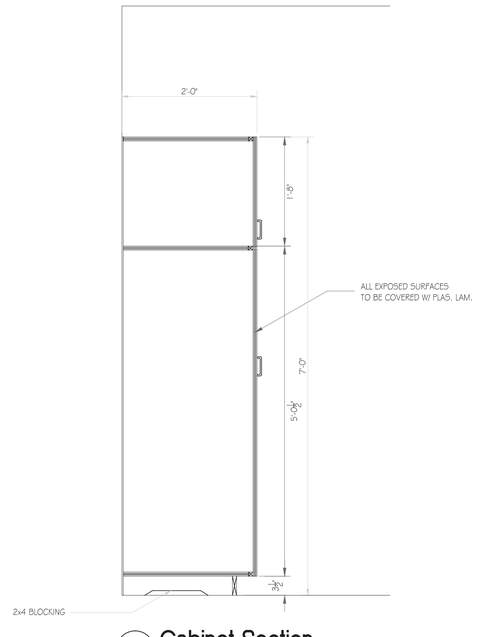
2 Cabinet Section
SCALE: 1" = 1'-0"



3 Cabinet Section
SCALE: 1" = 1'-0"



4 Cabinet Section
SCALE: 1" = 1'-0"



5 Cabinet Section
SCALE: 1" = 1'-0"

FILE: $FILE$
DATE: $DATE$ TIME: $TIME$ USER: $USER$

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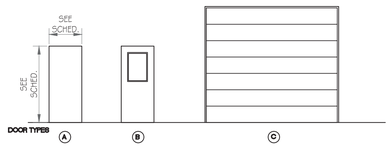
INTERIOR ELEVATION & CABINET DETAILS (FOR REFERENCE ONLY)

WORKING NUMBER: **WH-A400**

DRAWING NUMBER: **of 5**

DOOR SCHEDULE

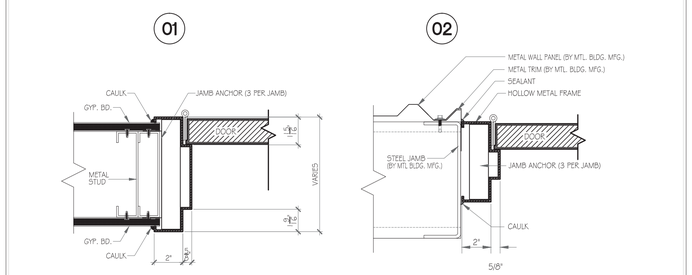
DOOR #	TYPE	HWARE SET	SIZE	MATL	FINISH	FRAME MATL	FRAME FINISH	JAMB DETAIL	REMARKS:
101	A	01	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	02	
101A	C		14' x 14'	METAL	PAINT	METAL	PAINT		
101B	C		14' x 14'	METAL	PAINT	METAL	PAINT		
101C	C		12' x 14'	METAL	PAINT	METAL	PAINT		
101D	C		12' x 14'	METAL	PAINT	METAL	PAINT		
102	C		8' x 14'	METAL	PAINT	METAL	PAINT		
102A	A	01	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	02	
102B	C		16' x 14'	METAL	PAINT	METAL	PAINT		
102C	C		16' x 14'	METAL	PAINT	METAL	PAINT		
103	A	03	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	01	
104	A	02	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	01	
105	A	02	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	01	
106	A	03	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	01	
107	A	02	3'0"x 7'0"	METAL	PAINT	H.M.	PAINT	01	



HARDWARE SCHEDULE

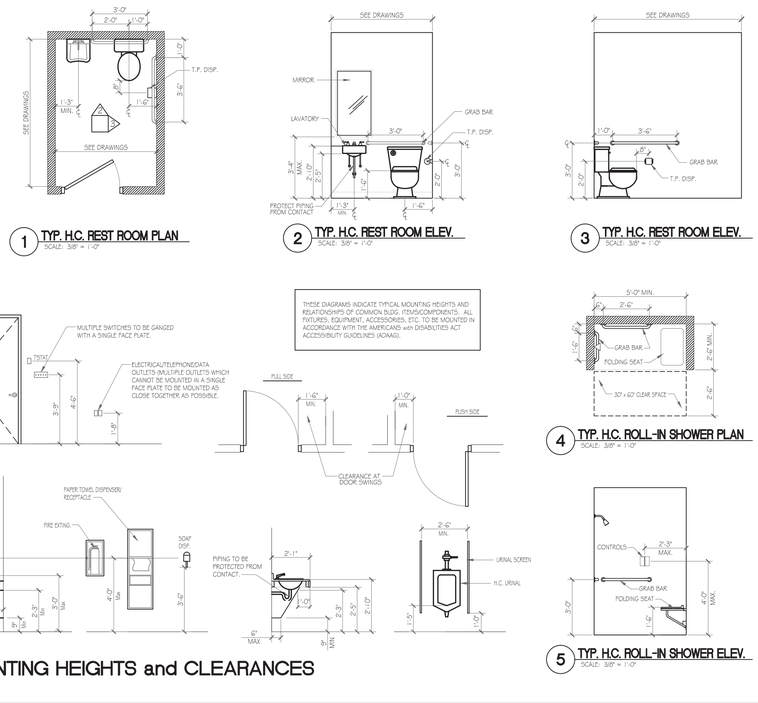
SET NO. 1	SET NO. 2	SET NO. 3	SET NO. 4
3 HINGES 3 SILENCERS 1 PANIC DEVICE 1 STOP 1 WEATHERSTRIPPING 1 THRESHOLD 1 CLOSER	3 HINGES 3 SILENCERS 1 LOCKSET 1 STOP	3 HINGES 3 SILENCERS 1 PRIVACY SET 1 STOP	3 HINGES 3 SILENCERS 1 PANIC DEVICE 1 STOP 1 CLOSER

DOOR JAMB DETAILS



FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR: SEALED CONCRETE	FLOOR: TROWEL FINISH CONCRETE	BASE: 4" RUBBER	BASE: NONE	WALL: PAINTED GYP. BD.	WALL: EXPOSED STRUCTURE	WAINSCOAT: NONE	CEILING: 2 x 2 LAY-IN ACOUSTICAL	CEILING: EXPOSED STRUCTURE	REMARKS:
101	WAREHOUSE	●			●		●	●		●	
102	WAREHOUSE	●			●		●	●		●	
103	ELECTRICAL	●		●		●				●	
104	MECHANICAL	●		●		●			●		
105	STORAGE	●			●		●	●		●	
106	TOILET	●		●		●		●	●		
107	JANITOR CLOSET	●		●		●		●	●		



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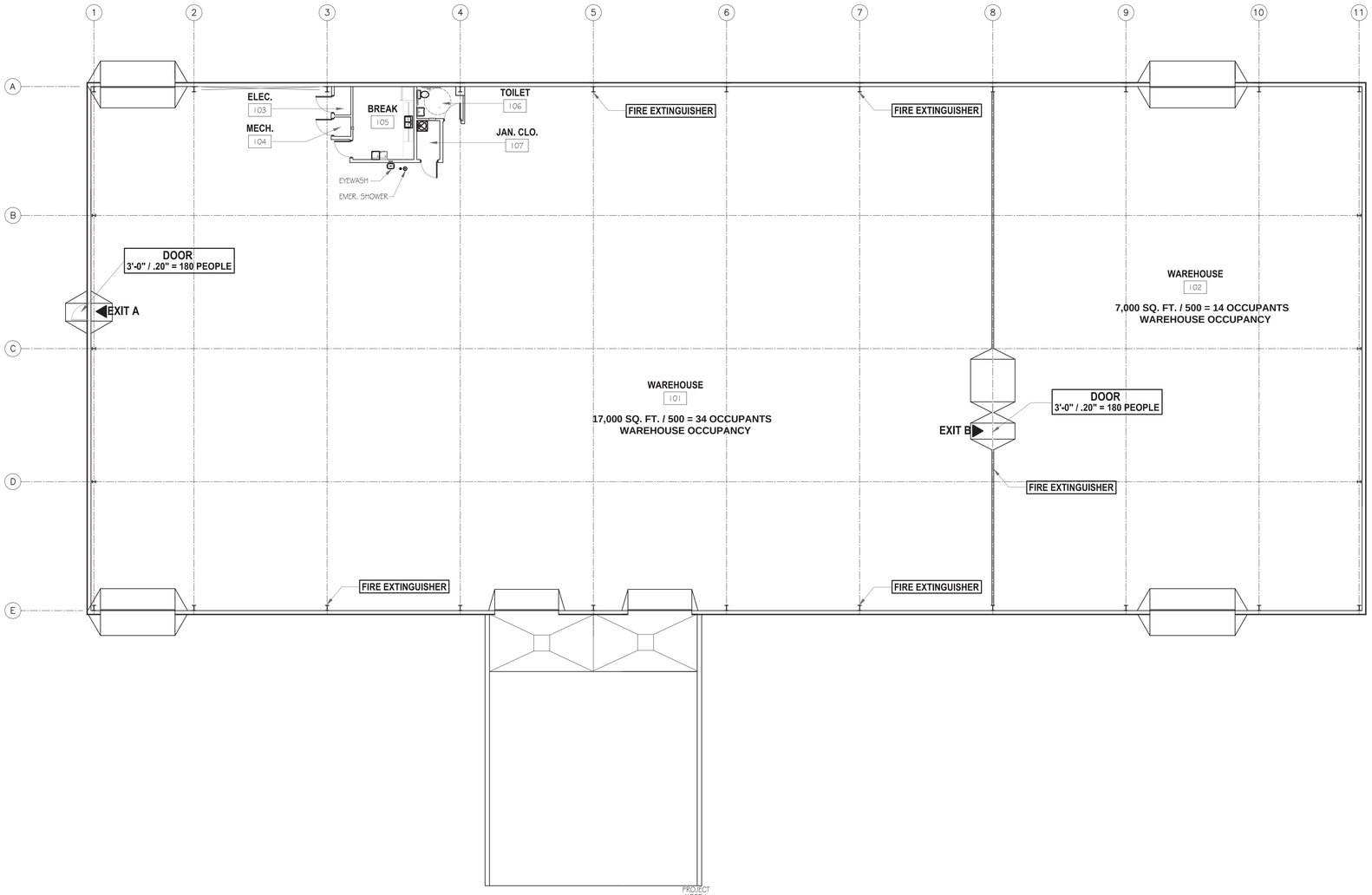

1 Life Safety Plan

SCALE: 3/32" = 1'-0"

EXIT WIDTH COMPLIANCE TABLE PER IBC 1005.1

EXIT	OCCUPANT LOAD	WIDTH / PERSON	WIDTH (INCHES)		NOTES
			REQ'D	ACTUAL	
A	16	0.2	4	36	
B	16	0.2	4	36	
C	32	TOTAL OCCUPANT LOAD			

PLUMBING FIXTURE COUNT COMPLIANCE TABLE PER IBC TABLE 2902.1

	TOILETS	LAVATORIES	URINALS	SHOWERS	DRINKING FOUNTAINS	SERVICE SINKS
FIXTURES REQUIRED						
MEN	1	1	--	0	1	1
WOMEN	1	1	--	0		
FIXTURES PROVIDED						
MEN	1	1	--	0	1	1
WOMEN	0	0	--	0		
NOTES						
NOTE 1	OWNER TO PROVIDE VERIFICATION THAT 15 OR LESS EMPLOYEES WILL OCCUPY BUILDING AT ONE TIME TO ALLOW ONLY ONE TOILET AND ONE LAVATORY AS SHOWN.					

CODE COMPLIANCE TABLE

PROJECT: Pinnacle Ag - Warehouse - Franklin, VA

APPLICABLE CODES AND STANDARDS

IBC - INTERNATIONAL BUILDING CODE - 2009 EDITION
IFC - INTERNATIONAL FIRE CODE - 2009 EDITION
NEC - NATIONAL ELECTRICAL CODE - 2008 EDITION
IPC - INTERNATIONAL PLUMBING CODE - 2009 EDITION
IMC - INTERNATIONAL MECHANICAL CODE - 2009 EDITION
ADAAG - AMERICANS WITH DISABILITIES ACT ARCHITECTURAL GUIDLINES - 2010

BUILDING COMPONENTS	CODE APPLICATION		CODE SECTIONS AND NOTES
USE AND OCCUPANCY CLASSIFICATION	**DESCRIPTION**	**VALUE**	
PRIMARY OCCUPANCY	HIGH HAZARD - GROUP H3		IBC 303
MIXED OCCUPANCY SEPARATION	N/A		IBC TABLE 508.4
CONSTRUCTION TYPE	IIB, SPRINKLERED		IBC 602.2
HEIGHT MODIFICATIONS			
TABULAR HEIGHT ALLOWED	55 FT.	18 FT	IBC TABLE 503
NO. OF STORIES INCREASE	N/A	0	IBC 504.2
TOTAL STORIES ALLOWED		2	
ACTUAL NO. OF STORIES =		1	HEIGHT IS IN COMPLIANCE
AREA MODIFICATIONS			IBC 506
BUILDING AREA			
TABULAR AREA ALLOWED	AREA ALLOWED PER FLOOR	14,000	IBC TABLE 503
FRONTAGE INCREASE FORMULA	=[F/P - 0.25] W/30		IBC 506.2
FRONTAGE INCREASE AMOUNT	75.0%	10,500	IBC 506.2
AUTOMATIC SPRINKLER INCREASE	0%	0	IBC 506.3
TOTAL AREA ALLOWED	WITH INCREASES	24,500	IBC 506.1
ACTUAL AREA	ACTUAL ROOFED AREA	24,580	AREA IS IN COMPLIANCE W/ MIN. SPRINKER INCREASE
INCIDENTAL USE AREAS	NO SEPARATION REQUIRED		IBC TABLE 508.2.5
ACCESORY USE AREAS	NONE OVER 10%		IBC 508.2.6
MIXED OCCUPANCY SEPARATION			
SEPARATED OCCUPANCIES	N/A		IBC TABLE 508.4
FIRE RESISTANCE RATINGS			
STRUCTURAL FRAME		0 HOUR	IBC TABLE 601
BEARING WALLS			
EXTERIOR		0 HOUR	IBC TABLES 601 AND 602
INTERIOR		0 HOUR	IBC TABLE 601
NON-BEARING WALLS AND PARTITIONS			
EXTERIOR	FIRE SEPARATION DISTANCE > 30 FT	0 HOUR	IBC TABLE 602
INTERIOR		0 HOUR	IBC TABLE 601
FLOOR / CEILING		0 HOUR	IBC TABLE 601
ROOF / CEILING		0 HOUR	IBC TABLE 601
FIRE RESISTANT PROTECTIVE CONSTRUCTION REQUIREMENTS			
MAX AREA OF EXTERIOR WALL OPENINGS	FIRE SEPARATION DISTANCE > 30 FT		IBC TABLE 705.8
PARAPETS AT EXTERIOR WALLS	FIRE SEPARATION DISTANCE > 30 FT		IBC 705.11
FIRE WALLS	NOT APPLICABLE		IBC 706.4
FIRE BARRIERS	NOT APPLICABLE		IBC 707
SHAFT ENCLOSURES	NOT APPLICABLE		IBC 707.3.1
EXIT ENCLOSURES	NOT APPLICABLE		IBC 1022.1
HORIZONTAL EXITS	NOT APPLICABLE		IBC 1026.1
FIRE PARTITIONS - CORRIDOR WALLS	NOT APPLICABLE		IBC 709 / IBC TABLE 1018.1
SMOKE BARRIERS	NOT APPLICABLE		IBC 710
SMOKE PARTITIONS	NOT APPLICABLE		IBC 711
HORIZONTAL ASSEMBLIES	NOT APPLICABLE		IBC 712
OPENING PROTECTIVES	NOT APPLICABLE		IBC 715
DOORS / SHUTTERS AT FIRE WALL	NOT APPLICABLE		IBC 705.8 / IBC TABLE 715.4
GLAZING AT FIRE WALL	NOT APPLICABLE		IBC TABLE 715.4
DUCT AND AIR TRANSFER OPENINGS	NOT APPLICABLE		IBC TABLE 716.3.2.1
CONCEALED SPACES			
DRAFT-STOPPING FLOORS & CEILINGS	NOT APPLICABLE	NONE	IBC 717.3
DRAFT-STOPPING ATTICS	NOT APPLICABLE	NONE	IBC 717.4
INTERIOR FINISHES			
EXIT ENCLOSURES AND PASSAGEWAYS	FINISH RATING REQUIRED	CLASS B	IBC TABLE 803.9
CORRIDORS	FINISH RATING REQUIRED	CLASS B	IBC TABLE 803.9
ROOMS AND ENCLOSED SPACES	FINISH RATING REQUIRED	CLASS C	IBC TABLE 803.9
FIRE PROTECTION SYSTEMS			
AUTOMATIC FIRE SPRINKLER SYSTEM	PROVIDED		IBC 903.2.1.3 , 907.2.2
PORTABLE FIRE EXTINGUISHERS	PROVIDED		IBC 906.1
FIRE ALARM AND DETECTION SYSTEMS	PROVIDED		IBC 907.2.1
MEANS OF EGRESS			
CEILING HEIGHT	MINIMUM ALLOWED	7'-6"	IBC 1003.2
OCCUPANT LOAD	=(22,744/500)	46	IBC 1004
WAREHOUSE - HIGH HAZARD H-3	GROSS SF / PERSON	500 SF	IBC TABLE 1004.1.1
COMMON PATH OF TRAVEL	MAXIMUM ALLOWED	25 FT	IBC 1014.3
EXIT ACCES TRAVEL DISTANCE	HIGH HAZARD H-3 SPRINKLERED	150 FT	IBC TABLE 1016.1
EXITS FROM STORIES	--	--	IBC TABLE 1021.2
EXIT ENCLOSURES	--	--	IBC TABLE 1022.1
NUMBER OF EXITS	MINIMUM FOR ENTIRE BUILDING	2	IBC TABLE 1021.1

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WAREHOUSE

FRANKLIN, VA

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LIFE SAFETY PLAN (FOR REFERENCE ONLY)

WORKING NUMBER: **WH-LS100**

DRAWING NUMBER: **of 5**

FILE: $FILE$
DATE: $DATE$
TIME: $TIME$
USER: $USER$

GENERAL NOTES:

A. INSTALLATION

1. ALL PIPING OR DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILINGS.

2. THERMOSTATS SHALL BE LOCATED 5'-0" ABOVE FLOOR AND SHALL CLEAR ALL EQUIPMENT. THERMOSTATS LOCATED NEXT TO DOORS SHALL BE LOCATED ON LATCH SIDE OF DOOR.

3. COORDINATE DIFFUSER, GRILLE, AND REGISTER LOCATIONS WITH REFLECTED CEILING PLAN.

4. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COORDINATION OF WORK OF ALL TRADES TO ASSURE PROPER INSTALLATION AND CLEARANCES. DRAWINGS ARE ESSENTIALLY DIAGRAMMATICAL AND THEREFORE CONTRACTOR SHOULD PLAN EXACT ROUTING OF DUCT AND PIPE BASED ON FIELD CONDITIONS. PROVIDE ADDITIONAL TRANSITIONS AND OFFSETS AS NECESSARY (AT NO ADDITIONAL COST TO OWNER) TO COMPLETE INSTALLATION AND MAINTAIN REQUIRED CEILING HEIGHTS.

5. ACCESS PANELS IN DUCTWORK AND NON-ACCESSIBLE CEILINGS SHALL BE PROVIDED FOR OPERATION AND MAINTENANCE OF ALL BOXES, COILS, VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. PROVIDE MINIMUM 24" X 24" CEILING ACCESS PANEL FOR VAV BOXES AND 12" X 12" FOR DAMPERS. COORDINATE EXACT PLACEMENT OF ACCESS PANELS AND EQUIPMENT SO THAT REASONABLE MAINTENANCE SPACE IS AVAILABLE.

6. CONTRACTOR SHALL COORDINATE ALL OPENINGS IN ROOF TO CONFORM WITH DIMENSIONS OF EQUIPMENT PURCHASED. DUCTS THROUGH ROOF TO FANS AND HVAC EQUIPMENT SHALL BE TRANSITIONED TO COORDINATE WITH EQUIPMENT CONNECTION SIZES AND ROOF OPENING REQUIREMENTS.

7. INSTALLATION OF ALL EQUIPMENT AND SYSTEMS SHALL BE IN ACCORDANCE WITH STANDARD DETAILS, SECTIONS, AND ELEVATIONS SHOWN ON THE DRAWINGS.

8. CONTRACTOR SHALL MAINTAIN A CLEAR SERVICE AREA AROUND ALL EQUIPMENT FOR MAINTENANCE SUCH AS, FILTER REMOVAL, MOTOR AND DRIVE ADJUSTMENTS, COIL AND TUBE CLEANING OR REMOVAL.

9. ALL CONSTRUCTION SHALL BE PER DETAILS AND SPECIFICATIONS OF CONTRACT DOCUMENTS.

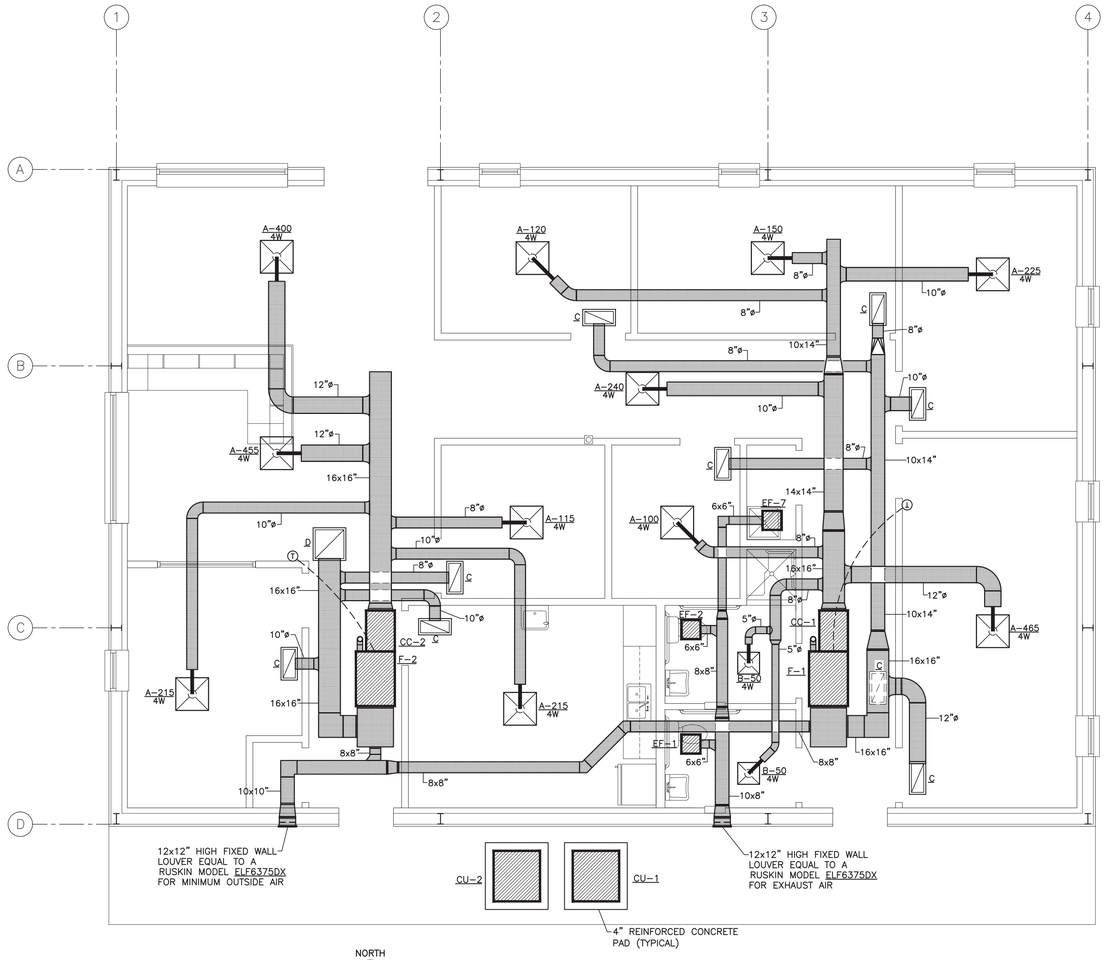
B. DUCTWORK

1. ALL DUCT RUNOUTS TO DIFFUSERS, RETURN AIR GRILLES AND EXHAUST GRILLES SHALL BE COMPLETE WITH VOLUME DAMPERS UNLESS NOTED OTHERWISE. DAMPERS MAY BE OMITTED IN DUCT RUNOUTS FROM BOXES SERVING SINGLE DIFFUSER. LOCATE DAMPERS SO THEY ARE ACCESSIBLE FROM LAY-IN CEILING OR ACCESS DOORS.

2. ROUND SUPPLY RUNOUTS TO DIFFUSERS SHALL BE HARD METAL TO WITHIN 5'-0" DEVELOPED LENGTH FROM DIFFUSER. MAXIMUM 5'-0" OF FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTION TO DIFFUSER.

3. DUCT TRANSITIONS SHALL BE PROVIDED AS REQUIRED FROM ALL EQUIPMENT CONNECTS TO DUCT SIZES INDICATED ON DRAWINGS.

4. PROVIDE EASED INLET RECTANGULAR TO ROUND TAPS AT DUCT TAPS IF ROUND DUCT SIZE IS TOO LARGE FOR BELLMOUTH TAP TO TRUNK DUCT.



NORTH

OFFICE FLOOR PLAN/H.V.A.C.

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

GENERAL H.V.A.C. NOTES:

1. ALL NEW THERMOSTATS SHALL BE 7-DAY PROGRAMMABLE TYPE T'STATS.
2. CONTRACTOR SHALL ROUTE NEW REFRIGERANT PIPING UP IN EXTERIOR WALL TO ATTIC SPACE. SIZE AS PER MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR SHALL ROUTE NEW 3"ø VENT AND 3"ø INTAKE FROM EACH FURNACE UP THRU ROOF TO CONCENTRIC VENT.

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PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
SCOTT C. WOODS
Lic. No. 054747
8-12-2015
PROFESSIONAL ENGINEER

SEAL:

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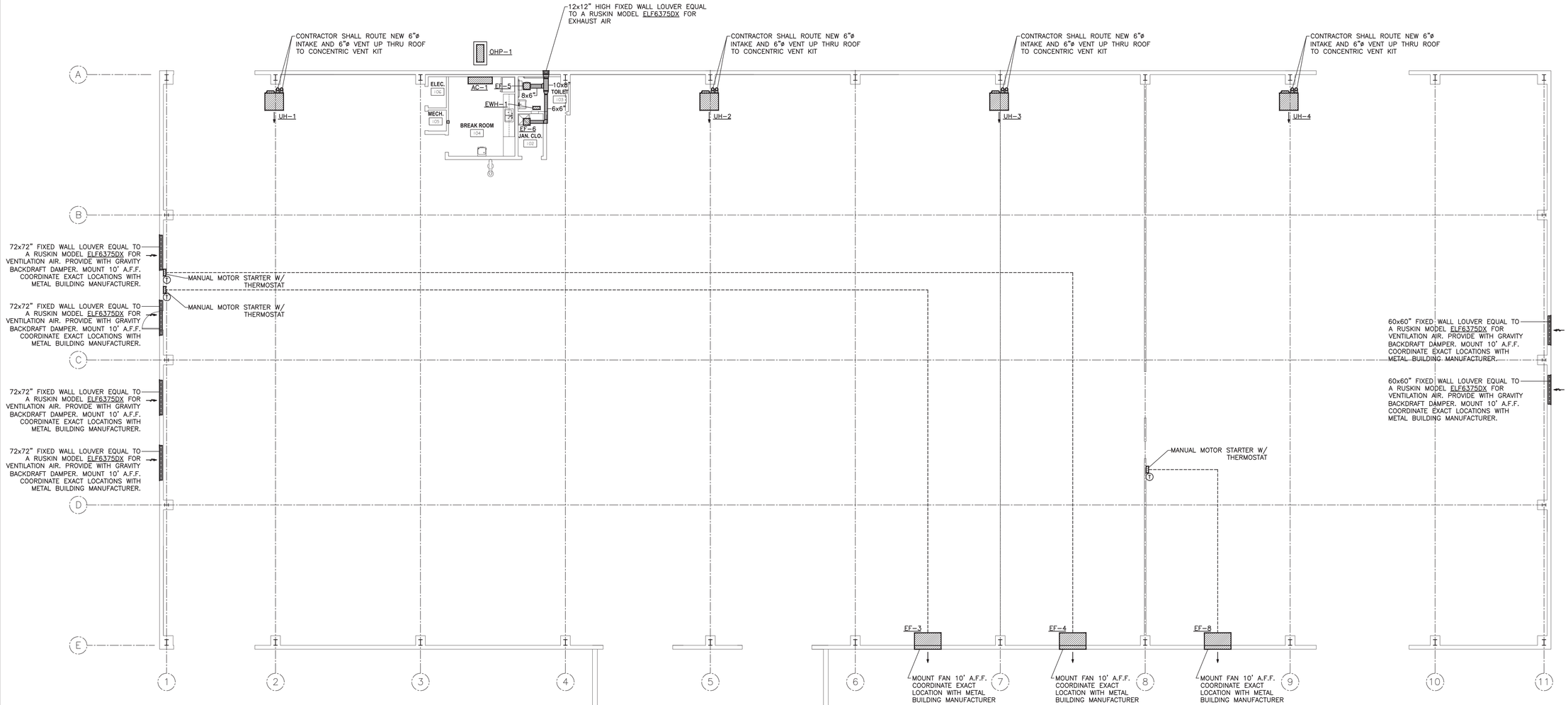
OFFICE FLOOR PLAN/H.V.A.C.

WORKING NUMBER: M-1

DRAWING NUMBER:

SCWA #15-068

Scott C. Woods and Associates
SCWA Mechanical Engineers
112 Lone Wolf Dr./Madison, Ms 39110
Ph. (601)859-9864/Fax (601)859-2564/Email www.scweng.com



NORTH

WAREHOUSE FLOOR PLAN - H.V.A.C.

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

SCWA #15-068

Scott C. Woods and Associates

SCWA Mechanical Engineers

112 Lone Wolf Dr./Madison, Ms 39110
Ph. (601)859-9864/Fax (601)859-2564/Email www.scweng.com

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				DRWN: D.V.M.	DATE: 08/12/15
				CHKD: S.C.W.	DATE: 08/12/15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
SCOTT C. WOODS
Lic. No. 054747
8-12-2015
PROFESSIONAL ENGINEER

SEAL:

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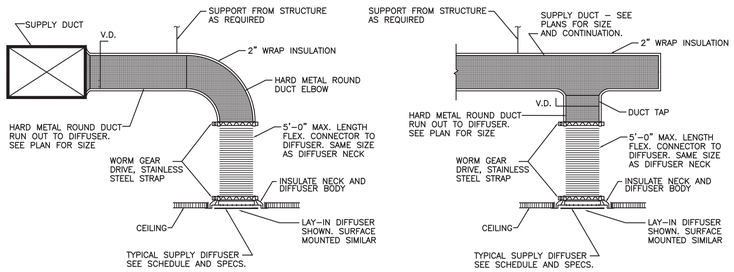
WAREHOUSE FLOOR PLAN/H.V.A.C.

WORKING NUMBER:	DRAWING NUMBER:
M-2	

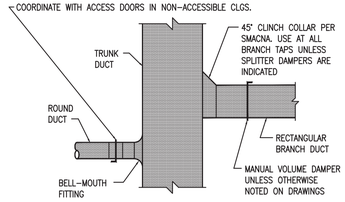
NOTE:
CLOSURE SYSTEMS USED TO SEAL FLEXIBLE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181B-M" FOR MASTIC. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-C".



TYPICAL DIFFUSER MOUNTING
N.T.S.

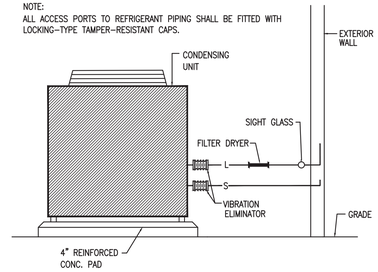
NOTE:
DAMPERS SHALL BE PROVIDED IN ALL BRANCH RUN-OUTS TO DIFFUSERS, GRILLES AND REGISTERS UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS. DAMPERS ABOVE INACCESSIBLE CLG. SHALL BE COORDINATED WITH ACCESS DOORS. IF DAMPERS OCCUR IN AREAS NOT ACCESSIBLE FROM ACCESS DOORS PROVIDE OPERATOR ROD AND CLG. REGULATOR WITH GASKET AND SEALED CEILING PENETRATION.

PROVIDE MANUAL OPPOSED BLADE VOLUME DAMPER IN BRANCH LINE UNLESS OTHERWISE NOTED ON DRAWINGS. DAMPERS SHALL BE INSTALLED IN ACCESSIBLE LOCATION NEAR TRUNK DUCT AND MINIMUM OF 5'-0" FROM ANY AIR INLET OR OUTLET DEVICE. COORDINATE WITH ACCESS DOORS IN NON-ACCESSIBLE CLGS.

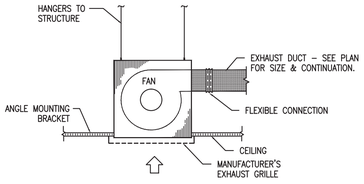


BRANCH DUCT TAP DETAIL
N.T.S.

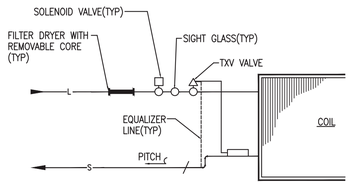
NOTE:
ALL ACCESS PORTS TO REFRIGERANT PIPING SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS.



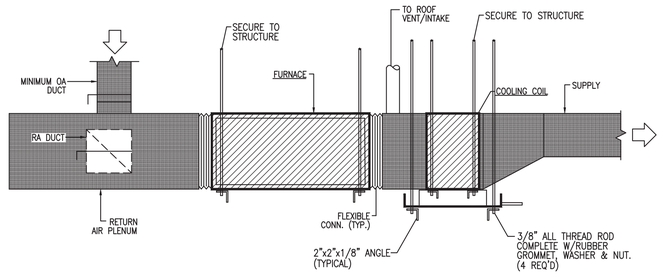
DETAIL AT CONDENSING UNIT PIPING
N.T.S.



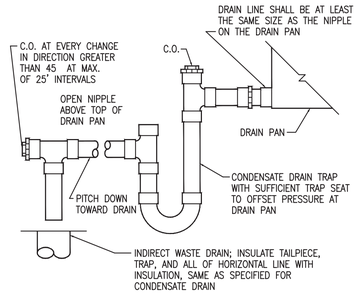
CEILING MOUNTED EXHAUST FAN DETAIL
N.T.S.



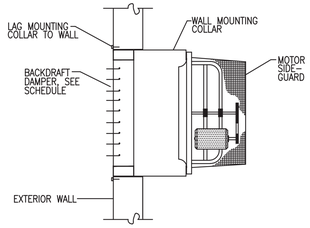
PIPING AT DX COIL
N.T.S.



ELEVATION AT HORIZONTAL MTD. FURNACE
N.T.S.



CONDENSATE DRAIN TRAP DETAIL
N.T.S.



WALL FAN MOUNTING DETAIL
N.T.S.

DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	MAKE	MODEL	COOLING			HEATING			ELECTRICAL				MCA	MOP	REMARKS
			AMBIENT	MBH	SEER	AMBIENT	MBH	COP	COMP. FLA	FAN FLA	VOLTS	PHASE			
OHP-1	SAMSUNG	AQV12NSDX	95°	12.0	18.0	47°	13.5	3.3	---	---	208	1	---	20	

DUCTLESS SPLIT SYSTEM INDOOR UNIT SCHEDULE (WALL MOUNTED)

MARK	MAKE	MODEL	FAN			MOTOR			COOLING-95° AMB.			HEATING - 47° AMB.						MCA	MOP	REMARKS
			TOT CFM	O.A CFM	E.S.P.	HP	VOLTS	PH.	EAT	TMBH	SMBH	EAT	MBH	AUX. HEAT KW	STEPS	VOLTS	PH.			
AC-1	SAMSUNG	AQV12NSD	300	---	---	---	208	1	80°	12.0	8.6	70°	13.5	---	---	---	-	---	---	MOUNT 7'-6" A.F.F.

SCWA #15-068
Scott C. Woods and Associates
SCWA Mechanical Engineers
112 Lone Wolf Dr./Madison, Ms 39110
Ph. (601)859-9864/Fax (601)859-2564/Email www.scweng.com

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME:	
				CADD TYPE:	
				SURVEYED BY:	
				DSGN: D.V.M.	DATE: 08/12/15
				DRWN: D.V.M.	DATE: 08/12/15
				CHKD: S.C.W.	DATE: 08/12/15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VA

SEAL: COMMONWEALTH OF VIRGINIA SCOTT C. WOODS Lic. No. 054747 8-12-2015 PROFESSIONAL ENGINEER

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H.V.A.C. DETAILS

WORKING NUMBER: M-3

DRAWING NUMBER:

CONDENSING UNIT SCHEDULE

MARK	SERVES	MAKE	MODEL	TYPE	MBH @ ARI	COMPRESSOR					CONDENSER FANS					MIN. CIRCUIT AMPACITY	MAX. FUSE SIZE	REMARKS
						AMBIENT	NO	VOLTS	PHASE	FLA	NO	HP	VOLTS	PHASE	FLA			
CU-1	CC-1	TRANE	4TTA3042	SCROLL	42.0	95°F	1	208	3	12.6	1	1/4	208	1	1.3	18	30	SEE SPECS
CU-2	CC-2	TRANE	4TTA3042	SCROLL	42.0	95°F	1	208	3	12.6	1	1/4	208	1	1.3	18	30	SEE SPECS

GAS FURNACE SCHEDULE (LP GAS)

MARK	MAKE	MODEL	TYPE	MBH INPUT	MBH OUTPUT	TOTAL CFM	OA CFM	ESP	MOTOR			TYPE GAS	VENT SIZE	INTAKE SIZE	REMARKS
									HP	VOLTS	PHASE				
F-1	TRANE	TUCC100	HORIZONTAL	100.0	94.0	1,400	140	.50"	1/2	115	1	LP	3"ø	3"ø	PROVIDE W/ 1" FILTER RACK, CONCENTRIC VENT KIT, SEE SPECS
F-2	TRANE	TUCC100	HORIZONTAL	100.0	94.0	1,400	140	.50"	1/2	115	1	LP	3"ø	3"ø	PROVIDE W/ 1" FILTER RACK, CONCENTRIC VENT KIT, SEE SPECS

COOLING COIL SCHEDULE

MARK	MAKE	MODEL	CFM	EA DB	EA WB	TOT MBH	SENS MBH	APD IN WG	REMARKS
CC-1	TRANE	4TXC042	1,400	80°F	67°F	41.5	34.0	.20"	PROVIDE W/ COIL ENCLOSURE, SEE SPECS
CC-2	TRANE	4TXC042	1,400	80°F	67°F	41.5	34.0	.20"	PROVIDE W/ COIL ENCLOSURE, SEE SPECS

GAS FIRED HEATER UNIT SCHEDULE (LP GAS)

MARK	MAKE	MODEL	TYPE	GAS		FAN		MOTOR			INTAKE SIZE	VENT SIZE	WEIGHT	REMARKS
				INPUT MBH	OUTPUT MBH	CFM	ESP	H.P.	VOLTS	PHASE				
UH-1	REZNOR	UDAS-300	HORIZONTAL SEP. COMBUSTION	300.0	249.0	3,843	---	1/2	115	1	6"ø	6"ø	275 LBS.	PROVIDE W/ SUSPENSION KIT, UNIT MOUNTED THERMOSTAT, CONCENTRIC VENT KIT
UH-2	REZNOR	UDAS-300	HORIZONTAL SEP. COMBUSTION	300.0	249.0	3,843	---	1/2	115	1	6"ø	6"ø	275 LBS.	PROVIDE W/ SUSPENSION KIT, UNIT MOUNTED THERMOSTAT, CONCENTRIC VENT KIT
UH-3	REZNOR	UDAS-300	HORIZONTAL SEP. COMBUSTION	300.0	249.0	3,843	---	1/2	115	1	6"ø	6"ø	275 LBS.	PROVIDE W/ SUSPENSION KIT, UNIT MOUNTED THERMOSTAT, CONCENTRIC VENT KIT
UH-4	REZNOR	UDAS-300	HORIZONTAL SEP. COMBUSTION	300.0	249.0	3,843	---	1/2	115	1	6"ø	6"ø	275 LBS.	PROVIDE W/ SUSPENSION KIT, UNIT MOUNTED THERMOSTAT, CONCENTRIC VENT KIT

ELECTRIC WALL HEATER SCHEDULE

MARK	MAKE	MODEL	TYPE	HEATING OUTPUT	V	ø	REMARKS
EWH-1	MARKEL	SERIES 3310	FAN FORCED	1.5 KW	208	1	PROVIDE W/ SURFACE MOUNTING SLEEVE AND BUILT-IN THERMOSTAT

FAN SCHEDULE

MARK	MAKE	MODEL	TYPE	CFM	RPM	ESP	WHEEL		DRIVE	SONES	MOTOR			INTERLOCKED W/ CONTROLLED BY	REMARKS
							TYPE	MIN DIA			HP	VOLTS	PHASE		
EF-1	COOK	GC-140	CLG. MTD.	100	1500	.25"	FC	---	DIRECT	3.1	.009	120	1	WALL SWITCH	A,B,C,D, SEE SPECS
EF-2	COOK	GC-140	CLG. MTD.	100	1500	.25"	FC	---	DIRECT	3.1	.009	120	1	WALL SWITCH	A,B,C,D, SEE SPECS
EF-3	COOK	54XMWH	WALL PROP	30,000	398	.125"	PROP	---	BELT	21	3.0	460	3	T'STAT/STARTER	C,E,F, SEE SPECS
EF-4	COOK	54XMWH	WALL PROP	30,000	398	.125"	PROP	---	BELT	21	3.0	460	3	T'STAT/STARTER	C,E,F, SEE SPECS
EF-5	COOK	GC-160	CLG. MTD.	150	1500	.25"	FC	---	DIRECT	3.1	.009	120	1	WALL SWITCH	A,B,C,D, SEE SPECS
EF-6	COOK	GC-140	CLG. MTD.	100	1500	.25"	FC	---	DIRECT	3.1	.009	120	1	WALL SWITCH	A,B,C,D, SEE SPECS
EF-7	COOK	GC-140	CLG. MTD.	100	1500	.25"	FC	---	DIRECT	3.1	.009	120	1	WALL SWITCH	A,B,C,D, SEE SPECS
EF-8	COOK	48XMWH	WALL PROP	25,000	525	.125"	PROP	---	BELT	28	3.0	460	3	T'STAT/STARTER	C,E,F, SEE SPECS

ACCESSORIES: (A) VIBRATION ISOLATORS (B) GRAVITY BACKDRAFT DPR. (C) DISCONNECT (D) SPEED CONTROLLER (E) WALL COLLAR (F) GRAVITY SHUTTER

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MAKE	MODEL	TYPE	USE			MTG	PANEL SIZE	NECK SIZE	MAX CFM	MAX PD	DAMPER	FINISH	PATTERN	REMARKS
				S	R	E									
A	TITUS	TDC-AA	LOUVER FACE	X			LAY-IN	24x24"	SEE PLANS	SEE PLANS	.07"	---	WHITE	SEE PLANS	SEE SPECS
B	TITUS	TDC-AA	LOUVER FACE	X			SURFACE	MFGR'S STANDARD	SEE PLANS	SEE PLANS	.07"	---	WHITE	SEE PLANS	SEE SPECS
C	TITUS	50F	CUBE CORE		X		LAY-IN	24x12"	22x10"	1000	.05"	---	WHITE	SEE PLANS	SEE SPECS
D	TITUS	50F	CUBE CORE		X		LAY-IN	24x24"	22x22"	2200	.05"	---	WHITE	SEE PLANS	SEE SPECS

SCWA #15-068

Scott C. Woods and Associates

SCWA Mechanical Engineers

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REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.: NS.12213.000		
FILENAME:		
CADD TYPE:		
SURVEYED BY:		
DSGN: D.V.M.	DATE:	08/12/15
DRWN: D.V.M.	DATE:	08/12/15
CHKD: S.C.W.	DATE:	08/12/15
QA/QC:	DATE:	

PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
SCOTT C. WOODS
Lic. No. 054747
8-12-2015
PROFESSIONAL ENGINEER

SEAL:

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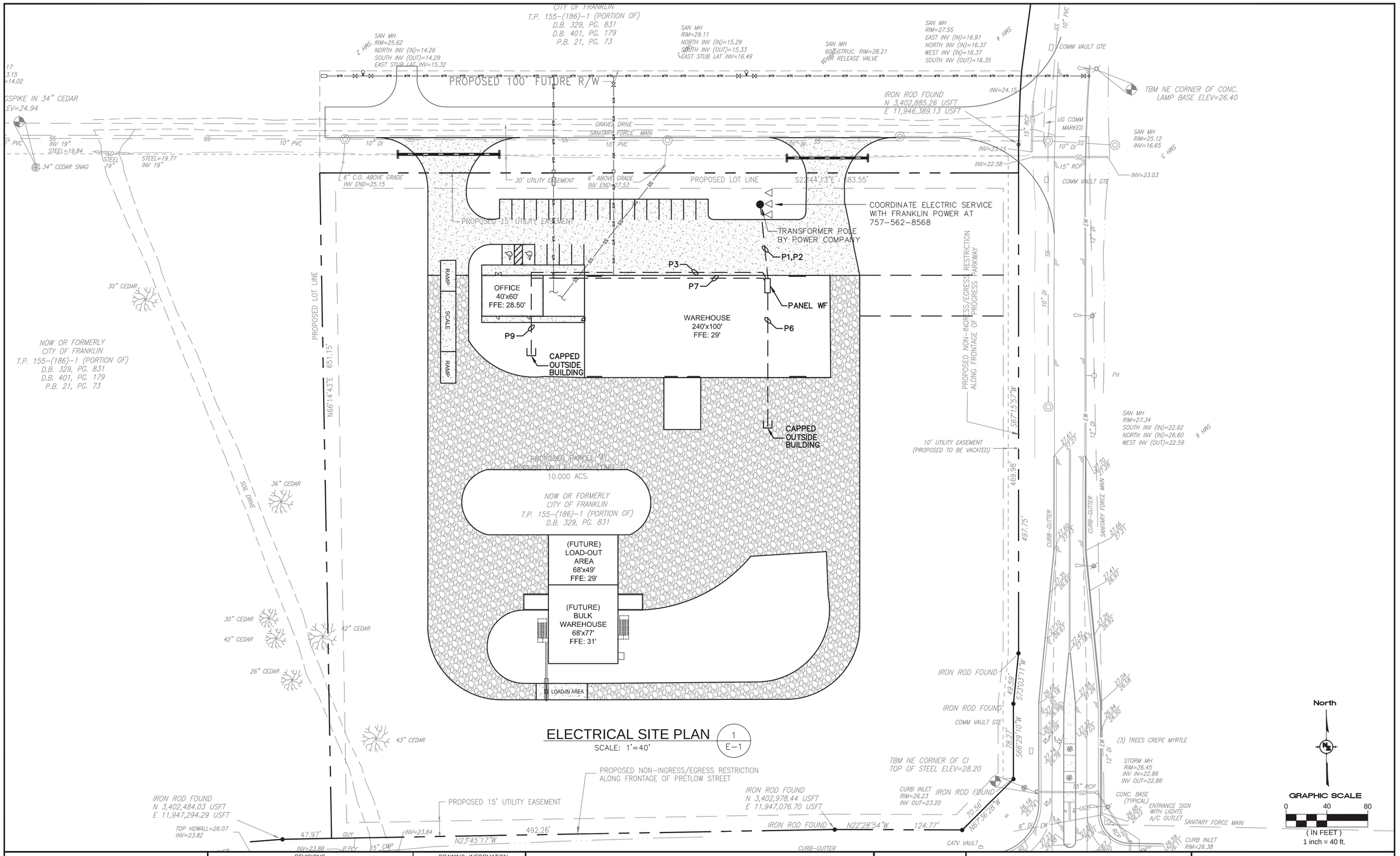
H.V.A.C.
SCHEDULES

WORKING NUMBER: M-4

DRAWING NUMBER:



ELECTRICAL SITE PLAN

SCALE: 1'=40'

1 / E-1

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.: NS.12213.000		
FILENAME: 12213-FV-ELEC-SITEPLN.DWG		
CADD TYPE: AutoCAD		
SURVEYED BY:		
DSGN: V.G.R.	DATE: JULY 15	
DRWN: J.E.M.	DATE: JULY 15	
CHKD: V.G.R.	DATE: JULY 15	
QA/QC:	DATE:	

PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VIRGINIA

BRADLEY ERWIN BIVENS
Lic. No. 051434
SEAL
09/18/15

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ELECTRICAL SITEPLAN

WORKING NUMBER:

DRAWING NUMBER: E-1

North

GRAPHIC SCALE

2' 1' 0 1' 5' 10'

1/4 INCH = 1 FOOT

LIGHTING PLAN

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

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: 12213-FV-08 LIGHT-PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
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SEAL
09/18/15

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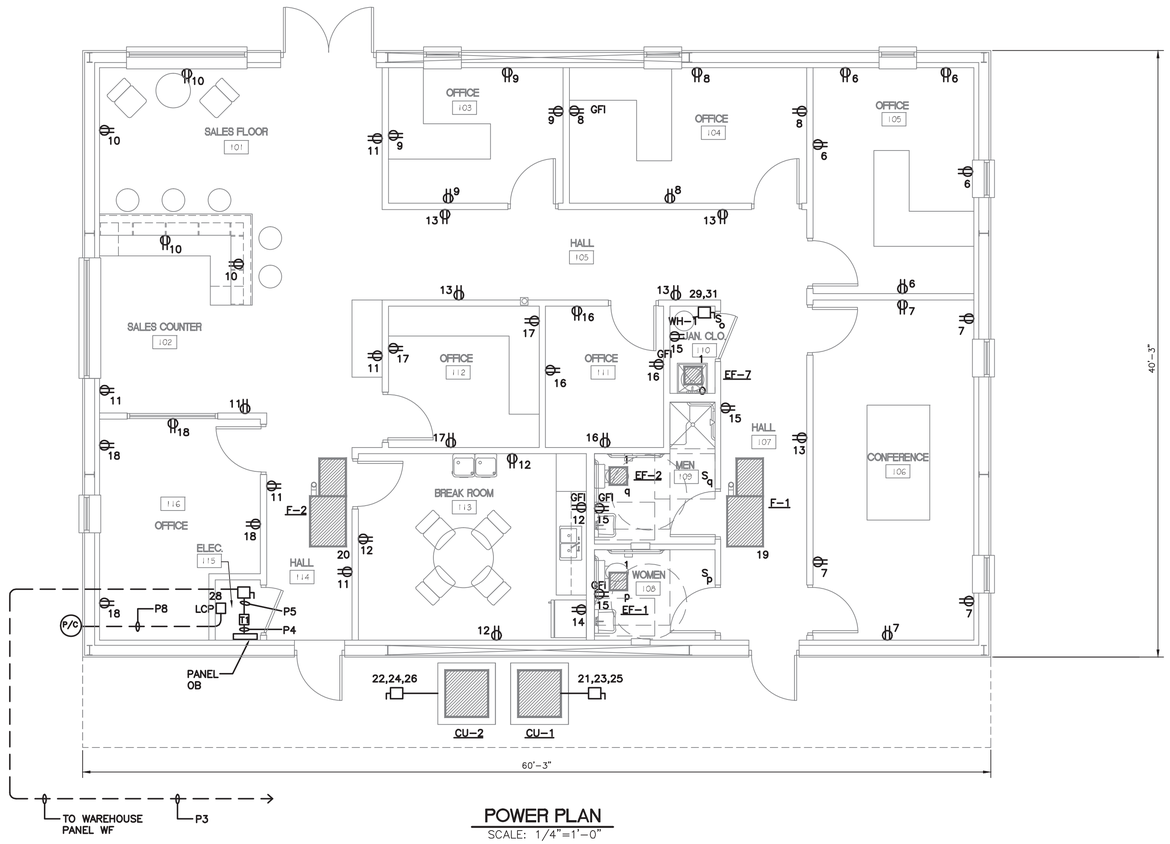
LIGHTING PLAN

WORKING NUMBER:

DRAWING NUMBER: E-2



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

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
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				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
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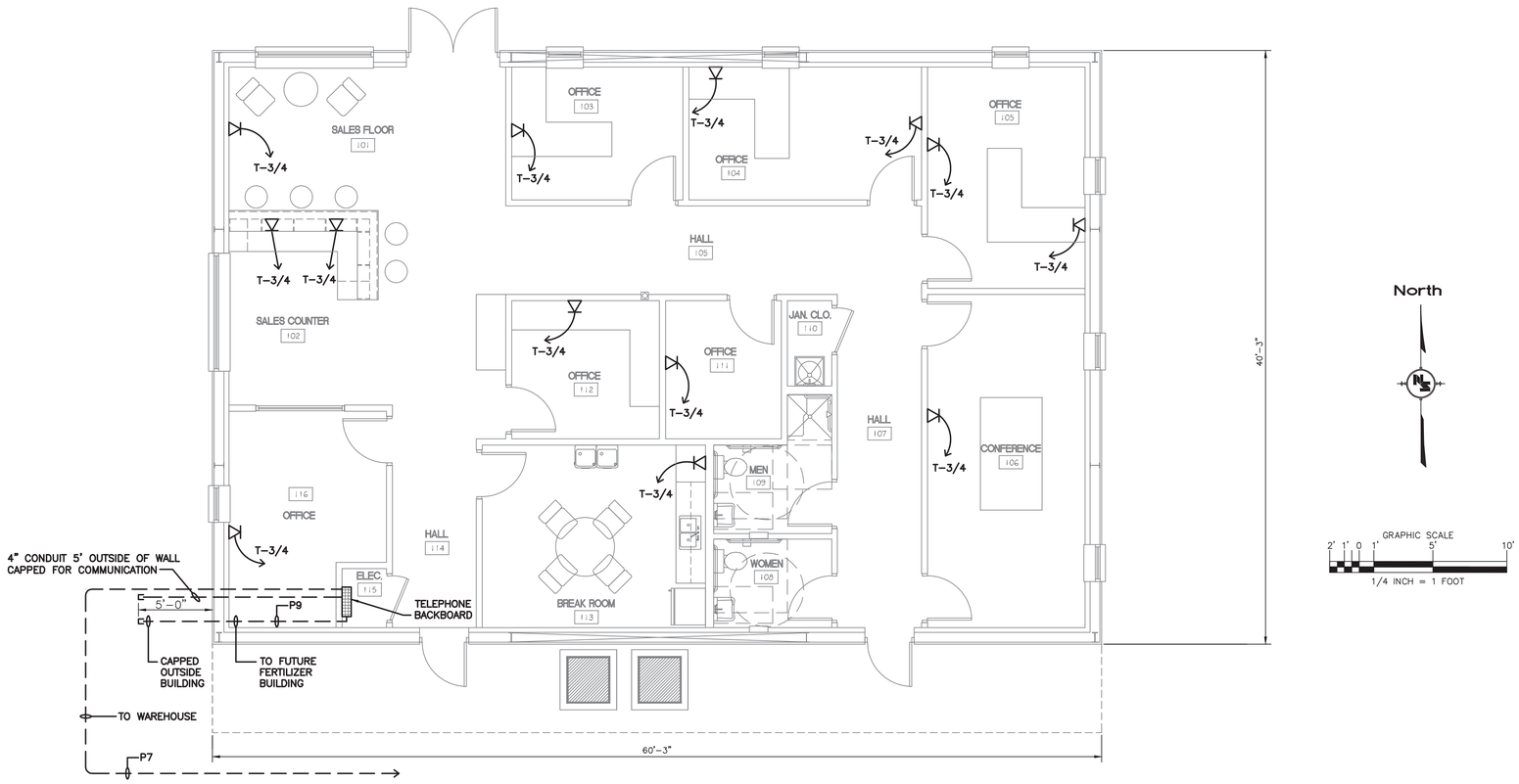
POWER PLAN

WORKING NUMBER:

DRAWING NUMBER:
E-3



COMMUNICATION PLAN

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

NOTICE TO DRAWING HOLDER

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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
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				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

OFFICE BUILDING

BRADLEY ERWIN BIVENS
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SEAL
09/18/15

NEEL-SCHAFFER
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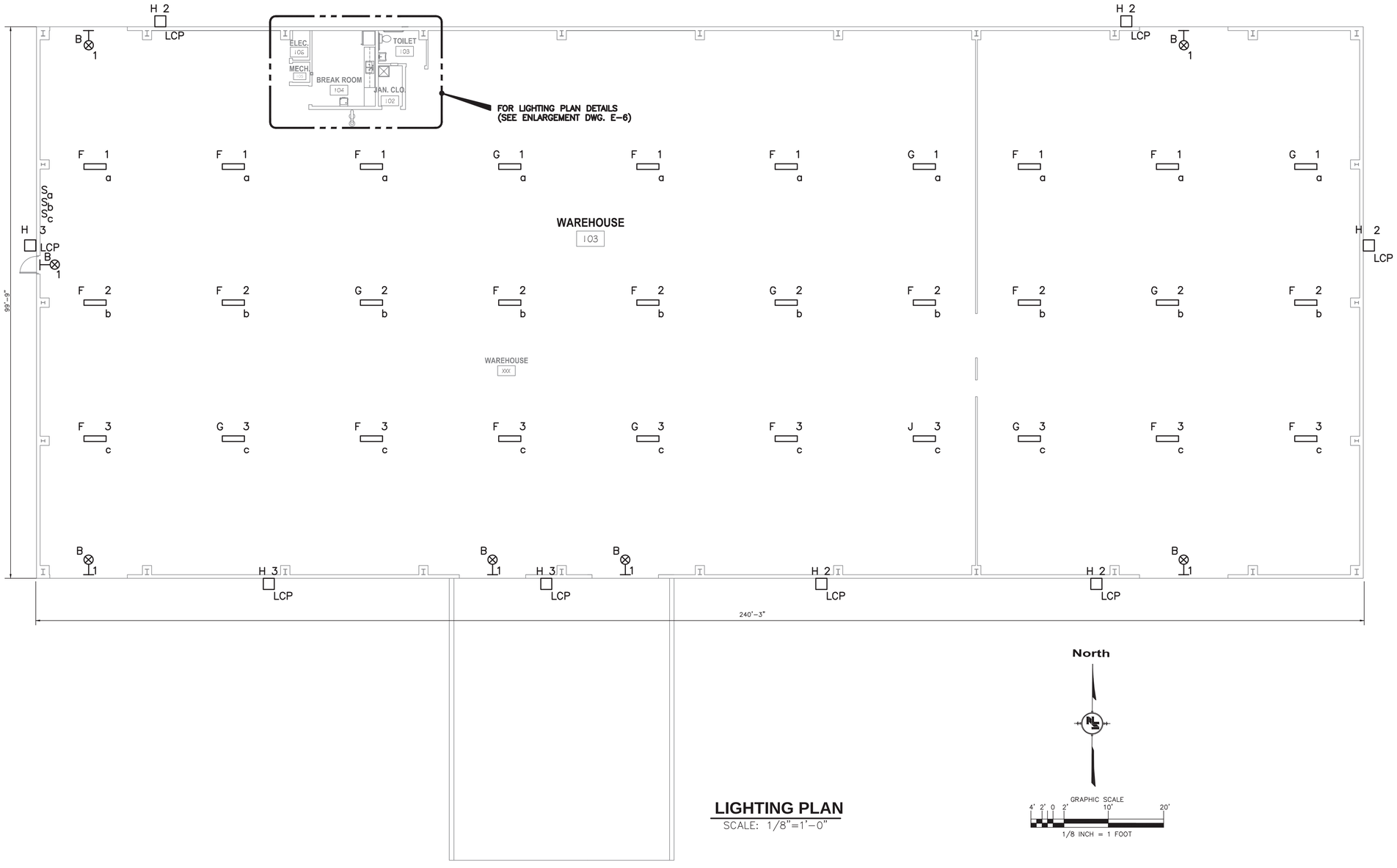
COMMUNICATION PLAN

WORKING NUMBER:

DRAWING NUMBER: E-4



LIGHTING PLAN

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

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: 12213-FV-WH LIGHT-PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

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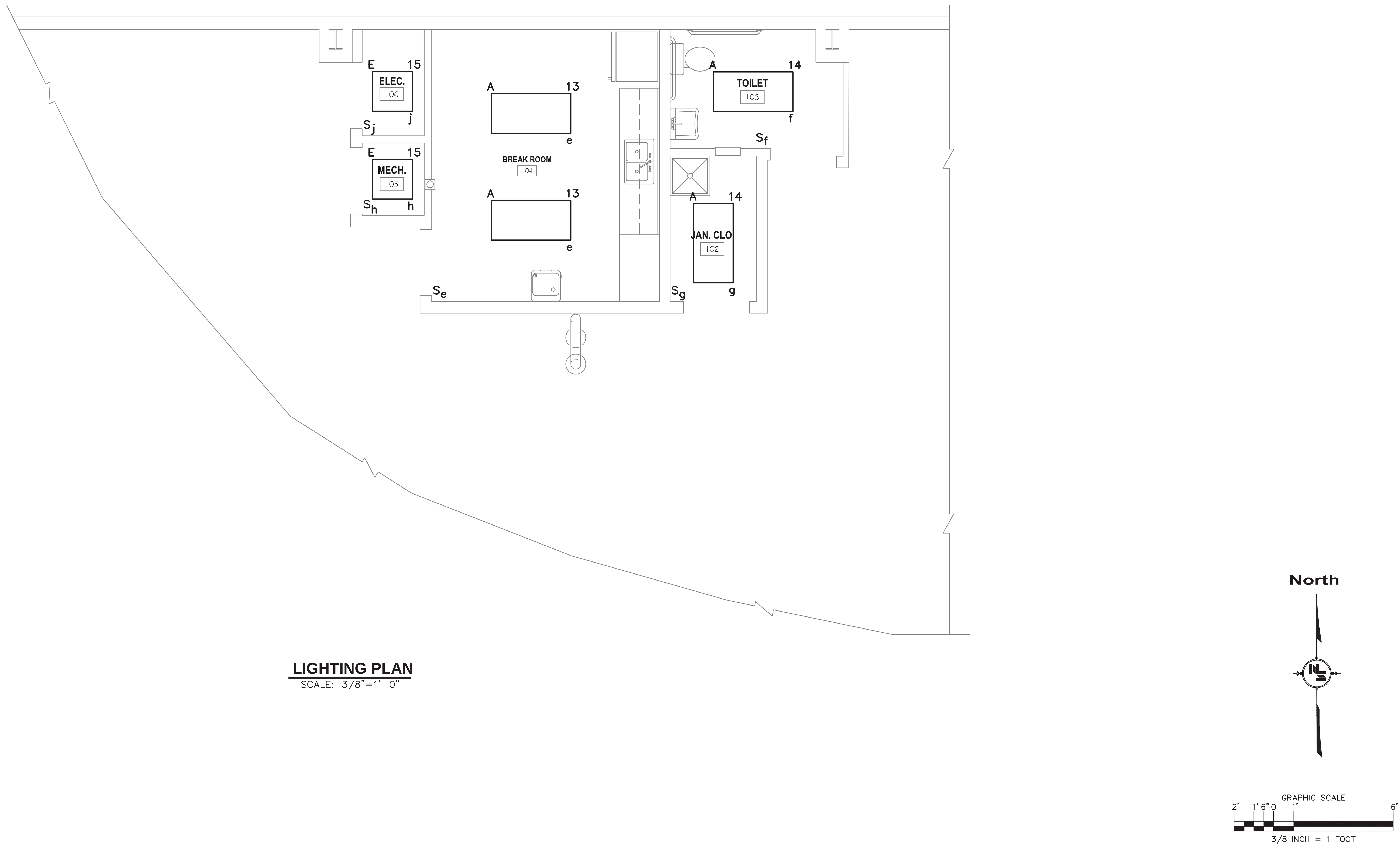
LIGHTING PLAN

WORKING NUMBER:

DRAWING NUMBER:
E-5



LIGHTING PLAN

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

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.12213.000	
FILENAME: 12213-FV WH Lighting Plan ER.DWG	
CADD TYPE: AutoCAD	
SURVEYED BY:	
DSGN: V.G.R.	DATE: JULY 15
DRWN: J.E.M.	DATE: JULY 15
CHKD: V.G.R.	DATE: JULY 15
QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

SEAL: BRADLEY ERWIN BIVENS Lic. No. 051414

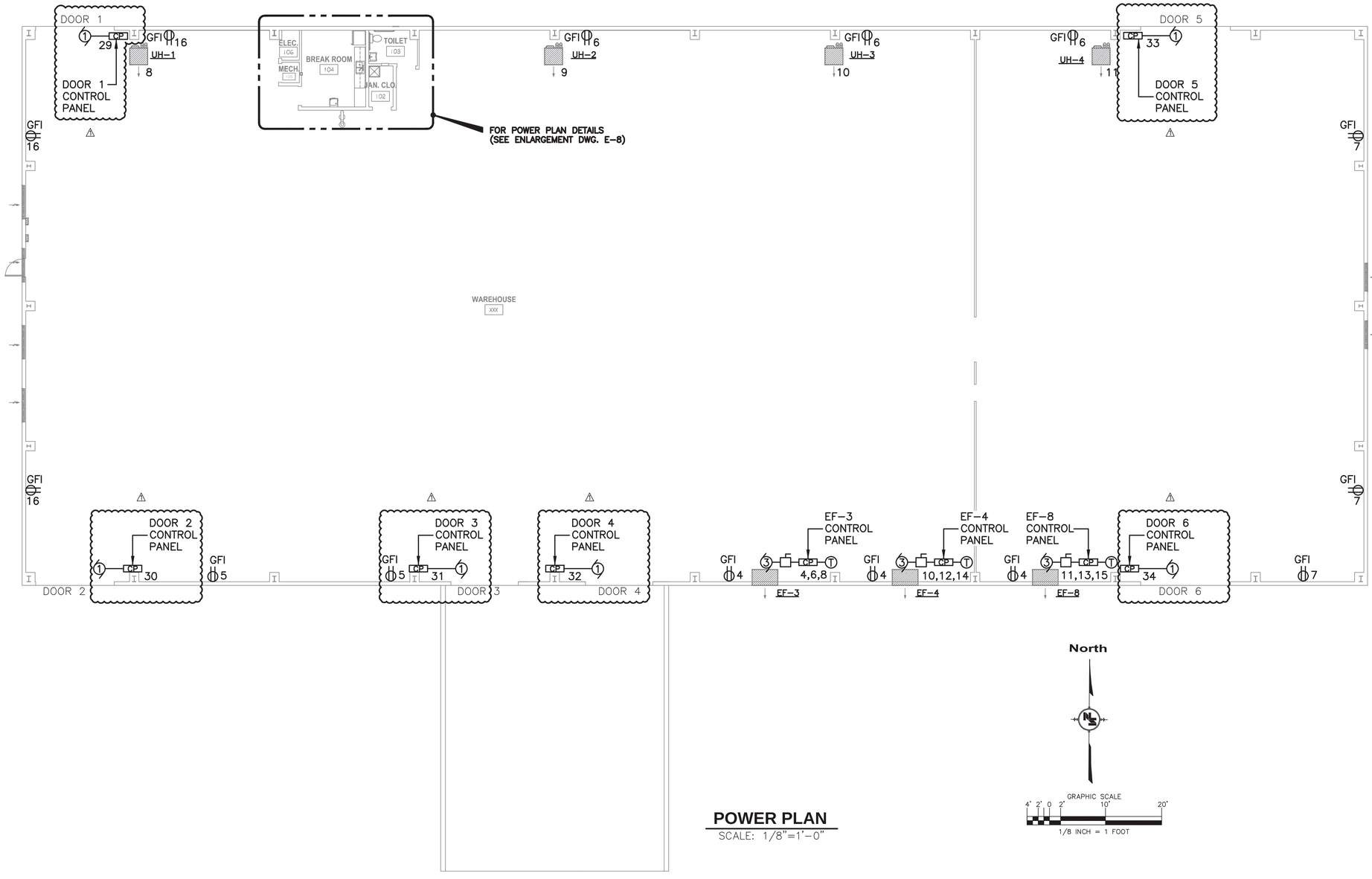
09/18/15

NEEL-SCHAFFER
Solutions you can build upon

LIGHTING PLAN
(BREAK RM & JAN. CLO. ENLARGEMENT)

WORKING NUMBER:

DRAWING NUMBER: E-6



POWER PLAN

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

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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
1	9/24/15	VGR	ADDED ELECTRICAL DOOR CONTROL EQUIP.	FILENAME: 12213-FV-WH POWER-PLAN.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

BRADLEY ERWIN BIVENS
Lic. No. 051474
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER
SEAL
09/18/15

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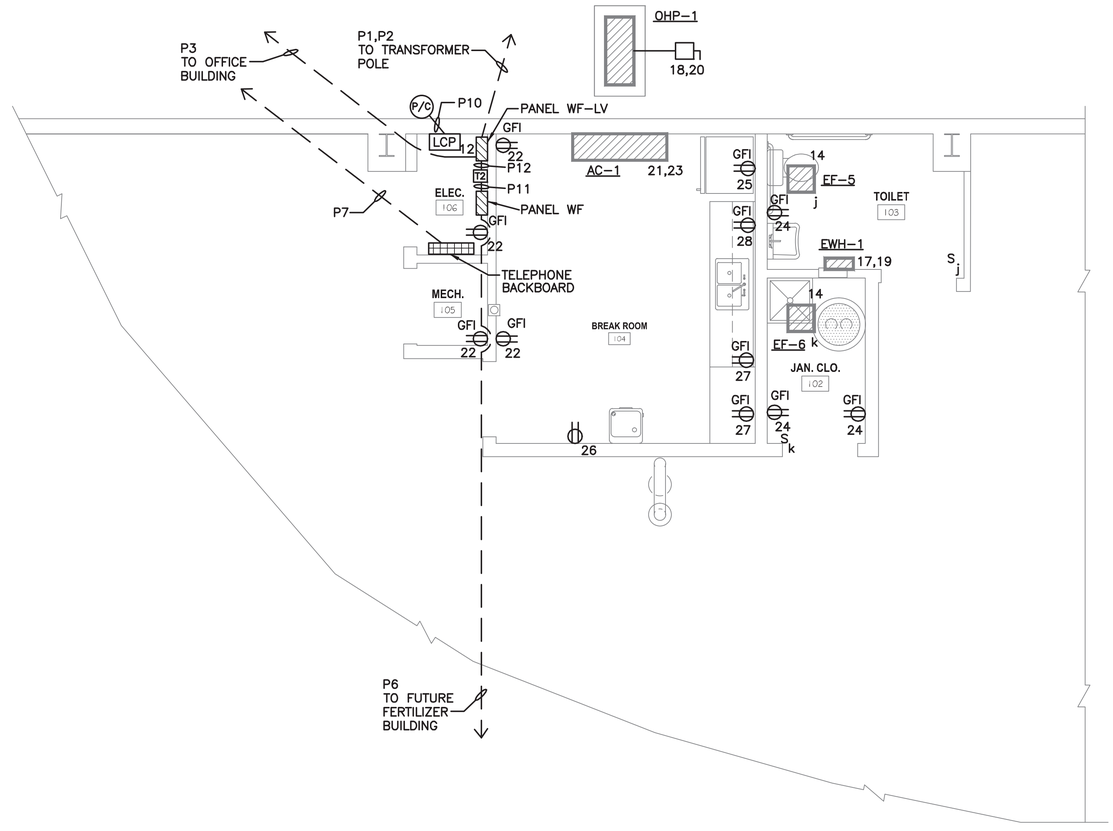
POWER PLAN

WORKING NUMBER:

DRAWING NUMBER:
E-7



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

North

GRAPHIC SCALE
2' 1' 6" 0 1' 6'
3/8 INCH = 1 FOOT

NOTICE TO DRAWING HOLDER

NEEL-SCHAFFER, INC., HEREINAFTER REFERRED TO AS THE ENGINEER, HAS PREPARED AND FURNISHED THIS DRAWING TO THE OWNER FOR USE ON THIS PROJECT ONLY. THIS DRAWING SHOULD NOT BE USED ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT. ANY REUSE OF THIS DRAWING, WITHOUT WRITTEN VERIFICATION OR ADAPTION BY THE ENGINEER, SHALL BE AT THE REUSER'S SOLE RISK AND THE REUSER SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING THEREFROM.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME: 12213-FV WH Power Plan ER.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
				QA/QC:	DATE:

PINNACLE AGRICULTURE HOLDINGS, LLC
FRANKLIN, VIRGINIA

WAREHOUSE

COMMONWEALTH OF VIRGINIA
BRADLEY ERWIN BIVENS
Lic. No. 051434
PROFESSIONAL ENGINEER
SEAL
09/18/15

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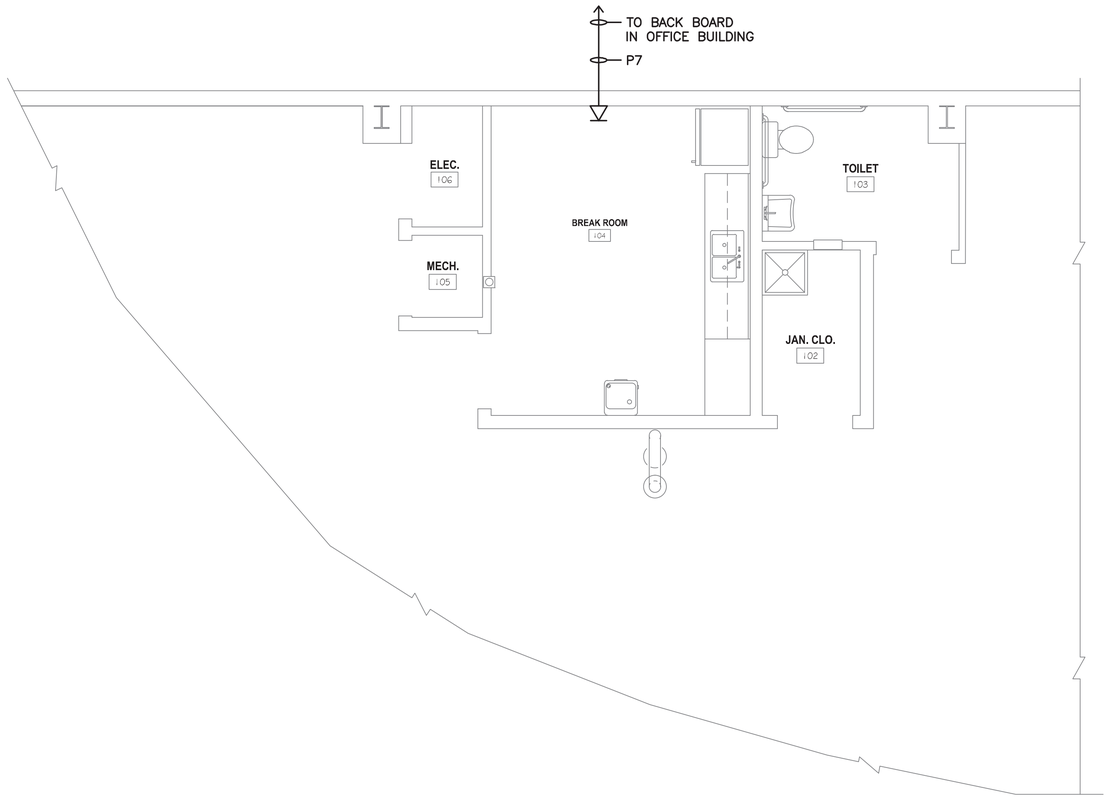
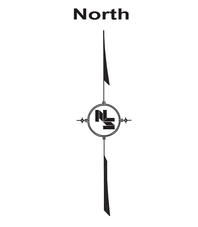
POWER PLAN
(BREAK RM & JAN. CLO. ENLARGEMENT)

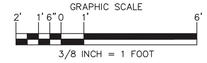
WORKING NUMBER:

DRAWING NUMBER:
E-8



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





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				CADD TYPE: AutoCAD	
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COMMUNICATION PLAN
(BREAK RM & JAN. CLO. ENLARGEMENT)

WORKING NUMBER:

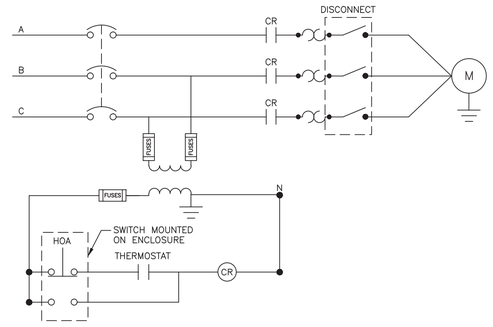
DRAWING NUMBER:
E-9

LIGHTING FIXTURE SCHEDULE

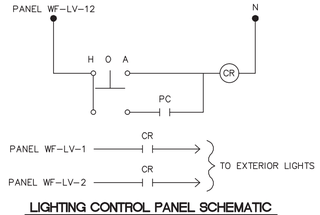
SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMPS	BALLAST	VOLTS	MOUNTING	REMARKS
A	2X4 TROFFER	COOPER	2GR8-332A125-UNV	3-32W T8	ES	120	LAY IN	
B	EXIT	COOPER	LXP-7	MFG STD	MFG STD	120	WALL	
C	EMERGENCY	COOPER	UMB-14	MFG STD	MFG STD	120	WALL	
D	WALL	COOPER	GP-MH-100	MH 100	ES	120	WALL	
E	COMPACT FLUORESENT	COOPER	H2EF	2-26W DTT	ES	120	CEILING	
F	FLUORESENT HIGH BAY	SIMKAR	REF-654-SSR	6-54W T5HO	ES	120/277	SUSPENDED AS INDICATED	
G	FLUORESENT HIGH BAY	SIMKAR	REF-654-SSR	6-54W T5HO	ES	120/277	SUSPENDED AS INDICATED	WITH EMERGENCY BATTERY BACKUP
H	WALL	COOPER	MPWP-250	MH 250W	ES	120	WALL	GLASS LENS, CORROSION RESISTANCE

SCHEDULE - DRY TYPE TRANSFORMER

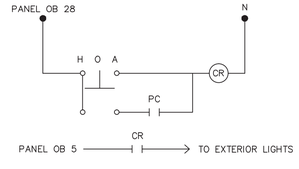
MARK	KVA	PRIMARY VOLTAGE	SECONDARY VOLTAGE	TAPS	MIN. IMPEDANCE	MOUNTING	REMARKS	LOCATION
T-1	45	480V DELTA	208/120-3ø	2 - 5% 2+4-	3.3%	FLOOR		OPERATIONS BUILDING
T-2	30	480V DELTA	208/120-3ø	2 - 5% 2+4-	3.3%	FLOOR		WAREHOUSE



EF-3,4 AND 8 SCHEMATIC
SCALE: N.T.S.



LIGHTING CONTROL PANEL SCHEMATIC FOR WAREHOUSE
SCALE: N.T.S.



LIGHTING CONTROL PANEL SCHEMATIC FOR OFFICE BUILDING
SCALE: N.T.S.

ELECTRICAL PLAN SYMBOLS LEGEND

	POWER SUPPLY PANEL
	LIGHTING PANEL
	TELEPHONE PANEL
	BRANCH CIRCUIT CONCEALED IN WALL
	BRANCH CIRCUIT CONCEALED IN FLOOR
	BRANCH CIRCUIT EXPOSED
#N	HOME RUN TO PANEL; THREE CONDUCTORS PLUS GRD.
	HOME RUN TO PANEL, 2 CIRCUITS IN ONE RACEWAY
S	SINGLE POLE TOGGLE SWITCH
S_2	DOUBLE POLE TOGGLE SWITCH
S_3	THREE WAY SWITCH
S_4	FOUR WAY SWITCH
S_P	SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT
	NON-FUSED DISCONNECT SWITCH
	SIMPLEX CONVENIENCE OUTLET
36"	DUPLEX CONVENIENCE OUTLET (# = INCHES ABOVE FLOOR)
GFI	CONV. OUTLET W/ GROUND FAULT INTERRUPTER
WP GFI	WEATHERPROOF CONV. OUTLET W/ G.F.I.
	240 VAC RECEPTACLE
	TELEPHONE / DATA WALL OUTLET
	MOTOR (H.P.)
F	FAN
T	THERMOSTAT 5'-6" UP
J	JUNCTION BOX
P/E	PHOTO ELECTRIC CONTROL / SENSING CELL AIMED NORTH
UG	UNDERGROUND CIRCUIT
A 3 b	INCANDESCENT, COMPACT FLUORESCENT OR HID TYPE LIGHTING FIXTURE "A" FIXTURE TYPE "b" CONTROLLED BY SWITCH "b" "3" CIRCUIT NUMBER
A 3 b	FLUORESCENT TYPE LIGHTING FIXTURE NOTATIONS SAME AS ABOVE
	WALL OUTLET AND INCANDESCENT, COMPACT FLUORESCENT OR HID TYPE LIGHTING FIXTURE NOTATIONS SAME AS ABOVE
	WALL MOUNTED EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT WITH 2 LAMP HEADS
T - 3/4	TELEPHONE / DATA HOME RUN TO TELEPHONE BACKBOARD CONDUIT SIZE WITH 1-RT 45 AND RT 11 CONDUCTOR
F-1,2	FURNACE
CU-1,2	CONDENSING UNIT
WH	WATER HEATER
MFP	MANUFACTURES FURNISHED PANEL
RC	REMOTE CONTROL PANEL
ES	EMERGENCY STOP
CS	COMBINATION MOTOR STARTER
	EXHAUST FAN
480	480 VAC, 60 AMP 3 POLE CROUSE HINDS ARKTITE RECEPTACLE WITH ANGLE ADAPTER AND BACK BOXES. CAT AREA6414
CP	OVERHEAD DOOR CONTROL PANEL

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NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
1	9/24/15	VGR	REVISED ELECTRICAL SYMBOL LEGEND	FILENAME:12213-ELEC-DET-1.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
				DRWN: J.E.M.	DATE: JULY 15
				CHKD: V.G.R.	DATE: JULY 15
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OFFICE BUILDING

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ELECTRICAL DETAILS I

WORKING NUMBER:

DRAWING NUMBER:
E-10

PANEL OB SCHEDULE

CIRCUIT NUMBER	WIRE SIZE	BREAKER SIZE	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	LOAD KVA	DESCRIPTION OF LOAD	BREAKER SIZE	WIRE SIZE	CIRCUIT NUMBER
1	#12	20A/1P	LIGHTING, CONF, HALL, RR	1.00	2.00			1.00	LIGHTING OFF 104, 105	20A/1P	#12	2
3	#12	20A/1P	LIGHTING OFF 111, 112, BR	0.20		1.30		1.10	LIGHTING SALES OFF	20A/1P	#12	4
5	#12	20A/1P	LIGHTING, EXTERIOR	0.40			1.20	0.80	RECEPTACLES OFF 105	20A/1P	#12	6
7	#12	20A/1P	RECEPTACLES CONF	1.00	1.80			0.80	RECEPTACLES OFF 104	20A/1P	#12	8
9	#12	20A/1P	RECEPTACLES OFF 113	0.80		1.80		1.00	RECEPTACLES SALES	20A/1P	#12	10
11	#12	20A/1P	RECEPTACLES SALES, HALL	1.00			1.80	0.80	RECEPTACLES BK RM	20A/1P	#12	12
13	#12	20A/1P	RECEPTACLES, HALL	1.00	1.20			0.20	RECEPTACLES, REF	20A/1P	#12	14
15	#12	20A/1P	RECEPTACLES, JAN CLO, RR	0.80		1.60		0.80	RECEPTACLES OFF 111	20A/1P	#12	16
17	#12	20A/1P	RECEPTACLES OFF 112	0.80			1.80	1.00	RECEPTACLES OFF 116	20A/1P	#12	18
19	#12	20A/1P	F1	0.50	1.00			0.50	F2	20A/1P	#12	20
21	#10	30A/3P	CU-1	2.20		4.40		2.20	CU-2	30A/3P	#10	22
23	#10	–		2.20			4.40	2.20		–	#10	24
25	#10	–		2.20	4.40			2.20		–	#10	26
27	#12	20A/1P	LIGHTING, EXIT	0.50		1.00		0.50	LIGHTING CONTROL PANEL	20A/1P	#12	28
29	#10	30A/2P	WATER HEATER	2.30			2.30					30
31	#10	–		2.30	2.30							32
33												34
35												36
37												38
39												40
41												42

POWER PANEL OB LOCATED IN ELEC. ROOM IN OFFICE BUILDING	TOTAL KVA	12.70	10.10	11.50
	GRAND CONNECTED TOTAL KVA	34.30		

SERVICE CHARACTERISTICS:
120/208V – 3 PHASE – 4 WIRE – 60 Hz.
175 AMP. MAIN BREAKER WITH 200 AMP. BUS
PROVIDE GROUND BUS

PANEL WF SCHEDULE

CIRCUIT NUMBER	WIRE SIZE	BREAKER SIZE	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	LOAD KVA	DESCRIPTION OF LOAD	BREAKER SIZE	WIRE SIZE	CIRCUIT NUMBER
1	#12	20A/1P	LIGHTING	3.90	6.40			3.90	LIGHTING	20A/1P	#12	2
3	#12	20A/1P	LIGHTING	3.80		5.20		1.40	EF-3	30A/3P	#10	4
5	#6	50A/3P	WAREHOUSE TRANS	10.00			11.40	1.40		–	#10	6
7	#6	–	T-2	10.00	11.40			1.40		–	#10	8
9	#6	–		10.00		11.40		1.40	EF-4	30A/3P	#10	10
11	#10	30A/3P	EF-8	1.40			2.80	1.40		–	#10	12
13	#10	–		1.40	2.80			1.40		–	#10	14
15	#10	–		1.40		16.40		15.00	OPERATIONS BLDG	70A/3P	#2	16
17	–	300A/3P	FERTILIZER BUILDING	53.00			73.00	15.00	TRANS T-1	–	#2	18
19	–	–	FUTURE	53.00	73.00			15.00		–	#2	20
21	–	–		53.00		53.00						22
23												24
25												26
27												28
29												30
31												32
33												34
35												36
37												38
39												40
41												42

POWER PANEL WF LOCATED IN WAREHOUSE	TOTAL KVA	95.00	86.00	87.20
	GRAND CONNECTED TOTAL KVA	268.20		

SERVICE CHARACTERISTICS:
277/480V – 3 PHASE – 4 WIRE – 60 Hz.
400 AMP. MAIN BREAKER WITH 400 AMP. BUS
PROVIDE GROUND BUS

PANEL WF-LV SCHEDULE

CIRCUIT NUMBER	WIRE SIZE	BREAKER SIZE	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	LOAD KVA	DESCRIPTION OF LOAD	BREAKER SIZE	WIRE SIZE	CIRCUIT NUMBER
1	#12	20A/1P	LIGHTING EXIT	0.60	1.50			0.90	LIGHTING, EXTERIOR	20A/1P	#12	2
3	#12	20A/1P	LIGHTING, EXTERIOR	0.90		1.50		0.60	RECEPTACLES	20A/1P	#12	4
5	#12	20A/1P	RECEPTACLES	0.40			1.00	0.60	RECEPTACLES	20A/1P	#12	6
7	#12	20A/1P	RECEPTACLES	0.60	1.40			0.80	UH-1	20A/1P	#12	8
9	#12	20A/1P	UH-2	0.80		1.60		0.80	UH-3	20A/1P	#12	10
11	#12	20A/1P	UH-4	0.80			1.30	0.50	LIGHTING CONTROL PANEL	20A/1P	#12	12
13	#12	20A/1P	LIGHTING, BK RM	0.30	0.60			0.30	LIGHTING TOILET, JAN	20A/1P	#12	14
15	#12	20A/1P	LIGHTING, ELEC & MECH	0.20		0.80		0.60	RECEPTACLES	20A/1P	#12	16
17	#12	20A/2P	EWH-1	0.80			1.80	1.00	OHP	20A/2P	#12	18
19	#12	–		0.80	1.80			1.00		–	#12	20
21	#12	20A/1P	AC-1	1.00		1.80		0.80	RECEPTACLES	20A/1P	#12	22
23	#12	–		1.00			1.60	0.60	RECEPTACLES	20A/1P	#12	24
25	#12	20A/1P	RECEPTACLE, REF	0.50	0.70			0.20	RECEPTACLE, DRINK	20A/1P	#12	26
27	#12	20A/1P	RECEPTACLE	0.40		0.60		0.20	RECEPTACLES	20A/1P	#12	28
29	#8	40A/1P	DOOR 1 OPERATOR	2.00			4.00	2.00	DOOR 2 OPERATOR	40A/1P	#8	30
31	#8	40A/1P	DOOR 3 OPERATOR	2.00	4.00			2.00	DOOR 4 OPERATOR	40A/1P	#8	32
33	#8	40A/1P	DOOR 5 OPERATOR	2.00		4.00		2.00	DOOR 6 OPERATOR	40A/1P	#8	34
35												36
37												38
39												40
41												42

POWER PANEL WF-LV LOCATED IN WAREHOUSE	TOTAL KVA	10.00	10.30	9.70
	GRAND CONNECTED TOTAL KVA	30.00		

SERVICE CHARACTERISTICS:
120/208V – 3 PHASE – 4 WIRE – 60 Hz.
100 AMP. MAIN BREAKER WITH 100 AMP. BUS
PROVIDE GROUND BUS

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
⚠	9/24/15	VGR	REVISED PANEL WF-LV SCHEDULE	FILENAME:12213-ELEC-DET-2.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
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ELECTRICAL DETAILS II

WORKING NUMBER:

DRAWING NUMBER: E-11

CONDUIT AND WIRING SCHEDULE

CONDUIT	FROM	TO	CONDUIT AND WIRE	USE
P1	TRANSFORMER	PANEL WF	3"C W/4#250, 1#2 GRD	POWER
P2	TRANSFORMER	PANEL WF	3"C W/4#250, 1#2 GRD	POWER
P3	PANEL WF	OPS BLDG TRANS DISCONNECT	1 1/2"C W/3#2, 1#8 GRD	POWER
P4	OPS BLDG TRANS DISCONNECT	OPS BLDG TRANS	1 1/2"C W/3#2, 1#8 GRD	POWER
P5	OPS BLDG TRANS	PANEL OB	2"C W/4#2/0, 1#4 GRD	POWER
P6	PANEL WF	OUTSIDE BLDG	3"C W/PULL STRING	FUTURE
P7	OPS BLDG BACKBOARD	WAREHOUSE BACKBOARD	2"C W/PULL STRING	COMMUNICATION
P8	LIGHTING CONTROL PANEL	PHOTOCELL	3/4"C W/2#12, 1#12 GRD	CONTROL
P9	OPS BLDG BACKBOARD	FERTILIZER BUILDING	2"C W/PULL STRING	COMMUNICATION
P10	LIGHTING CONTROL PANEL	PHOTOCELL	3/4"C W/2#12, 1#12 GRD	CONTROL
P11	PANEL WF	T-2	1"C W/3#6, 1#8 GRD	POWER
P12	T-2	PANEL WF-LF	1"C W/4#2, 1#8 GRD	POWER

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.12213.000	
				FILENAME:12213-ELEC-DET-3.DWG	
				CADD TYPE: AutoCAD	
				SURVEYED BY:	
				DSGN: V.G.R.	DATE: JULY 15
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				CHKD: V.G.R.	DATE: JULY 15
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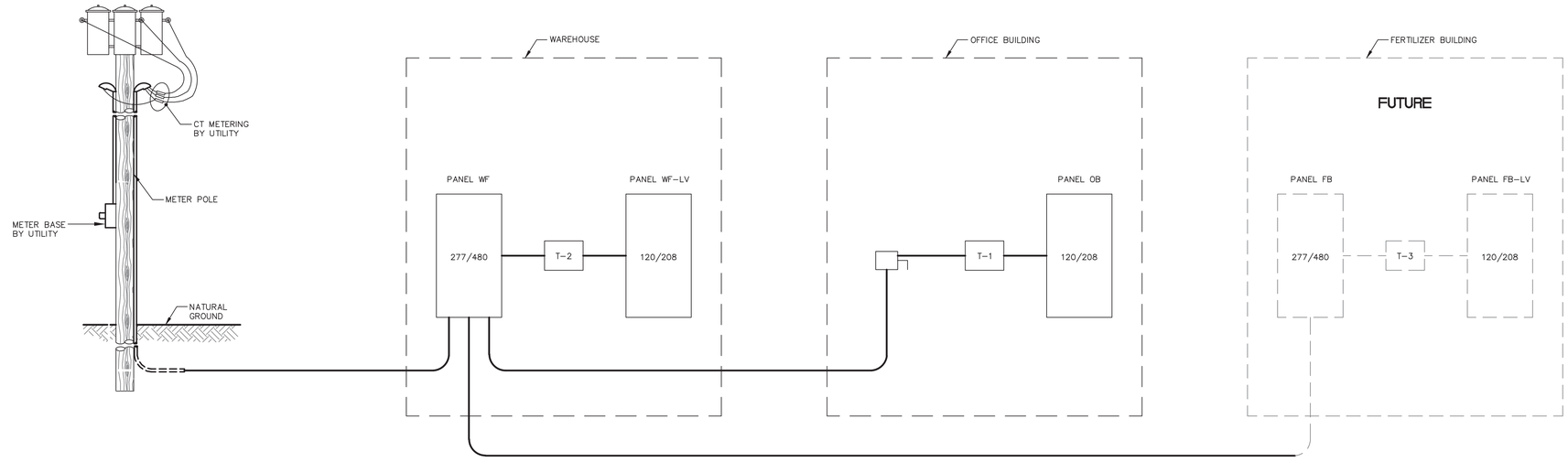
ELECTRICAL DETAILS III

WORKING NUMBER:

DRAWING NUMBER:
E-12



ONE-LINE DIAGRAM

SCALE: N.T.S.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.12213.000	
FILENAME:12213-ELEC-DET-4.DWG	
CADD TYPE: AutoCAD	
SURVEYED BY:	
DSGN: V.G.R.	DATE: JULY 15
DRWN: J.E.M.	DATE: JULY 15
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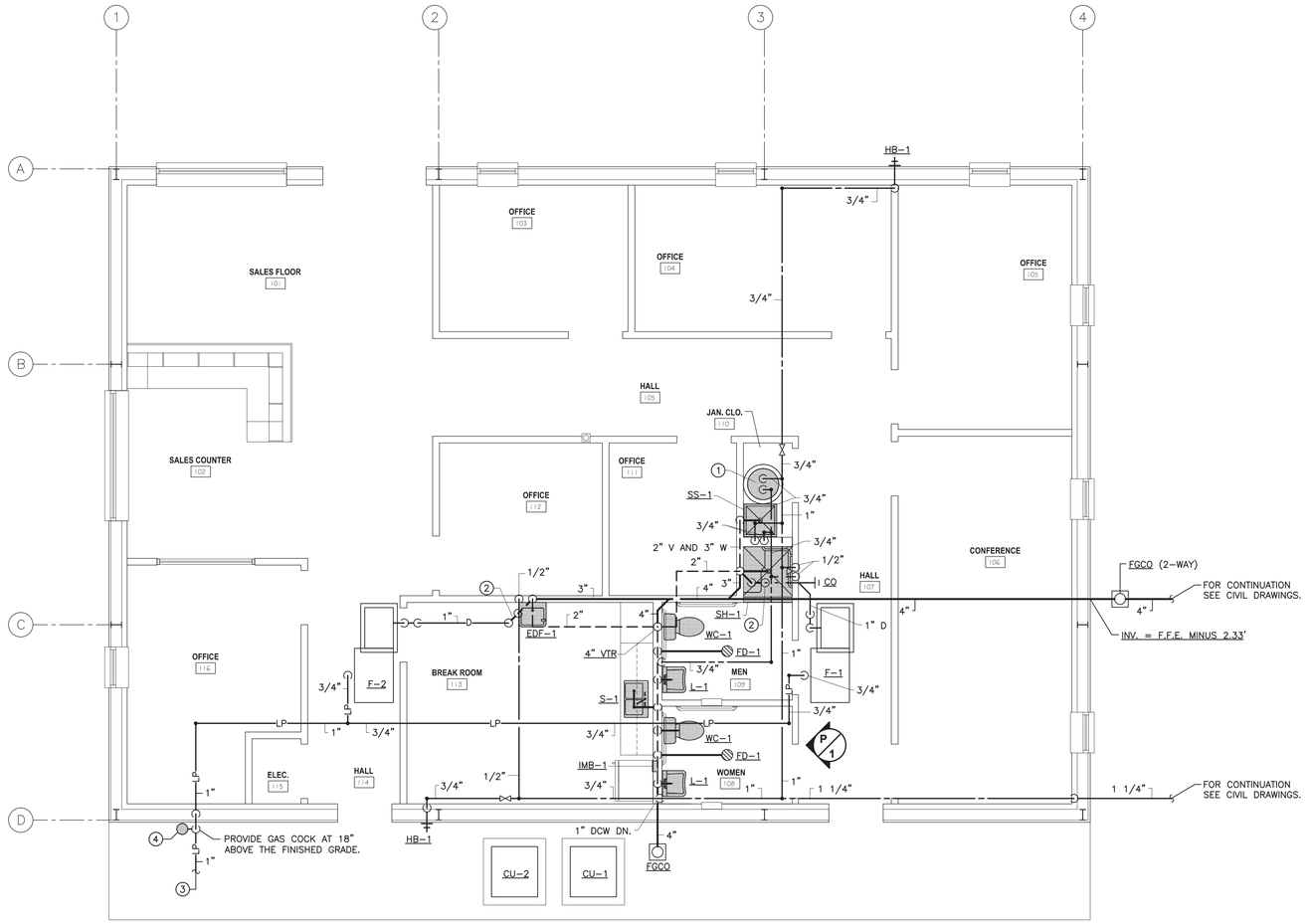
ELECTRICAL DETAILS IV

WORKING NUMBER:

DRAWING NUMBER:
E-13



NORTH

OFFICE FLOOR PLAN/PLUMBING

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

GENERAL PLUMBING NOTES

1. INDICATES 3/4" DOMESTIC COLD WATER LINE AND DOMESTIC HOT WATER LINE DOWN TO WH-1 ABOVE THE CEILING.
2. INDICATES 2" DEEP SEAL P-TRAP ABOVE THE CEILING.
3. FOR CONTINUATION AND LOCATION OF THE LP TANK SEE CIVIL DRAWINGS. LP COMPANY SHALL PROVIDE LP REGULATOR AT THE TANK SET AT 1,540.0 cfh AND 2 pounds DISCHARGE PRESSURE.
4. INDICATES LP GAS REGULATOR. SET AT 220.0 cfh AND FROM 2 pounds TO 4 ounces.

GENERAL PLUMBING NOTES

1. THIS CONTRACTOR SHALL COORDINATE SEWER INVERTS WITH CIVIL CONTRACTOR BEFORE INSTALLING PIPE.
2. ALL SANITARY SEWER PIPING SHOWN SHALL BE BELOW THE FLOOR AND SLOPED AT 1/8" PER FOOT MINIMUM UNLESS NOTED OTHERWISE.
3. ALL VENT PIPING SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
4. ALL DOMESTIC WATER PIPING SHOWN SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL PROVIDE A PDI-A ABOVE CEILING ON EACH DOMESTIC WATER LINE SERVING A SINGLE FIXTURE.
6. CONTRACTOR SHALL PROVIDE A GAS COCK, UNION, AND 6" DIRT LEG AT EACH LP GAS CONNECTION TO EQUIPMENT.
7. ALL LP GAS PIPING SHOWN SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
8. ALL CONDENSATE PIPING SHOWN SHALL BE RUN ABOVE THE CEILING AND SLOPED AT 1/8" PER FOOT MINIMUM. PROVIDE 6" DEEP P-TRAP AT EACH UNIT.
9. CONTRACTOR SHALL PROVIDE A FLOAT SWITCH IN EACH AUXILARY DRAIN PAN. INTERLOCK FLOAT SWITCH WITH THE UNIT TO SHUT UNIT DOWN IF WATER IS DETECTED.

SCWA #15-068

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PINNACLE AGRICULTURE HOLDINGS, LLC

FRANKLIN, VA

COMMONWEALTH OF VIRGINIA
SCOTT C. WOODS
Lic. No. 054747
8-12-2015
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OFFICE FLOOR PLAN/PLUMBING

WORKING NUMBER: P-1

DRAWING NUMBER:

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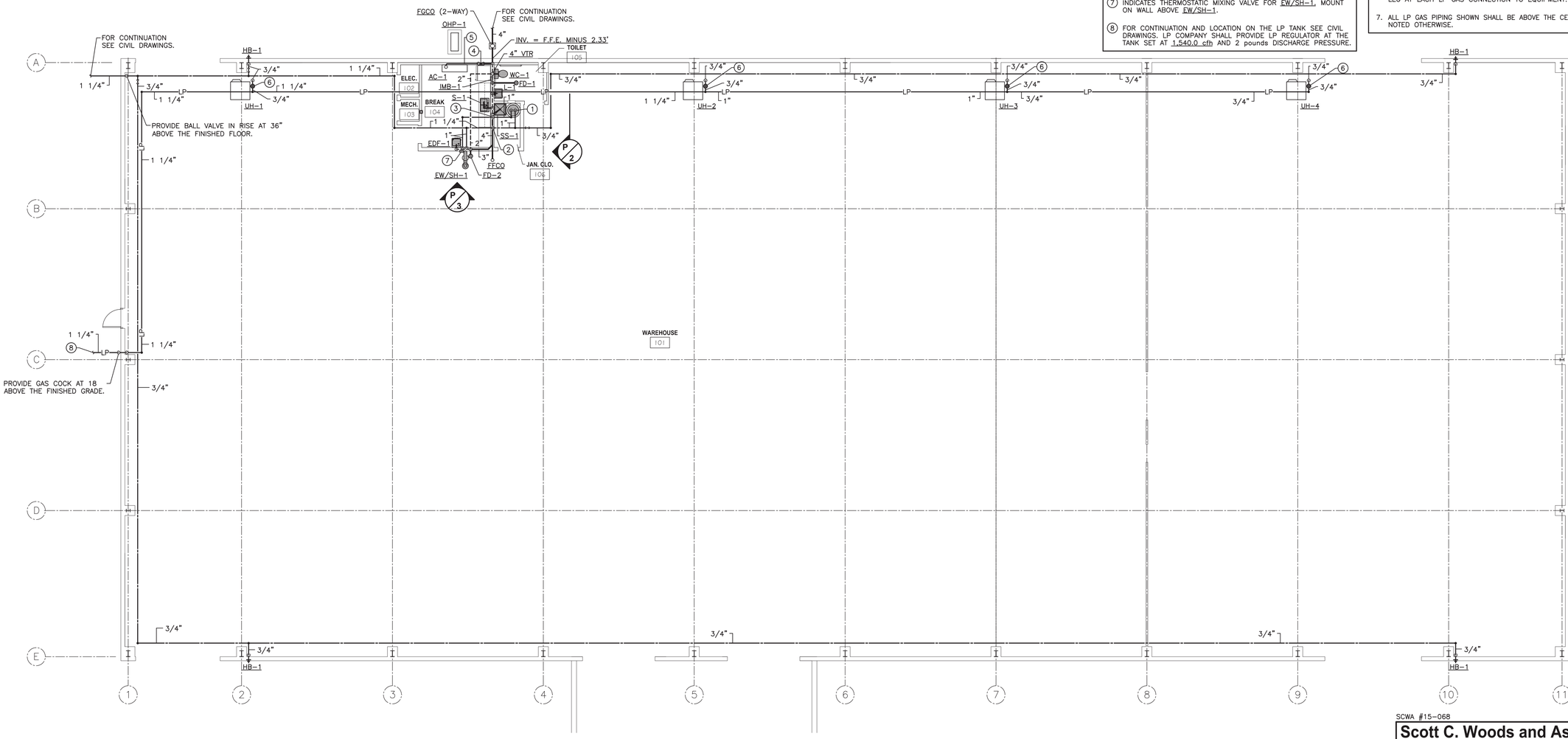
KEYED PLUMBING NOTES

1. INDICATES 1" DOMESTIC COLD WATER LINE AND DOMESTIC HOT WATER LINE DOWN TO WH-2.
2. INDICATES 1" DOMESTIC COLD WATER LINE DOWN.
3. INDICATES 3/4" DOMESTIC HOT WATER LINE DOWN.
4. INDICATES 2" DEEP SEAL P-TRAP INSIDE THE WALL. TOP OF P-TRAP SHALL BE 8" BELOW AC-1. PROVIDE 12x12" ACCESS PANEL ON THE WALL AT P-TRAP.
5. PROVIDE 3/4" CONDENSATE DRAIN LINE INSIDE THE WALL FROM THE UNIT TO THE DEEP SEAL P-TRAP.
6. INDICATES VENTLESS LP GAS REGULATOR. SET AT 300.0 cfh AND FROM 2 pounds TO 4 ounces.
7. INDICATES THERMOSTATIC MIXING VALVE FOR EW/SH-1, MOUNT ON WALL ABOVE EW/SH-1.
8. FOR CONTINUATION AND LOCATION ON THE LP TANK SEE CIVIL DRAWINGS. LP COMPANY SHALL PROVIDE LP REGULATOR AT THE TANK SET AT 1,540.0 cfh AND 2 pounds DISCHARGE PRESSURE.

GENERAL PLUMBING NOTES

1. THIS CONTRACTOR SHALL COORDINATE SEWER INVERTS WITH CIVIL CONTRACTOR BEFORE INSTALLING PIPE.
2. ALL SANITARY SEWER PIPING SHOWN SHALL BE BELOW THE FLOOR AND SLOPED AT 1/8" PER FOOT MINIMUM UNLESS NOTED OTHERWISE.
3. ALL VENT PIPING SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
4. ALL DOMESTIC WATER PIPING SHOWN SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL PROVIDE A PDI-A ABOVE CEILING ON EACH DOMESTIC WATER LINE SERVING A SINGLE FIXTURE.
6. CONTRACTOR SHALL PROVIDE A GAS COCK, UNION, AND 6" DIRT LEG AT EACH LP GAS CONNECTION TO EQUIPMENT.
7. ALL LP GAS PIPING SHOWN SHALL BE ABOVE THE CEILING UNLESS NOTED OTHERWISE.



NORTH

WAREHOUSE FLOOR PLAN/PLUMBING

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

SCWA #15-068

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WAREHOUSE FLOOR PLAN/PLUMBING

WORKING NUMBER:	DRAWING NUMBER:
P-2	

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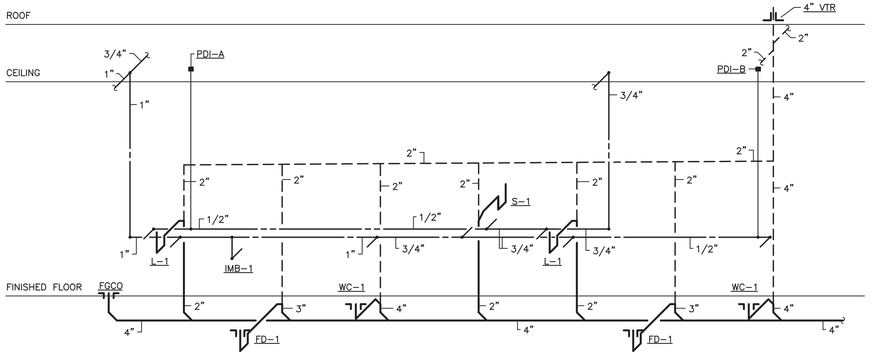
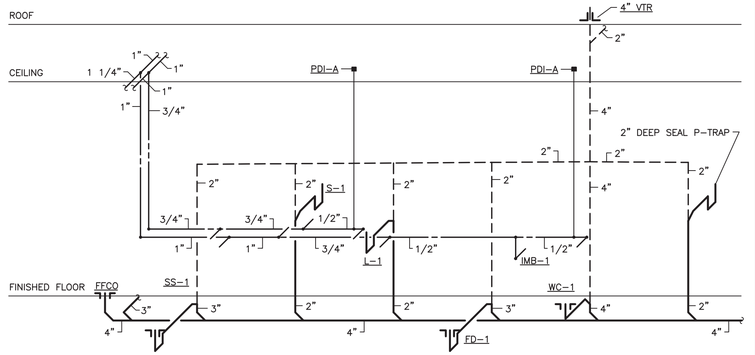


P/1 PLUMBING RISER
NO SCALE



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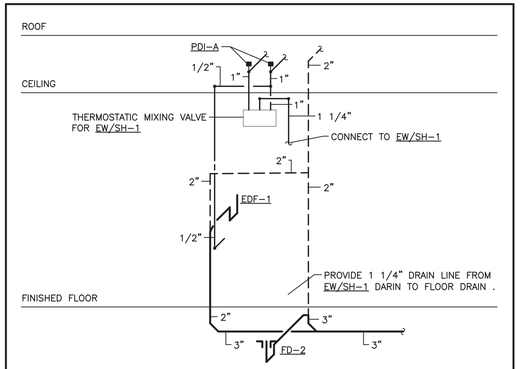

P/3 PLUMBING RISER
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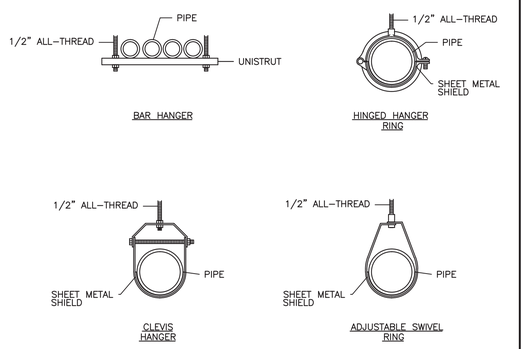
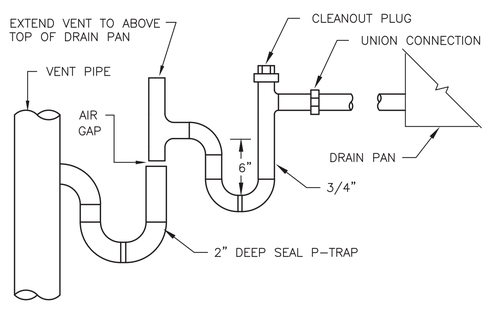
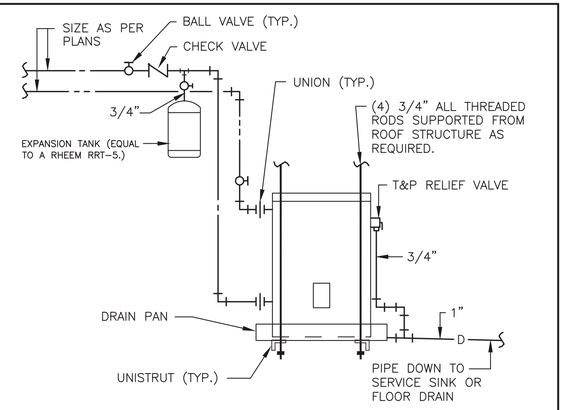


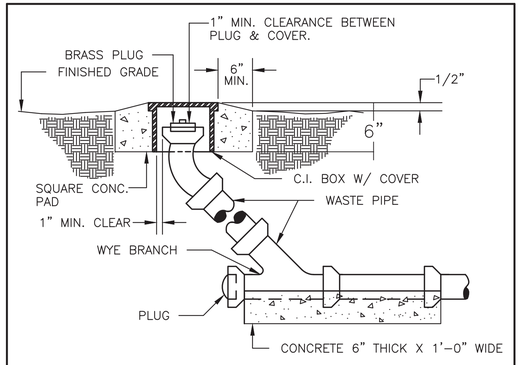
PIPE HANGER DETAIL
NO SCALE



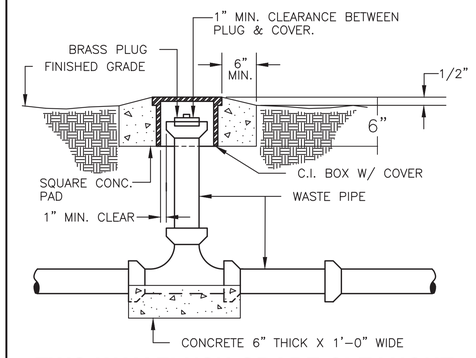
CONDENSATE DRAIN TRAP DETAIL
NO SCALE



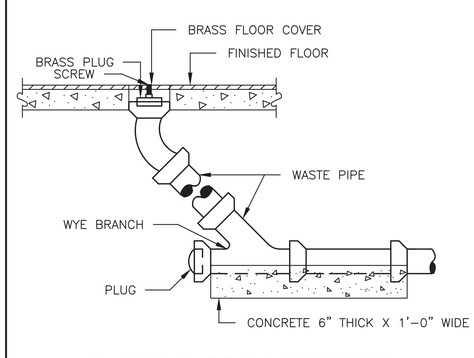
WATER HEATER DETAIL
NO SCALE



FLUSH GRADE CLEANOUT
NO SCALE



TWO-WAY FLUSH GRADE CLEANOUT
NO SCALE



FLUSH FLOOR CLEANOUT
NO SCALE

SCWA #15-068

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Lic. No. 054747
8-12-2015
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PLUMBING
RISERS AND DETAILS

WORKING NUMBER:	DRAWING NUMBER:
P-3	

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WATER HEATERS

MARK	FUEL	STORAGE GALLONS	RECOVERY GPH @ 100° RISE	INPUT M.B.H.	ELEC. DATA			FLUE	MFR. AND MODEL	REMARKS
					SERVICE	BLOWER H.P.	K.W.			
WH-1	ELECTRIC	40	18.0	---	208v,1ph	---	(2)4.5	---	RHEEM ELDS40	NON-SIMULTANEOUS ELEMENTS
WH-2	ELECTRIC	30	18.0	---	208v,1ph	---	(2)4.5	---	RHEEM ELDS30	NON-SIMULTANEOUS ELEMENTS

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MAKE	MODEL	SUPPLY FITTING	SUPPLY PIPE(S)	DRAIN	TRAP	ROUGH-IN SIZES					REMARKS
								C.W.	H.W.	WASTE	VENT	TRAP	
WC-1	WATER CLOSET, FLOOR MOUNTED, PRESSURE TANK TYPE, A.D.A.	KOHLER	K-3493	---	ZURN ZH8824CR	---	---	1/2"	---	4"	2" or 4"	INT.	W/ BEMIS 1055SSC WHITE SEAT, W/ BOLT CAPS.
L-1	LAVATORY, WALL HUNG A.D.A., 20"x18"	KOHLER	K-2032	DELTA 22C151	ZURN ZH8824LR	ZURN Z-8746	ZURN Z8710BN	1/2"	1/2"	2"	2"	1 1/4"	W/ ZURN FIXTURE SUPPORT. COORDINATE ROUGH-IN WITH DRAIN ASSEMBLY. INSULATE DRAIN, P-TRAP AND SUPPLY PIPES WITH TRAP WRAP C500-RHS.
SS-1	SERVICE SINK, FLOOR MOUNTED, 24"x24"	ZURN	Z-1996-24 -SDL-WG	ZURN Z843M1	---	---	---	3/4"	3/4"	3"	2"	3"	WITH VACUUM BREAKER. PROVIDE 12" HIGH WALL GUARDS.
S-1	SINK, STAINLESS STEEL, DOUBLE COMPARTMENT 33x22"x7 1/2"	ELKAY	LR-3322	DELTA 300-DST	ZURN ZH8824LR	ELKAY LK-35	ZURN Z8702BN	1/2"	1/2"	2"	2"	1 1/2"	
SH-1	SHOWER, ONE PIECE GELCOAT, A.D.A., OPEN TOP	AQUARIUS	G3636SH	DELTA 1175143	---	---	---	1/2"	1/2"	2"	2"	2"	WITH VACUUM BREAKER.
EDF-1	ELECTRIC DRINKING FOUNTAIN, W/ BOTTLE FILLING STATION, A.D.A.	ELKAY	LZS8WS	---	ZURN ZH8824LR	---	ZURN Z87019BN	1/2"	---	2"	2"	1 1/2"	WITH ZURN FIXTURE SUPPORT. BASE RATE 8.0 GPH. MOUNT AT A.D.A. HEIGHT.
IMB-1	ICE MAKER BOX	OATEY	38681	---	---	---	---	1/2"	---	---	---	---	MOUNT BOTTOM AT 12" ABOVE THE FINISHED FLOOR.
EW/SH-1	EMERGENCY EYEWASH/SHOWER	ACORN SAFETY	S1320	---	---	---	---	1"	1"	2"	2"	---	WITH ACORN SAFETY TMV33 THERMOSTATIC MIXING VALVE.
FD-1	FLOOR DRAIN POLISHED BRONZE	ZURN	ZB-415-B	---	---	---	---	---	---	3"	2"	3"	WITH SURE SEAL WATERLESS TRAP PRIMER.
FD-2	FLOOR DRAIN W/POLISHED BRONZE EXTENDED RIM TOP	ZURN	ZB-415-I	---	---	---	---	---	---	3"	2"	3"	WITH SURE SEAL WATERLESS TRAP PRIMER.
HB-1	HOSE BIBB, ENCASED POLISHED BRONZE, FREEZE PROOF	ZURN	Z-1320-6	---	---	---	---	3/4"	---	---	---	---	WITH VACUUM BREAKER.
HB-2	HOSE BIBB, YARD HYDRANT, FREEZE PROOF	ZURN	Z-1395	---	---	---	---	3/4"	---	---	---	---	WITH VACUUM BREAKER.

STANDARD PLUMBING LEGEND

DOMESTIC COLD WATER	
DOMESTIC HOT WATER	
SANITARY SEWER PIPING	
VENT PIPING	
GAS PIPING	G
CONDENSATE DRAIN	D
BALL VALVE	
WATER HAMMER ARRESTOR	P.D.I.
FINISH FLOOR CLEANOUT	FFCO
FLUSH GRADE CLEANOUT	FGCO

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PLUMBING SCHEDULES

WORKING NUMBER: P-4

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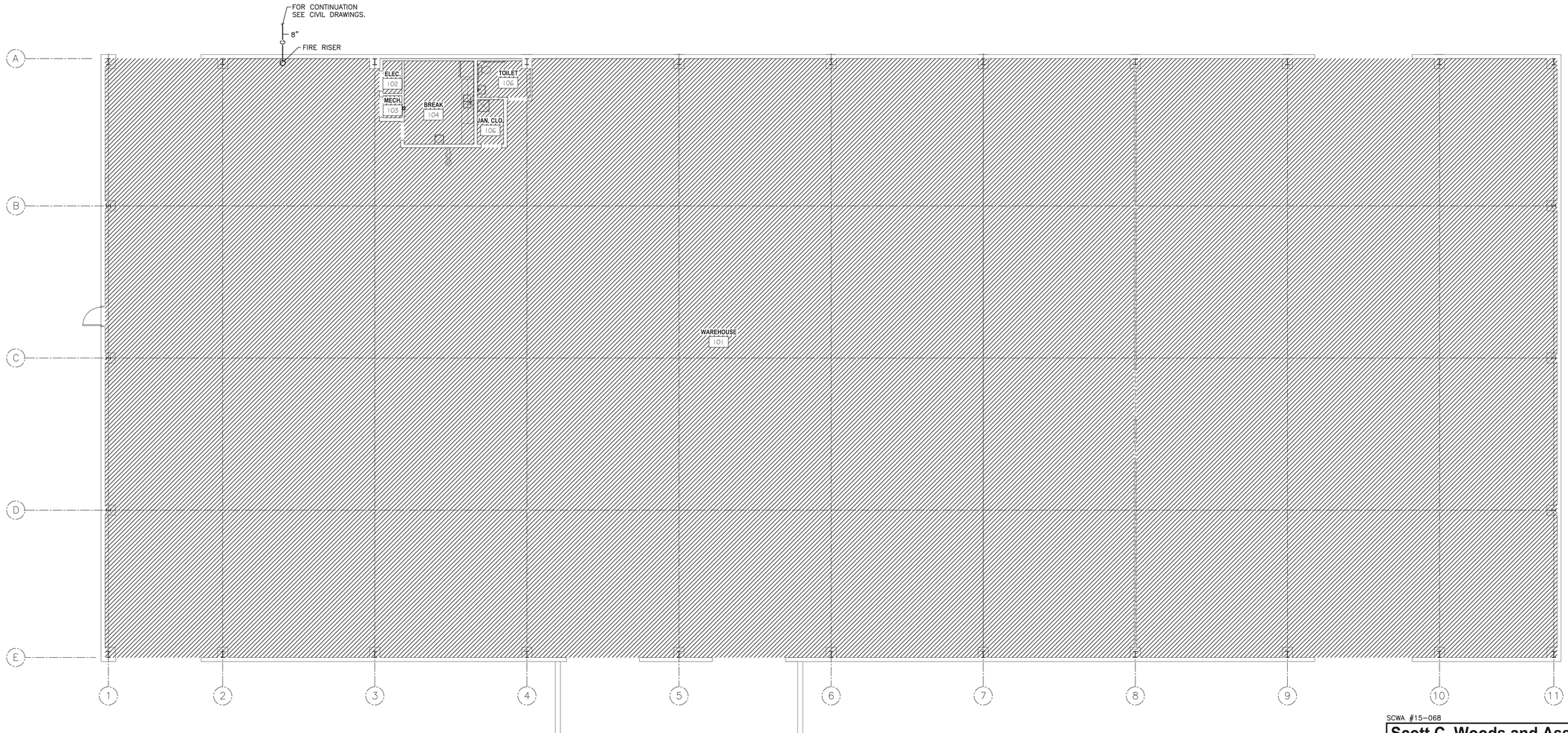
FIRE PROTECTION LEGEND

CMSA CLASS I AND II
FOR PALLETIZED STORAGE

GENERAL FIRE PROTECTION NOTES

1. ALL SYSTEMS AND EQUIPMENT SHALL STRICTLY COMPLY WITH NFPA 13 AND ALL LOCAL CODES.
2. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER AND ARCHITECT FOR APPROVAL BEFORE INSTALLING FIRE PROTECTION SYSTEM.
3. ALL FIRE PROTECTION WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS.
4. SPRINKLER HEADS SHALL BE INSTALLED IN CENTER OF CEILING TILES WHERE POSSIBLE.
5. SPRINKLER HEADS SHALL BE SEMI-RECESSED TYPE IN SPACES WITH CEILINGS. SPACES WITHOUT CEILINGS SHALL HAVE UPRIGHT HEADS.



NORTH

WAREHOUSE FLOOR PLAN/FIRE PROTECTION

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

SCWA #15-068

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WAREHOUSE FLOOR PLAN/FIRE PROTECTION

WORKING NUMBER:	DRAWING NUMBER:
FP-1	

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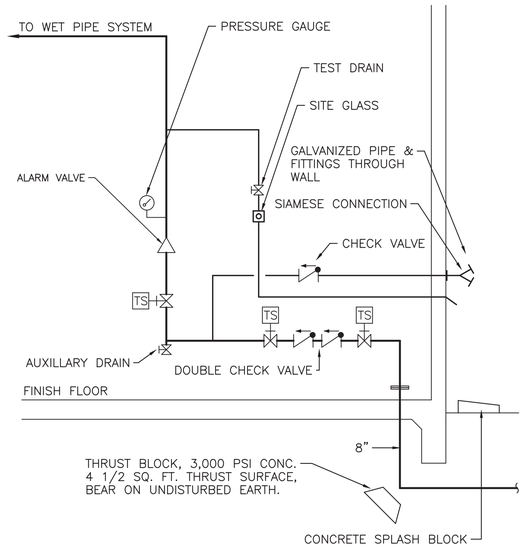
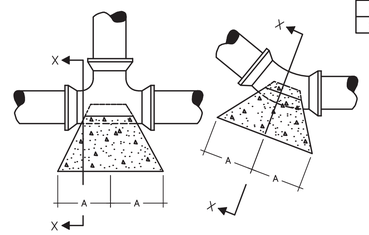


FIRE RISER DETAIL

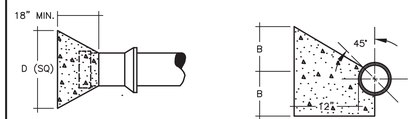
NO SCALE



TEES (plan) *BENDS (plan)*

SIZE	1/4" BENDS		1/8" BENDS		1/16" BENDS		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
6"	16"	10"	9"	10"	6"	8"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"

NOTE: BASED ON 100 p.s.i. STATIC PRESSURE PLUS A.W.W.A. WATER HAMMER. BEARING SURFACE IS TO BE CARRIED TO UNDISTURBED GROUND.



PLUGS (plan & elevation)

BENDS & TEES (section X–X)

WATER MAIN THRUST BLOCK DETAIL

NO SCALE

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FIRE PROTECTION DETAILS

WORKING NUMBER:	DRAWING NUMBER:
FP-2	

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