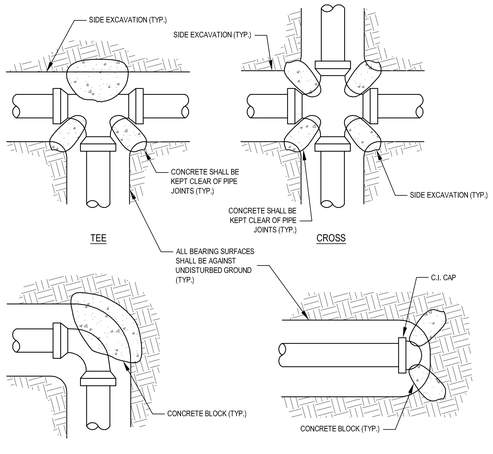


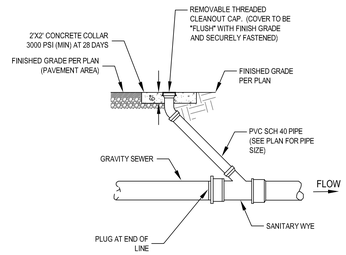
BEARING AREAS EACH DIRECTION OF THRUST IN SQUARE FEET				
PIPE SIZE	TEES & DEADENDS	90° ELBOWS	45° ELBOW CROSSES IN DIRECTION OF FLOW	22-1/2° ELBOWS
6"	4.0	5.5	3.0	2.0
8"	7.0	9.5	5.0	3.0
10"	9.5	13.5	7.0	4.0
12"	13.5	19.0	10.0	5.0
14"	18.0	23.5	14.0	7.0
16"	23.0	33.0	18.0	9.0

NOTES:

1. PLACE 4 mil. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT.)
2. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
3. THE HORIZONTAL DIMENSION (b) OF THE BEARING AREA SHALL BE BETWEEN 1.0 AND 2.0 TIMES THE VERTICAL DIMENSION (h). (h <= b <= 2h)
4. THE VERTICAL DIMENSION (h) OF THE BEARING AREA SHALL BE EQUAL TO ONE-HALF THE TOTAL DEPTH (H) TO THE BOTTOM OF THE THRUST BLOCK BUT NOT LESS THAN THE OUTSIDE DIAMETER (Do) OF THE FITTING (Do < h <= H/2).
5. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
6. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

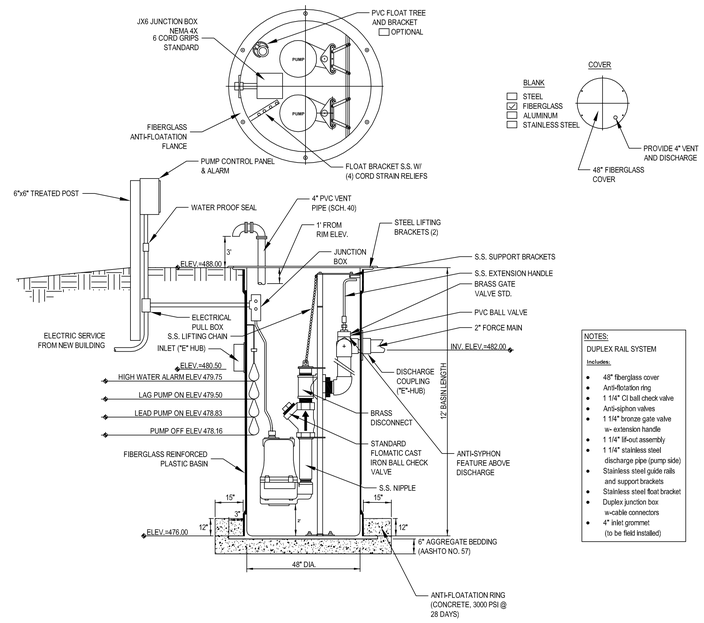
6 TYPICAL THRUST BLOCK INSTALLATION

NO SCALE



8 THROUGH FLOW CLEANOUT DETAIL

NO SCALE

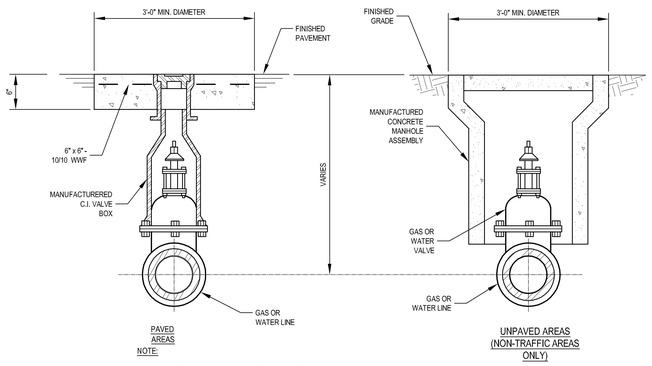


NOTES:
DUPLEX RAIL SYSTEM
Includes:

- 48" fiberglass cover
- Anti-flotation ring
- 1 1/4" CI ball check valve
- Anti-siphon valves
- 1 1/4" bronze gate valve w- extension handle
- 1 1/4" lif-out assembly
- 1 1/4" stainless steel discharge pipe (pump side)
- Stainless steel guide rails and support brackets
- Stainless steel float bracket
- Duplex junction box w-cable connectors
- 4" inlet grommet (to be field installed)

10 TYPICAL GRINDER PUMP STATION

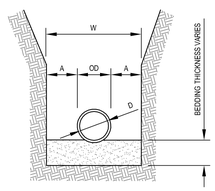
NO SCALE



NOTE:
WORD "WATER" OR "GAS" CAST INTO CENTER OF CAST IRON CAP OR CONCRETE LID.

7 TYPICAL VALVE BOX DETAIL

NO SCALE



PIPE DIA "D"	MAXIMUM "A"
6" TO 15"	8"
16" TO 21"	10"
24" TO 30"	12"
33" TO 42"	15"
48" & LARGER	18"

NOTES:

1. PROVIDE BEDDING IN ACCORDANCE WITH THE SPECIFICATIONS.
2. MAXIMUM TRENCH WIDTH 'W' TAKEN AT TOP OF PIPE

9 STANDARD PIPE TRENCH WIDTH

NO SCALE

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

RYAN K. CLARK REGISTERED 17611 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
06/24/2015

ARCHITECTS/ENGINEERS:

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AE Works Project Number: 13025

Drawing Title: SITE UTILITY DETAILS

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: RKC | Drawn: PJK

Project Number: #613-116

Building Number: #519

Drawing Number: C542

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

PROJECT NARRATIVE

THE PROPOSED WORK AT THE MARTINSBURG VETERANS AFFAIRS FACILITY INCLUDES CONSTRUCTION OF A NEW 30,000 SQUARE FOOT WAREHOUSE AND RELATED SITE IMPROVEMENTS. SITE IMPROVEMENTS WHICH IMPACT THE EROSION AND SEDIMENTATION CONTROL PLAN INCLUDE RECONFIGURATION OF THE EXISTING PARKING LOT, INSTALLATION OF NEW CONCRETE SIDEWALK AND HANDICAP ACCESSIBLE RAMPS, CONSTRUCTION OF A NEW LOADING DOCK AREA, STORMWATER MANAGEMENT, UTILITY RELOCATION WORK, LANDSCAPING, AND RELATED IMPROVEMENTS. THE PROJECT DISTURBED ACREAGE IS OVER ONE (1) ACRES, AND SO AN NPDES PERMIT IS REQUIRED. THE SITE IS NOT LOCATED WILL NOT IMPACT ANY WETLANDS OR FLOODPLAINS.

STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

1. NOTIFY THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF WATER AND WASTE MANAGEMENT, 10 DAYS IN ADVANCE OF ANY LAND DISTURBANCE ACTIVITIES AT THE FOLLOWING TELEPHONE NUMBER: (304) 926-0496.
2. CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE WEST VIRGINIA CALL BEFORE YOU DIG SYSTEM, AT 1-800-245-4848 TO LOCATE BURIED UTILITIES. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING AND MARKING UNDERGROUND UTILITIES.
3. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET; STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
4. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
5. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES AND MAINTAIN AND MAKE AVAILABLE TO THE CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING , REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
6. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
7. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CONSERVATION DISTRICT.
8. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE WVDEP, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
9. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
10. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
11. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMPs.
12. EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP's.
13. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPs MUST BE STABILIZED IMMEDIATELY.
14. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE WVDEP TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS IN ADVANCE.
15. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE PROVIDED SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
16. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS, DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
17. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
18. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
19. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER, IF APPLICABLE.
20. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
21. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
22. SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOOD PLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
23. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE. ALL STONE FROM HOUSE DEMOLITION TO BE SALVAGED IN ACCORDANCE WITH CONDITIONS OF THE CONTRACT MANUAL.
24. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY. THE CONTRACTOR MUST INSTRUCT THE DRIVERS OF ALL VEHICLES TO REMOVE SOIL AND LOOSE MATERIAL FROM THEIR WHEELS AND UNDERCARRIAGES WHEN LEAVING THE WORK AREA. THE CONTRACTOR MUST REMOVE ALL SOIL, MISCELLANEOUS DEBRIS OR OTHER MATERIAL SPILLED, DUMPED, OR OTHERWISE DEPOSITED ON PUBLIC STREETS, HIGHWAYS, SIDEWALKS, OR OTHER PUBLIC THOROUGHFARES BY VEHICLES IN TRANSIT TO AND FROM THE WORK AREA.

UTILITY CONSTRUCTION SEQUENCE

1. AREAS DOWNGRADE OF PROPOSED UTILITY INSTALLATION AREAS SHOULD BE PROTECTED BY COMPOST FILTER SOCK OR SIMILAR E&S CONTROL DEVICES. THESE DEVICES MAY ALREADY BE IN PLACE, IF INSTALLED AS PART OF THE OVERALL SITE CONSTRUCTION SEQUENCE.
2. REMOVE PAVEMENT, EXCAVATE UTILITY TRENCH AND PLACE UTILITIES, WHENEVER POSSIBLE, PIPELINES WITH JOINTS SHOULD BE PLACED IN TRENCHES ONLY SLIGHTLY LONGER THAN THE MANUFACTURED LENGTH. THE TOTAL LENGH OF OPEN TRENCH SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF UTILITY THAT CAN BE PLACED IN ONE WORKING DAY. NO MORE THAN FIFTY (50) LINEAL FEET OF OPEN TRENCH SHOULD EXIST AT THE END OF EACH WORKDAY.
3. PUMP WATER FROM THE TRENCH AS NEEDED AT 1/2 THE MAXIMUM PUMPING RATE RECOMMENDED BY THE MANUFACTURER. PUMP DISCHARGE SHOULD BE LOCATED IN A GRASSY AREA AND SHALL BE FITTED WITH PUMPED WATER FILTER BAGS, PER THE DETAIL SHOWN ON PLAN.
4. SOIL SUPPLEMENTS, SEED AND MULCH SHOULD BE APPLIED WITHIN SEVEN (7) DAYS AFTER THE UTILITY LINE IS INSTALLED IN ACCORDANCE WITH THE SEEDING SCHEDULE.
5. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY BEFORE CROSSING ANY STREAMS, SWALES OR WETLANDS NOT SHOWN ON PLAN.

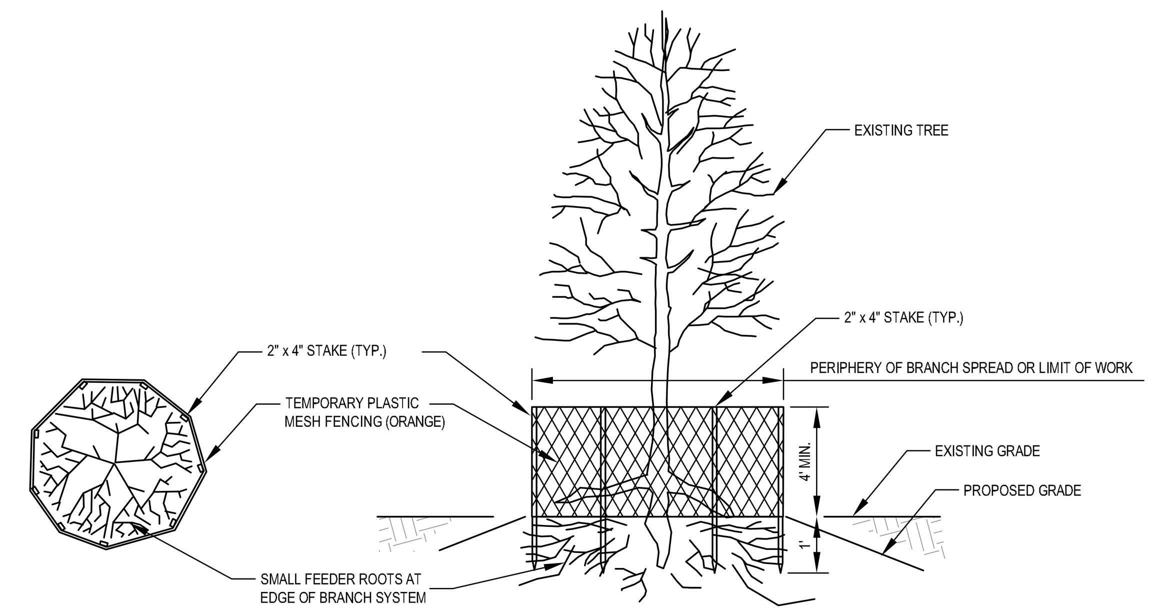
GRADING AND CONSTRUCTION SEQUENCE

1. CONTRACTOR TO PROVIDE FLAGS TO DELINEATE THE LIMIT OF DISTURBANCE BOUNDARY AS SHOWN ON PLAN.
2. INSTALL A STONE CONSTRUCTION ENTRANCE TO PREVENT TRACKING SEDIMENT ONTO CAMPUS ROADS. THE STONE CONSTRUCTION ENTRANCE SHALL BE USED TO ACCESS CONSTRUCTION AREAS THROUGHOUT THE LIFE OF THE PROJECT.
3. INSTALL TREE PROTECTION FENCE, AS NEEDED TO PROTECT EXISTING TREES TO REMAIN. INSTALL COMPOST FILTER SOCK DOWN GRADE OF ALL PROPOSED DISTURBED AREAS AND AS SHOWN ON PLAN. INSTALL DRAIN INLET PROTECTION DEVICES IN ALL EXISTING INLETS IN THE VICINITY OF THE PROJECT AREA AND IMMEDIATELY DOWNSTREAM OF THE DISTURBED AREAS. IF ADDITIONAL INLETS APPEAR TO RECEIVE RUNOFF FROM THE PROJECT AREA BUT ARE NOT SHOWN ON PLAN, THESE INLETS SHOULD ALSO BE PROTECTED.
4. PERFORM DEMOLITION OF EXISTING PAVEMENT, SIDEWALKS AND CURB, AS SHOWN ON THE SITE DEMOLITION PLANS AND IN ACCORDANCE WITH THE PROJECT WASTE DISPOSAL NOTES SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN.
5. PERFORM ROUGH SITE GRADING AND RELOCATION UTILITY WORK, IN ACCORDANCE WITH PROJECT WASTE DISPOSAL NOTES AND THE UTILITY INSTALLATION CONSTRUCTION SEQUENCE. INSTALL COMPOST FILTER SOCK AROUND THE TEMPORARY MATERIAL STOCKPILE AREAS, IF THEY ARE NEEDED.
6. EXISTING STORM SEWERS AND INLETS ARE TO BE UNOBSTRUCTED AND FUNCTIONAL DURING CONSTRUCTION AND REMAIN IN USE UNTIL INSTALLATION OF NEW STORM SEWERS AND INLETS AS DEPICTED ON C140 IS COMPLETE.
7. INSTALL INLET PROTECTION DEVICES IN NEW INLETS AS THEY ARE CONSTRUCTED. SET INLET GRATES AT FINAL GRADE TO PREVENT SEDIMENT FROM ENTERING STORM PIPES DURING CONSTRUCTION.
8. DEMOLISH EXISTING BUILDING FACADE PER THE ARCHITECTURAL PLANS AND BEGIN CONSTRUCTION OF THE NEW BUILDING ADDITION. AT THE CONTRACTOR'S DISCRETION, THIS WORK MAY PROCEED SIMULTANEOUSLY WITH THE ROUGH GRADING OF THE SITE AND UTILITY RELOCATION WORK, PROVIDED THE REQUIRED EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND FUNCTIONING PROPERLY.
9. FINALIZE CONSTRUCTION OF PROPOSED BUILDING AND TIE-IN UTILITY CONNECTIONS.
10. FINALIZED CONSTRUCTION OF THE PROPOSED ASPHALT PARKING AREAS, SIDEWALKS AND CURB AND PERFORM FINE GRADING OF THE SITE, AS A WHOLE. AFTER FINAL GRADING IS COMPLETED, STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING SCHEDULE. STABILIZATION SHOULD OCCUR WITHIN SEVEN (7) DAYS OF COMPLETION OF FINAL GRADING.
11. THE CONTRACTOR IS TO CONTACT WVDEP FOR APPROVAL THAT THE SITE IS STABILIZED. THE SITE IS STABILIZED WHEN A MINIMUM UNIFORM 70% WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION HAS BEEN ACHIEVED ON ALL DISTURBED AREAS. UPON RECEIPT OF WVDEP APPROVAL, REMOVE TEMPORARY E&S DEVICES, CONSISTING OF SEDIMENT BARRIERS, INLET FILTER BAGS AND STONE CONSTRUCTION ENTRANCES.

E&S FACILITIES MAINTENANCE REQUIREMENTS

COMPOST FILTER SOCKS	COMPOST FILTER SOCKS ARE TO BE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT. REMOVE SEDIMENT BUILDUP ONCE IT REACHES 1/3 THE HEIGHT OF THE COMPOST FILTER SOCKS. IF THE COMPOST FILTER SOCK IS OVERTOPPED OR FAILS TO EFFECTIVELY FILTER SEDIMENT, REPLACE FAILED FENCE SECTION WITH A ROCK FILTER OUTLET. REPAIR SOCK OR REPLACE WITH ROCK FILTER OUTLET WITHIN 24 HOURS.
ROCK FILTER OUTLETS	ROCK FILTER OUTLETS ARE TO BE CHECKED WEEKLY AND ATER EACH RAINFALL EVENT. IF R-3 STONE IN THE ROCK FILTER OUTLET FAILS TO EFFECTIVELY FILTER SEDIMENT, AASHTO #67 STONE SHALL BE ADDED WITHIN 24 HOURS. REMOVE SEDIMENT BUILD UP ONCE IT REACHES 1/3 THE HEIGHT OF THE OUTLET.
INLET FILTER BAGS AND PUMPED WATER BAGS	CHECK DAILY AND REMOVE SEDIMENT WHEN HALF FULL, OR AS NEEDED TO PREVENT CLOGGING BY SEDIMENT AND PONDING. MAINTAIN WITHIN 24 HOURS OF OBSERVED FAILURE OR SEDIMENT BUILD-UP.
TEMPORARY STOCKPILES	STOCKPILES SHALL BE MAINTAINED SO AS NOT TO EXCEED 35 FEET IN HEIGHT OR 2:1 IN SLOPE. THESE AREAS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS AND 18" COMPOST FILTER SOCK SHALL BE INSTALLED AROUND THE PERIMETER.
TEMPORARY SEEDING AREAS	THESE AREAS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS. ANY BARE OR DEAD PATCHES SHALL BE REPLACED IMMEDIATELY.
EROSION CONTROL BLANKETS	REFER TO MANUFACTURER'S SPECIFCIATIONS FOR DETAILED MAINTENANCE REQUIREMENTS. INSPECT WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A UNIFORM 70% COVERAGE. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN FOUR (4) CALENDAR DAYS.

NOTE: UNLESS MORE FREQUENT MAINTENANCE REQUIREMENTS ARE SPECIFIED ABOVE, ALL E&S MEASURE SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. INSPECTION, MAINTENANCE, AND REMOVAL OF E&S FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. A LOG OF E & S RELATED INSPECTIONS AND MAINTENANCE ACTIVITIES SHALL BE MAINTAINED AT ALL TIMES ON SITE.

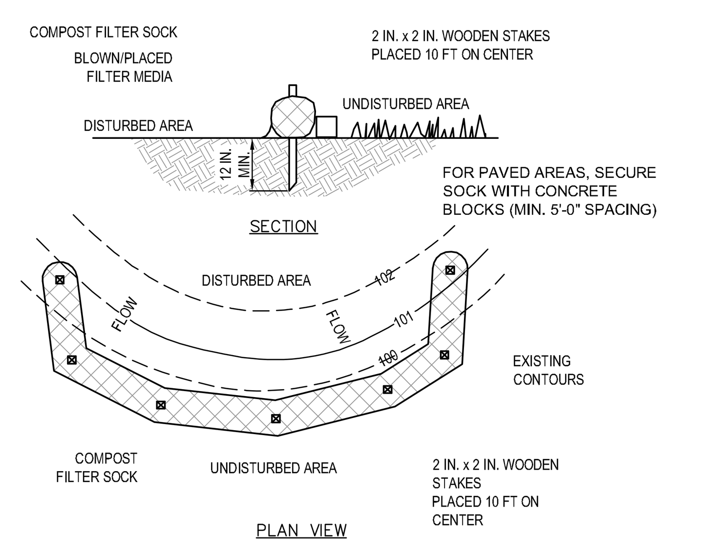


TREE PROTECTION NOTES

1. THOSE TREES WHICH ARE WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED EXCAVATION OR GRADING OPERATION, OR IN ANY OTHER LOCATION DEEMED APPROPRIATE BY THE ENGINEER, SHALL BE PROTECTED BY INSTALLING AND MAINTAINING A FENCE AT THE DRIP LINE.
2. NO BOARDS OR OTHER MATERIALS SHALL BE NAILED TO TREES DURING CONSTRUCTION.
3. HEAVY EQUIPMENT OPERATORS SHALL AVOID DAMAGING EXISTING TREE TRUNKS AND ROOTS. FEED ROOTS SHALL NOT BE CUT CLOSER THAN TWENTY-FIVE (25) FEET FROM TREE TRUNKS.
4. TREE LIMBS DAMAGED DURING CONSTRUCTION SHALL BE PROPERLY PRUNED AND TREATED IMMEDIATELY.
5. THE OPERATION OF HEAVY EQUIPMENT OVER ROOT SYSTEMS OF SUCH TREES SHALL BE MINIMIZED IN ORDER TO PREVENT SOIL COMPACTION.
6. DAMAGED TRESS SHALL BE FERTILIZED TO AID IN THEIR RECOVERY.
7. CONSTRUCTION DEBRIS SHALL NOT BE DISPOSED OF NEAR OR AROUND TREES.

1 TREE PROTECTION FENCE

NO SCALE



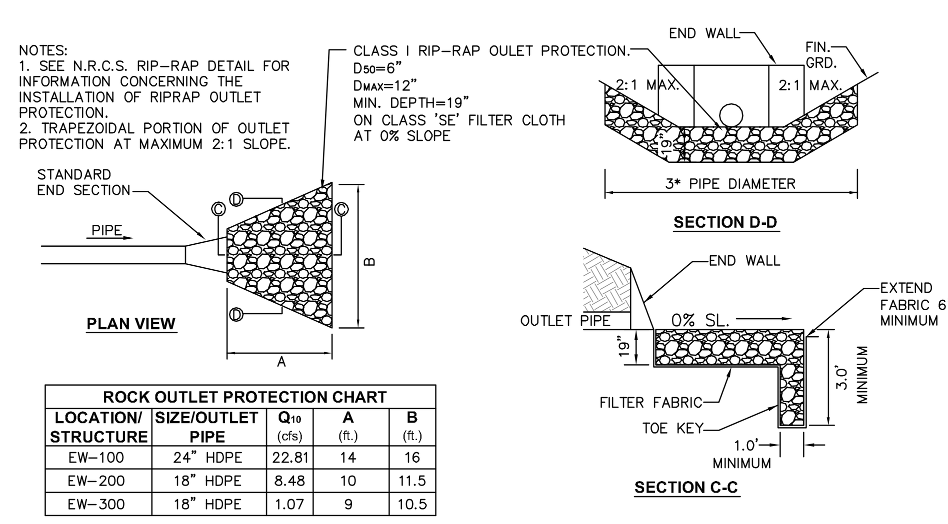
COMPOST FILTER SOCK NOTES:

1. SOCK FABRIC SHALL MEET STANDARDS OF WVDEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF WVDEP EROSION CONTROL MANUAL.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER 'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER 'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
8. COMPOST FILTER SOCKS MAY BE STACKED IN A PYRAMID FORMATION, WHERE FAILURE OF CONVENTIONAL COMPOST FILTER SOCK HAS OCCURRED DUE TO CONCENTRATED FLOW. SEDIMENT SHALL BE REMOVED FROM PYRAMID-STACKED COMPOST FILTER SOCKS WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE SOCK BARRIER.

2 COMPOST FILTER SOCK

NO SCALE

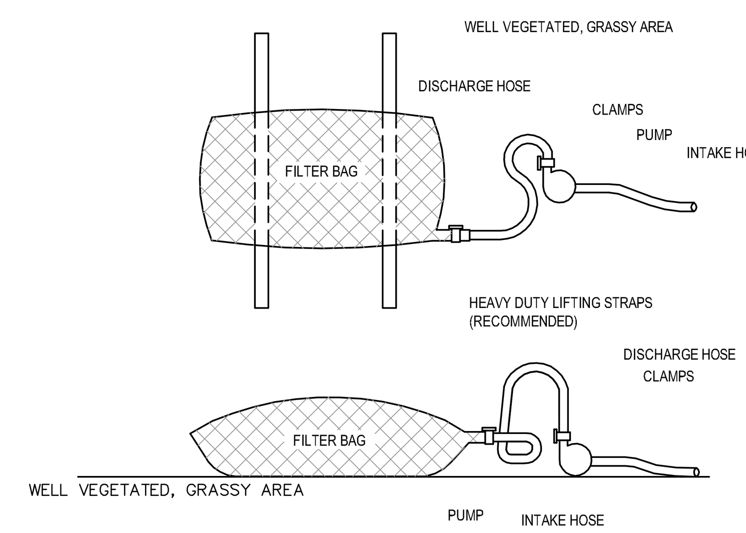
NOTES:
1. SEE N.R.C.S. RIP-RAP DETAIL FOR INFORMATION CONCERNING THE INSTALLATION OF RIPRAP OUTLET PROTECTION.
2. TRAPEZOIDAL PORTION OF OUTLET PROTECTION AT MAXIMUM 2:1 SLOPE.



ROCK OUTLET PROTECTION CHART				
LOCATION/ STRUCTURE	SIZE/OUTLET PIPE	Q_{10} (cfs)	A (ft.)	B (ft.)
EW–100	24" HDPE	22.81	14	16
EW–200	18" HDPE	8.48	10	11.5
EW–300	18" HDPE	1.07	9	10.5

6 ROCK OUTLET PROTECTION

NO SCALE



PUMPED WATER FILTER BAG NOTES:

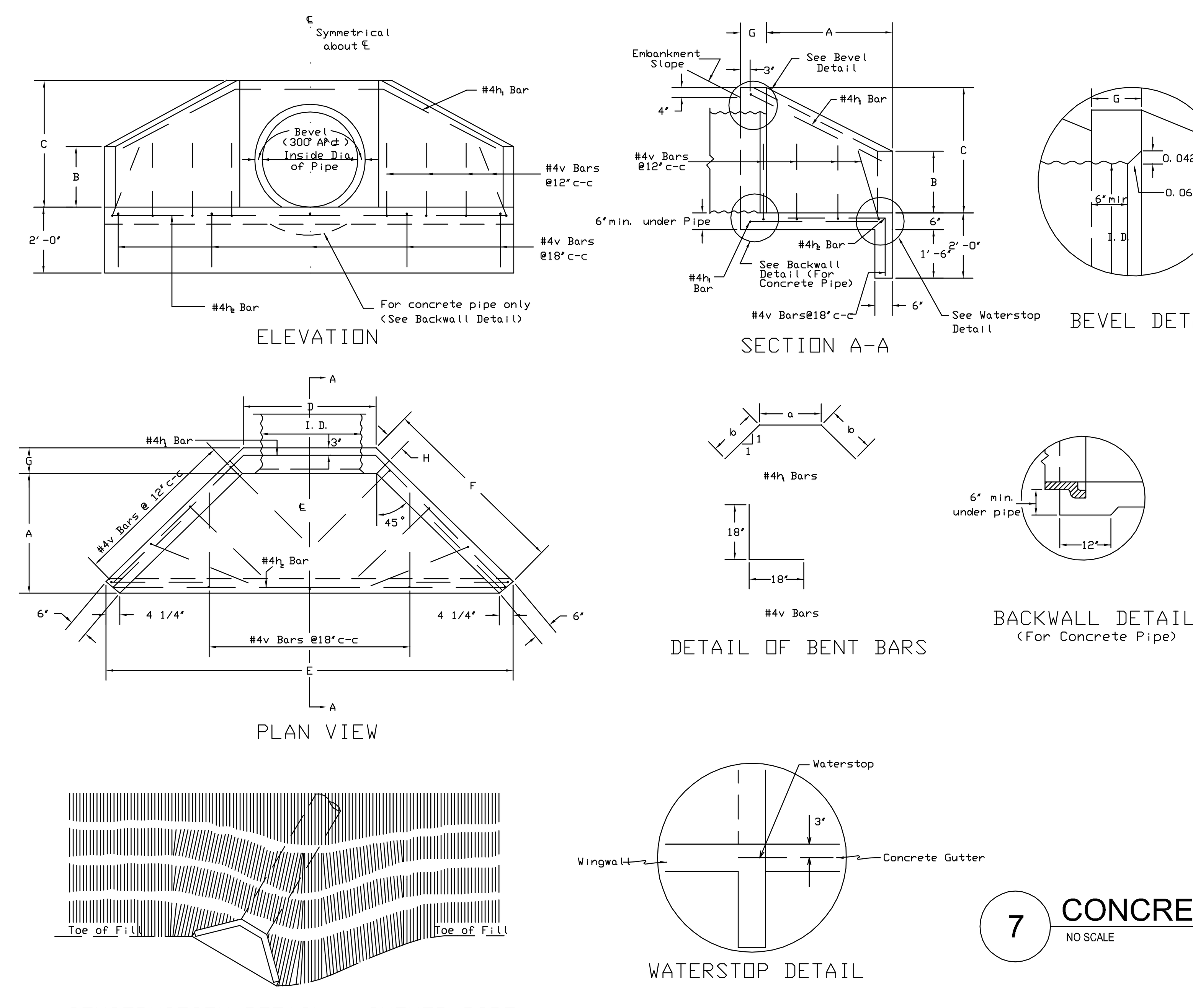
1. LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. SIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
4. NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
5. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
6. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
7. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

3 PUMPED WATER FILTER BAG

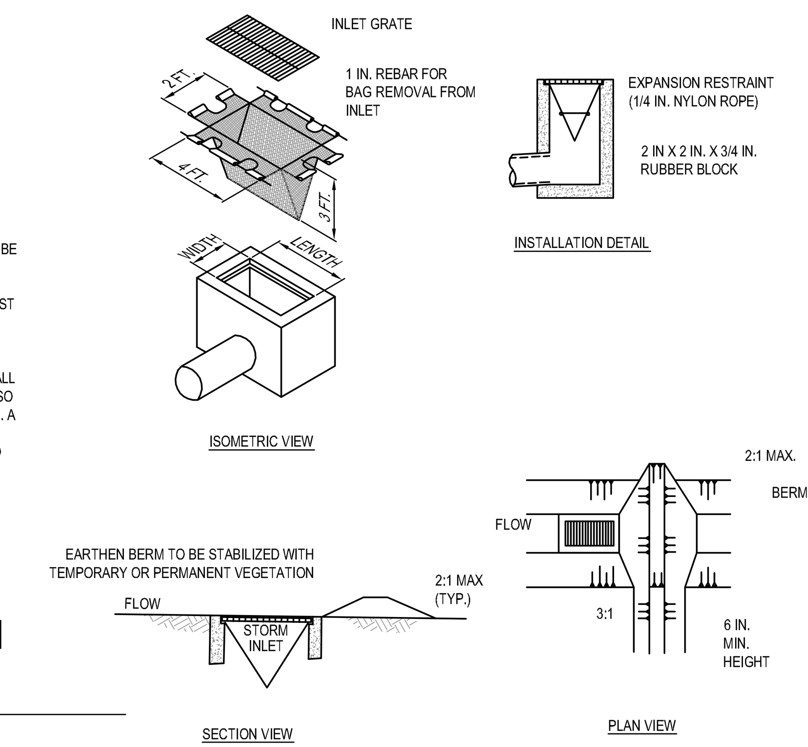
NO SCALE



FILTER BAG INLET PROTECTION NOTES

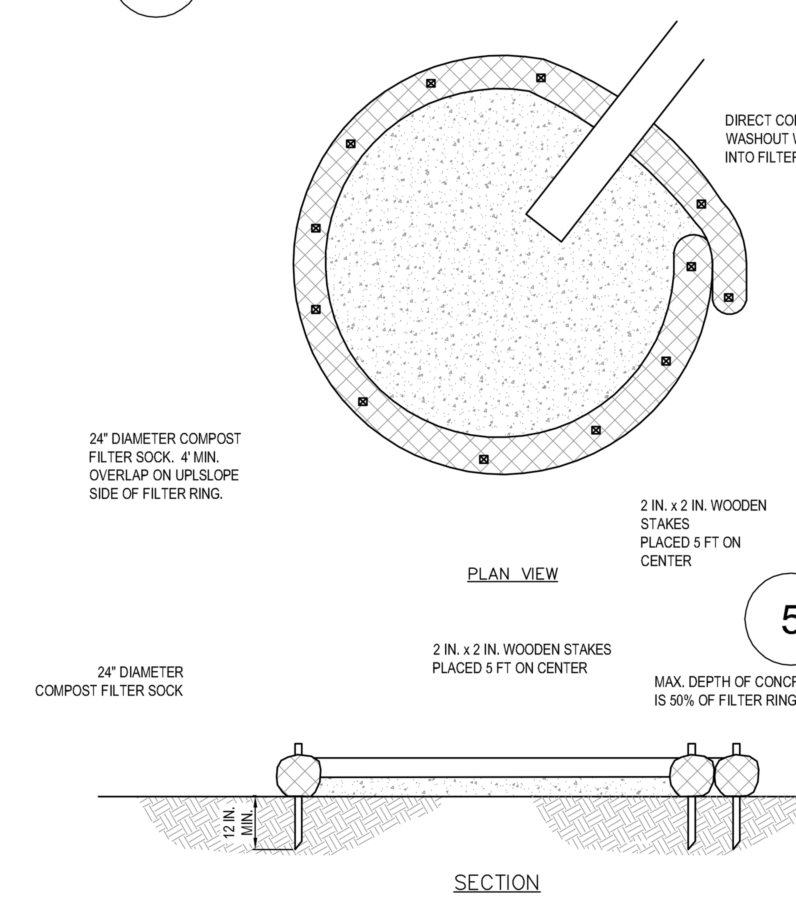
1. MAXIMUM DRAINAGE AREA = 1/2 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
3. ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.
4. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
5. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

6.. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.



4 FILTER BAG INLET PROTECTION TYPE M INLETS

NO SCALE



CONCRETE WASHOUT NOTES:

1. A WASHOUT FACILITY MUST BE PROVIDED FOR THE CLEANING OF CHUTES, MIXERS OF THE CONCRETE DELIVERY VEHICLES. PROPER SIGNAGE SHALL BE PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF THE WASHOUT FACILITIES.
2. UNDER NO CIRCUMSTANCES, SHOULD WASH WATER FROM CONCRETE DELIVERY VEHICLES OR FROM THE WASHOUT FACILITY BE ALLOWED TO ENTER SURFACE WATERS, EITHER OVERLAND OR VIA STORM SEWERS. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR SURFACE WATERS.
3. A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND THE PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER. CARE MUST BE TAKEN TO ENSURE CONTINUOUS CONTACT WITH THE GEOMEMBRANE AT ALL LOCATIONS.
4. INSTALL CONCRETE WASHOUTS ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
5. 18" DIAMETER FILTER SOCKS MAY BE STACKED INTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

5 COMPOST SOCK CONCRETE WASHOUT

NO SCALE

NOTES

All concrete shall be Class B Concrete.
Reinforcing steel shall be new billet steel and shall conform to the requirements of 709.1 of the Specifications.
The covering for Reinforcing Steel shall be 2" measured from the surface of the concrete to the face of the bar, unless otherwise noted on the Plans. Reinforcement in members where concrete is deposited on the ground shall have 3" of concrete from the face of the bar to the ground contact surface.
All exposed edges shall have a 3/4" x 45 chamfer. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground line.
When wingwalls are placed on the inlet end of corrugated metal or structural plate pipe, a bevel shall be used at the inlet opening. The end of the pipe shall be set in from the face of the wall as shown on the "Bevel Detail", and the bevel constructed from the end of the pipe to the face of the wall.
When wingwalls are placed on the inlet end of concrete pipe, the "bell" or "groove" of the pipe shall be placed in the wall, and the inside of the "bell" or "groove" shall be filled with concrete up to the flow line.
Bevels are not required on outlet wingwalls or on inlet wingwalls for concrete pipe.
Keyed or doweled type construction joints, acceptable to the Engineer, may be used during construction.
If embankment slope above wingwalls is flatter than 2:1, provide wings for 2:1 slope and warp embankment to 2:1 slope at wingwall.
The pay quantity for wingwalls, constructed in accordance with the details herein, will be the cubic yards of Class B Concrete specified on this sheet. Cost of all reinforcing steel shall be included in the unit price bid for Class B Concrete.
Waterstop meeting the requirements of 708.10 shall be placed as shown when concrete gutter is to abut the wingwall.

Inside Dia. of Pipe	Slope of Fill	DIMENSIONS A	B	C	D	E	F	G	H	REINFORCEMENT Mark	Size	No. of Bars	LENGTH a	b	Total	Type	QUANTITIES CONC (R.C.P.) C.Y.	CONC (C.M.P.) C.Y.	STEEL LBS.
15"	2:1	*2'-0"	0'-10"	1'-11"	2'-0"	6'-7 1/2"	3'-3 1/4"	*0'-8"	*0'-5 3/8"	h_1	#4	2	1-10"	3-2 1/2"	8'-3"	BENT	0.61	0.62	41.2
		†2'-2"						†0'-6"	†0-2 1/2"	h_2	#4	1			6'-1"	ST.			
		BEVEL: DEPTH=3/4" LENGTH=1"								v	#4	13			3'-0"	BENT			
18"	2:1	*2'-0"	1'-1"	2'-2"	2'-3"	6-10 1/2"	3-3 1/4"	*0'-8"	*0-5 3/8"	h_1	#4	2	2'-1"	3-2 1/2"	8'-6"	BENT	0.67	0.68	41.8
		†2'-2"						†0'-6"	†0-2 1/2"	h_2	#4	1			6'-4"	ST.			
		BEVEL: DEPTH=3/4" LENGTH=1 1/4"								v	#4	13			3'-0"	BENT			
24"	2:1	*2'-8"	1'-4"	2'-9"	2-11"	8-10 1/2"	4-2 1/2"	*0-8"	*0-5 3/8"	h_1	#4	2	2'-9"	4-1 1/2"	11-0"	BENT	1.01	1.02	52.4
		†2-10"						†0-6"	†0-2 1/2"	h_2	#4	1			8'-4"	ST.			
		BEVEL: DEPTH=1" LENGTH=1 1/2"								v	#4	16			3'-0"	BENT			
30"	2:1	*3'-1"	1'-7"	3'-3"	3'-5"	10-4 1/2"	4'-11"	*0-9"	*0-6 3/4"	h_1	#4	2	3'-3"	4-10 1/2"	13'-0"	BENT	1.32	1.37	58.1
		†3'-4"						†0-6"	†0-2 1/2"	h_2	#4	1			9'-10"	ST.			
		BEVEL: DEPTH=1 1/4" LENGTH=2"								v	#4	17			3'-0"	BENT			
36"	2:1	*3'-9"	1'-10"	3'-10"	4'-1"	12-4 1/2"	5-10 1/2"	*0'-9"	*0-6 3/4"	h_1	#4	2	3-11"	5-9 1/2"	15-6"	BENT	1.79	1.86	70.8
		†4'-0"						†0'-6"	†0-2 1/2"	h_2	#4	1			11-10"	ST.			
		BEVEL: DEPTH=1 1/2" LENGTH=2 1/4"								v	#4	21			3-0"	BENT			

* DIMENSIONS FOR INLET WINGWALLS ON CORRUGATED METAL PIPE (TO ACCOMMODATE THE BEVEL).
† DIMENSIONS FOR INLET WINGWALLS ON CONCRETE PIPE AND ALL OUTLET WINGWALLS.

7 CONCRETE HEADWALL DETAIL

NO SCALE

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

RYAN K. CLARK REGISTERED 17611 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
06/24/2015

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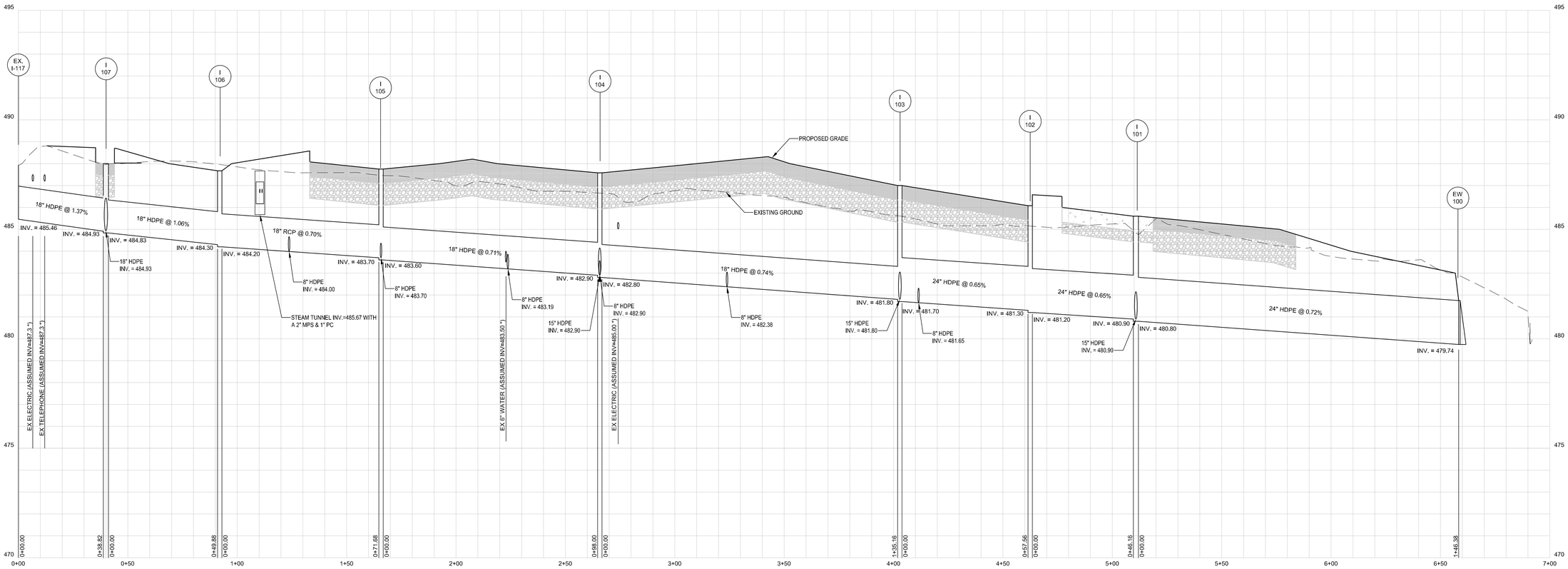
www.ae-works.com
AE Works Project Number: 13025

Drawing Title	EROSION & SEDIMENTATION CONTROL (E&S) DETAILS
Approved: Project Director	
Project Title:	NEW WAREHOUSE
Location:	510 BUTLER AVENUE MARTINSBURG, WV 25405
Date:	06/24/2015
Checked:	RKC
Drawn:	PJK
Project Number	#613-116
Building Number	#519
Drawing Number	C550

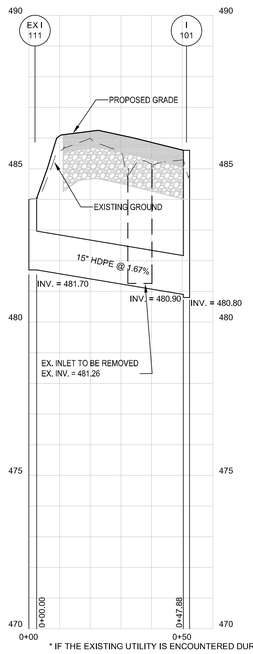
Office of Construction and Facilities Management

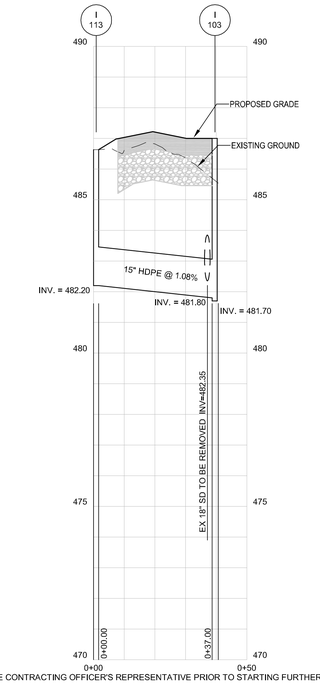
Department of Veterans Affairs

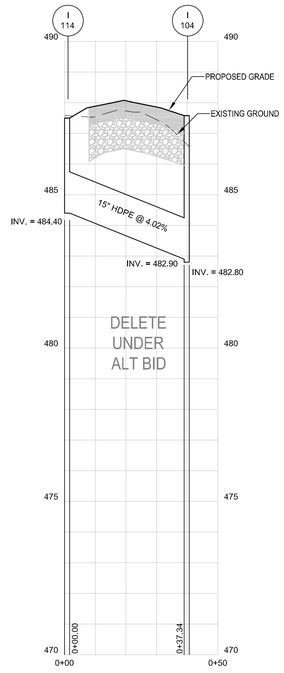
VA FORM 08-6231

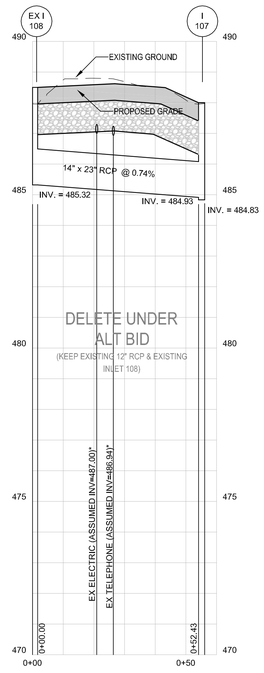


* IF THE EXISTING UTILITY IS ENCOUNTERED DURING CONSTRUCTION, THEN CONTACT THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO STARTING FURTHER WORK IN THE AREA.









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STORM DRAIN PROFILES

SCALE: 1"=20' HORIZ. 1"=2' VERT.

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
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CLARK SURVEYING + ENGINEERING
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AE Works Project Number: 13025

Drawing Title
STORM DRAIN PROFILES

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE
MARTINSBURG, WV 25405

Date:	Checked:	Drawn:
06/24/2015	RKC	PJK

Project Number #613-116

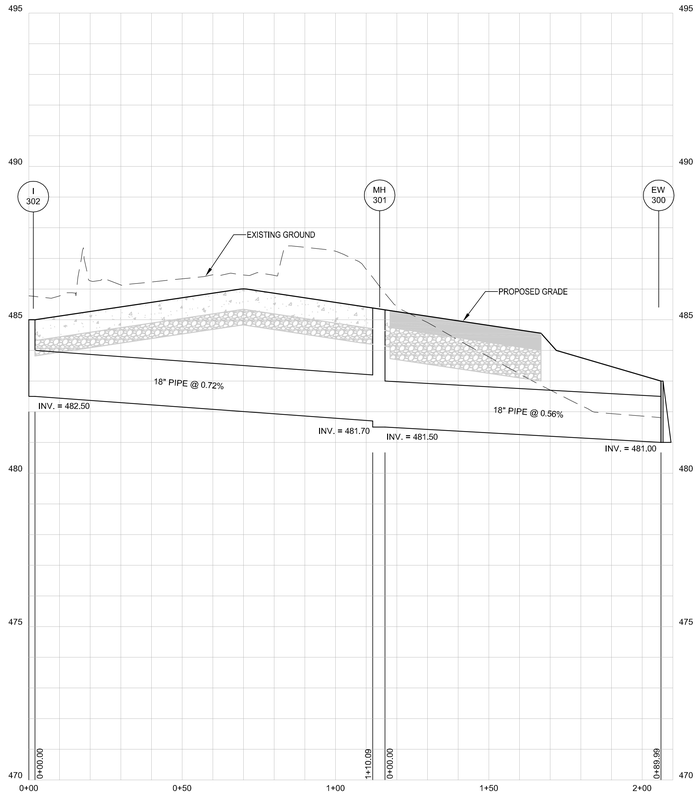
Building Number #519

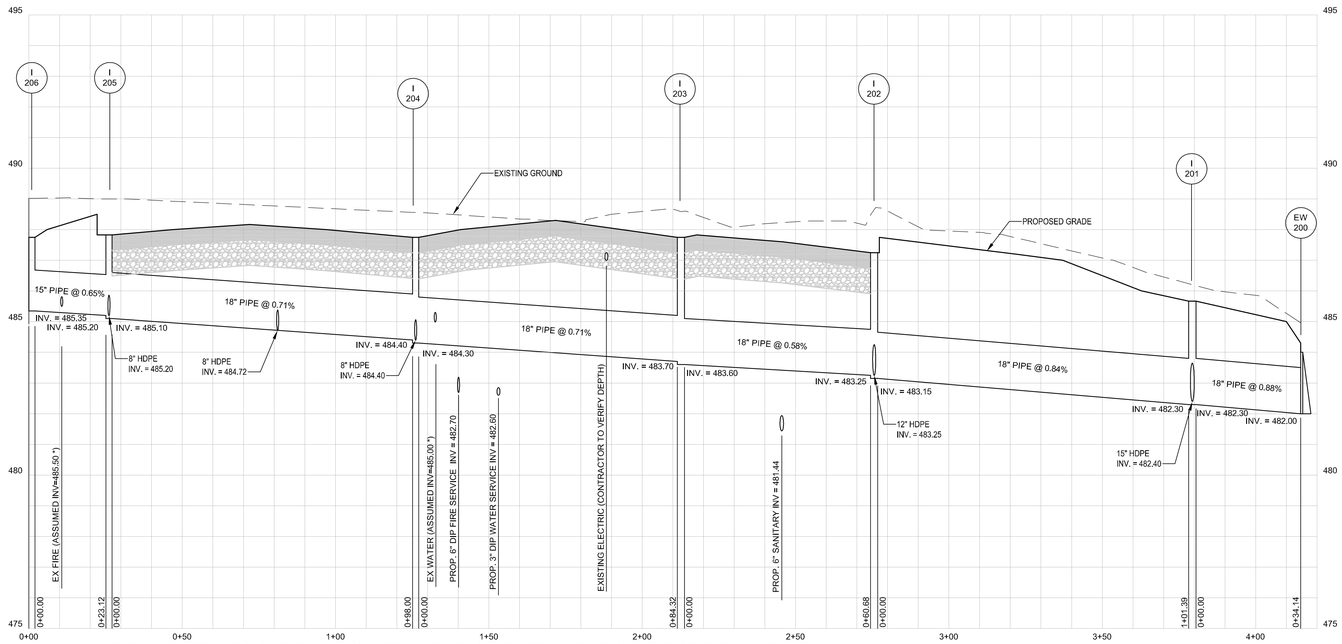
Drawing Number C740

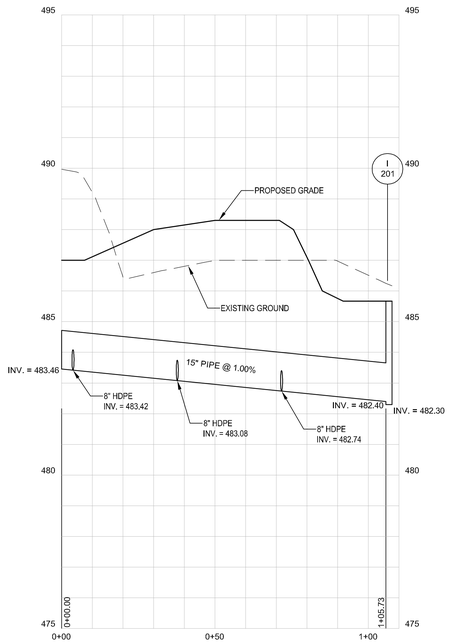
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231







* IF THE EXISTING UTILITY IS ENCOUNTERED DURING CONSTRUCTION, THEN CONTACT THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO STARTING FURTHER WORK IN THE AREA.

STORM DRAIN PROFILES

SCALE: 1"=20' HORIZ. 1"=2' VERT.

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13025

Drawing Title
STORM DRAIN PROFILES

Approved: Project Director

Project Title:
NEW WAREHOUSE

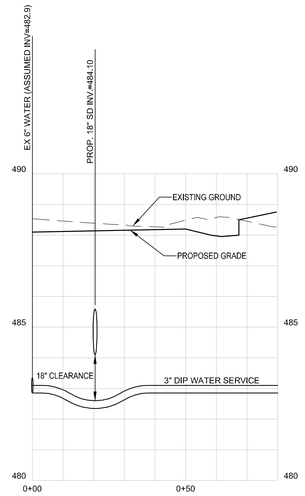
Location: 510 BUTLER AVENUE
MARTINSBURG, WV 25405

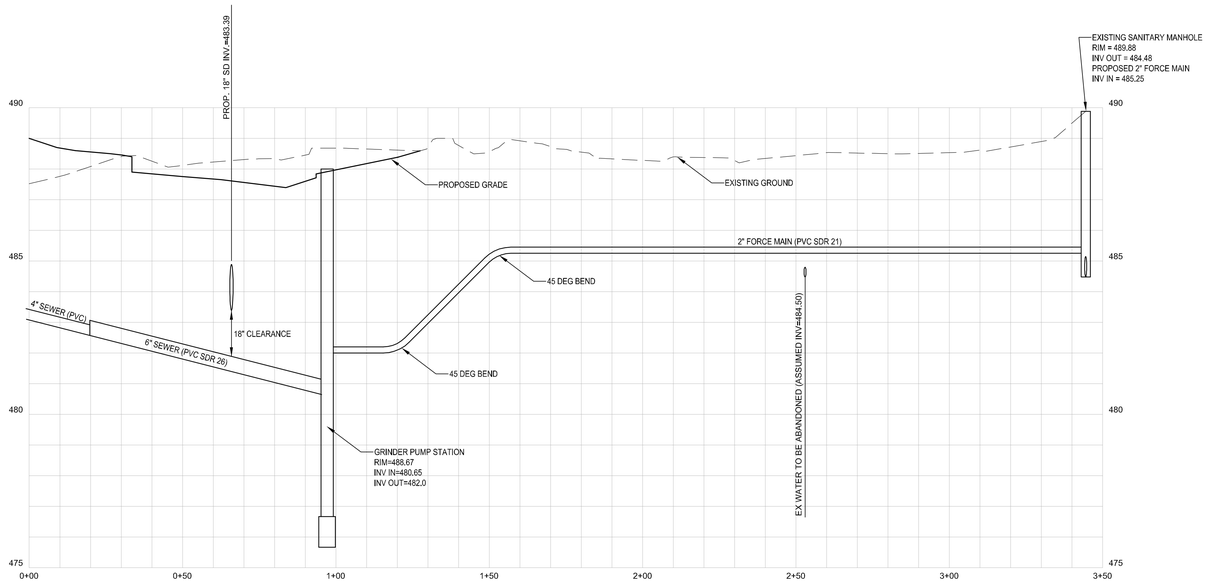
Date: 06/24/2015
Checked: RKC
Drawn: PJK

Project Number #613-116
Building Number #519
Drawing Number C741

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231





PROJECT NORTH
TRUE NORTH

WATER AND SANITARY SEWER PROFILES

SCALE: 1"=20' HORIZ. 1"=2' VERT.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

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CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

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AE Works Project Number: 13025

Drawing Title
WATER AND SANITARY SEWER PROFILES

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE
MARTINSBURG, WV 25405

Date:	Checked:	Drawn:
06/24/2015	RKC	PJK

Project Number
#613-116

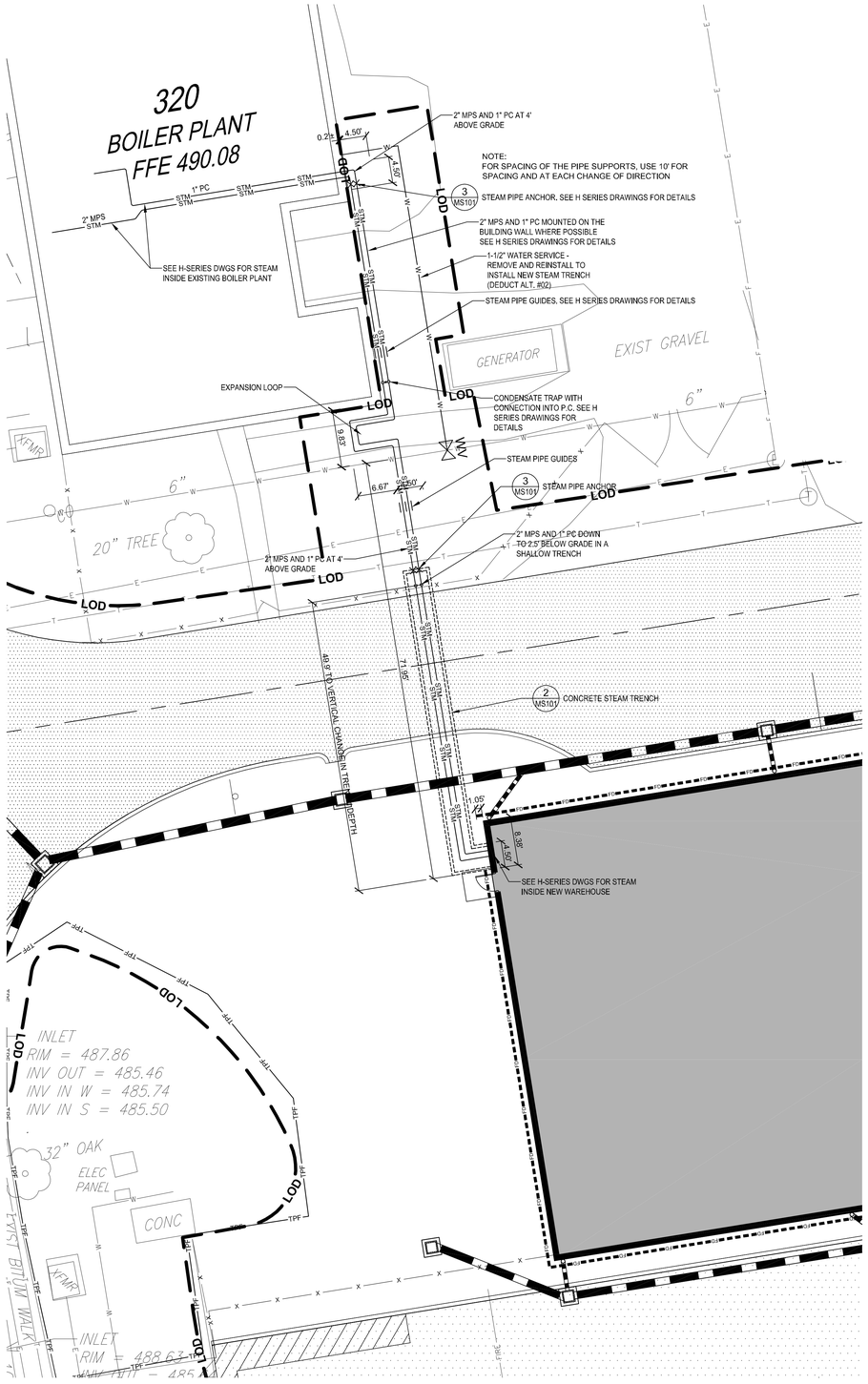
Building Number
#519

Drawing Number
C742

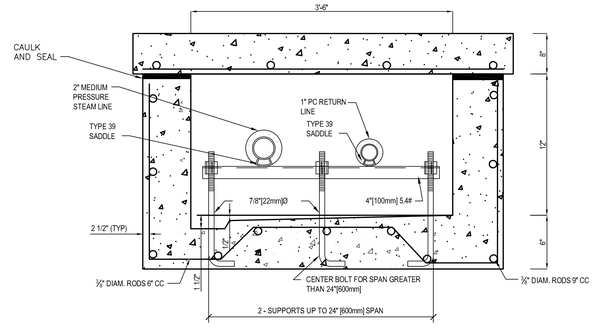
Office of Construction and Facilities Management

Department of Veterans Affairs

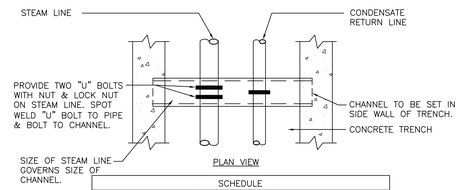
VA FORM 08-6231



1 STEAM TRENCH SITE PLAN
SCALE: 1" = 10'



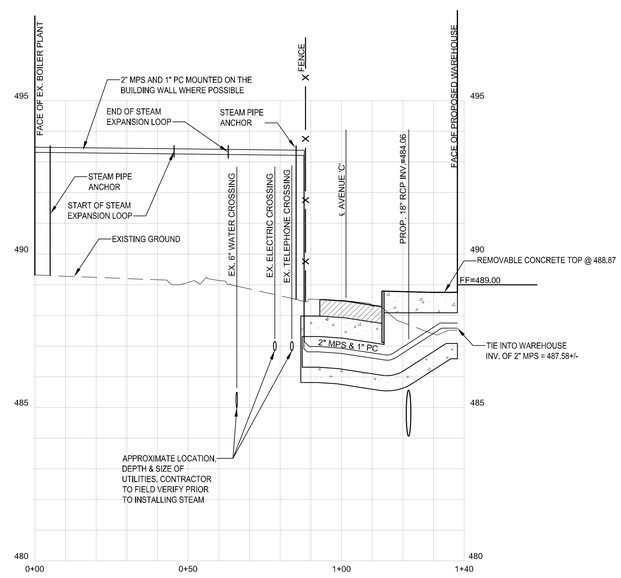
2 CONCRETE STEAM TRENCH
NO SCALE



SCHEDULE		
SIZE OF PIPE INCH [mm]	SIZE OF "U" BOLT INCH [mm]	SIZE OF CHANNEL INCH [mm]
1 – 2 [25 – 50]	3/8 [10] DIA.	6 x 10.5 [150x265]
2-1/2 – 5 [65 – 125]	1/2 [15] DIA.	8 x 13.75 [200x345]
6 – 8 [150 – 200]	3/4 [20] DIA.	10 x 20 [250x500]

SCHEDULE FOR 8 FT. [2.4m] SPAN OR LESS.

3 ANCHOR INSTALLATION STEAM/CONDENSATE PIPING IN TRENCH
NTS



4 STEAM TRENCH PROFILE
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

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CIVIL ENGINEERING

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LANDSCAPE ARCHITECTURE

SEAL

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AE Works Project Number: 13025

Drawing Title
STEAM SITE PLAN, DETAILS, & PROFILE

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE MARTINSBURG, WV 25405

Date: 06/24/2015
Checked: RKC
Drawn: PJK/BAA

Project Number #613-116
Building Number #519
Drawing Number MS101

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

LANDSCAPE PLAN NOTES

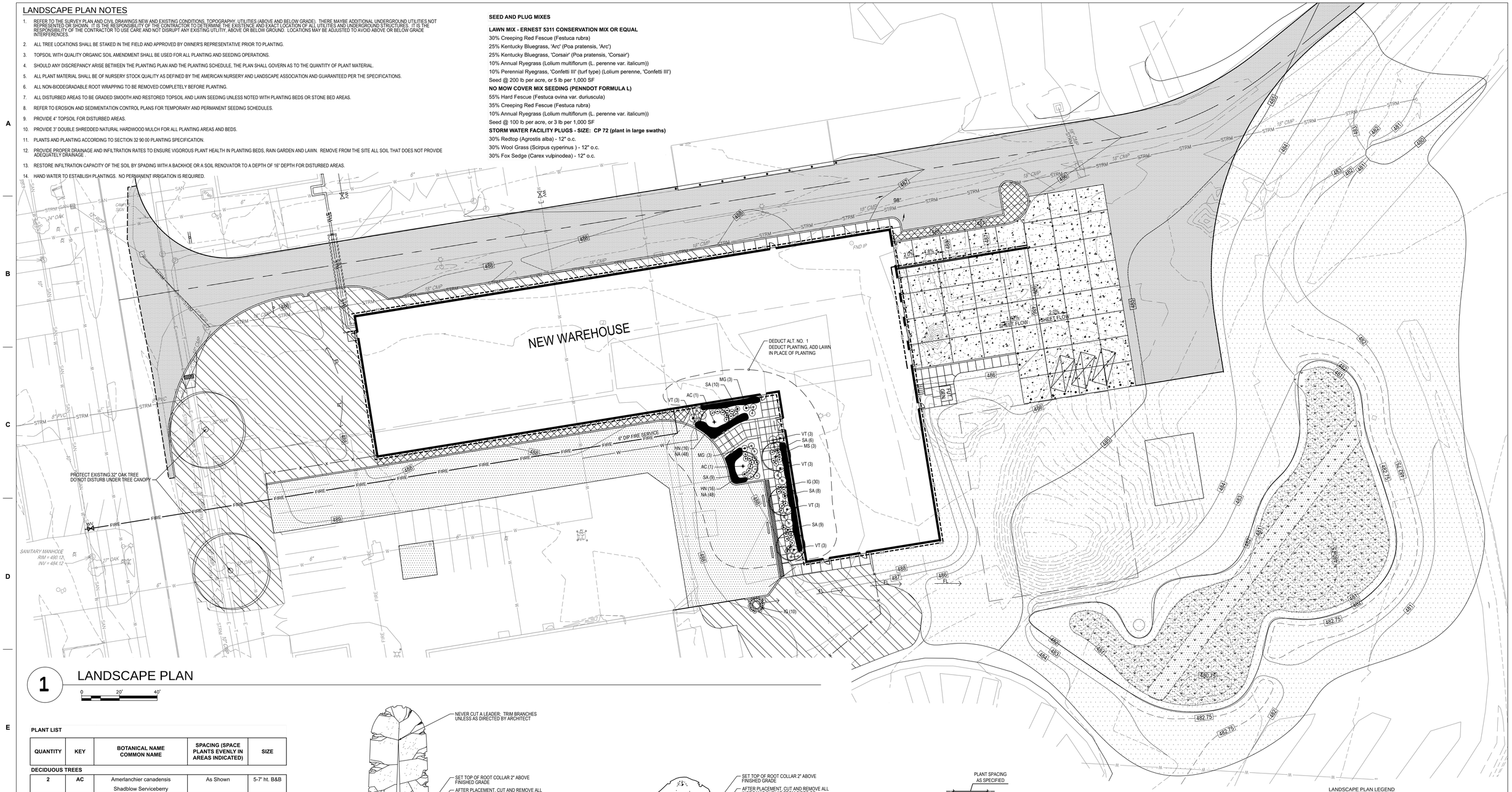
1. REFER TO THE SURVEY PLAN AND CIVIL DRAWINGS NEW AND EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES (ABOVE AND BELOW GRADE). THERE MAYBE ADDITIONAL UNDERGROUND UTILITIES NOT REPRESENTED OR SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE CARE AND NOT DISRUPT ANY EXISTING UTILITY, ABOVE OR BELOW GROUND. LOCATIONS MAY BE ADJUSTED TO AVOID ABOVE OR BELOW GRADE INTERFERENCES.
2. ALL TREE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
3. TOPSOIL WITH QUALITY ORGANIC SOIL AMENDMENT SHALL BE USED FOR ALL PLANTING AND SEEDING OPERATIONS.
4. SHOULD ANY DISCREPANCY ARISE BETWEEN THE PLANTING PLAN AND THE PLANTING SCHEDULE, THE PLAN SHALL GOVERN AS TO THE QUANTITY OF PLANT MATERIAL.
5. ALL PLANT MATERIAL SHALL BE OF NURSERY STOCK QUALITY AS DEFINED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION AND GUARANTEED PER THE SPECIFICATIONS.
6. ALL NON-BIODEGRADABLE ROOT WRAPPING TO BE REMOVED COMPLETELY BEFORE PLANTING.
7. ALL DISTURBED AREAS TO BE GRADED SMOOTH AND RESTORED TOPSOIL AND LAWN SEEDING UNLESS NOTED WITH PLANTING BEDS OR STONE BED AREAS.
8. REFER TO EROSION AND SEDIMENTATION CONTROL PLANS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES.
9. PROVIDE 4" TOPSOIL FOR DISTURBED AREAS.
10. PROVIDE 3" DOUBLE SHREDDED NATURAL HARDWOOD MULCH FOR ALL PLANTING AREAS AND BEDS.
11. PLANTS AND PLANTING ACCORDING TO SECTION 32 90 00 PLANTING SPECIFICATION.
12. PROVIDE PROPER DRAINAGE AND INFILTRATION RATES TO ENSURE VIGOROUS PLANT HEALTH IN PLANTING BEDS, RAIN GARDEN AND LAWN. REMOVE FROM THE SITE ALL SOIL THAT DOES NOT PROVIDE ADEQUATELY DRAINAGE .
13. RESTORE INFILTRATION CAPACITY OF THE SOIL BY SPADING WITH A BACKHOE OR A SOIL RENOVATOR TO A DEPTH OF 16" DEPTH FOR DISTURBED AREAS.
14. HAND WATER TO ESTABLISH PLANTINGS. NO PERMANENT IRRIGATION IS REQUIRED.

SEED AND PLUG MIXES

LAWN MIX - ERNEST 5311 CONSERVATION MIX OR EQUAL
30% Creeping Red Fescue (Festuca rubra)
25% Kentucky Bluegrass, 'Arc' (Poa pratensis, 'Arc')
25% Kentucky Bluegrass, 'Corsair' (Poa pratensis, 'Corsair')
10% Annual Ryegrass (Lolium multiflorum (L. perenne var. italicum))
10% Perennial Ryegrass, 'Confetti III' (turf type) (Lolium perenne, 'Confetti III')
Seed @ 200 lb per acre, or 5 lb per 1,000 SF

NO MOW COVER MIX SEEDING (PENNDOT FORMULA L)
55% Hard Fescue (Festuca ovina var. duriuscula)
35% Creeping Red Fescue (Festuca rubra)
10% Annual Ryegrass (Lolium multiflorum (L. perenne var. italicum))
Seed @ 100 lb per acre, or 3 lb per 1,000 SF

STORM WATER FACILITY PLUGS - SIZE: CP 72 (plant in large swaths)
30% Redtop (Agrostis alba) - 12" o.c.
30% Wool Grass (Scirpus cyperinus) - 12" o.c.
30% Fox Sedge (Carex vulpinodea) - 12" o.c.

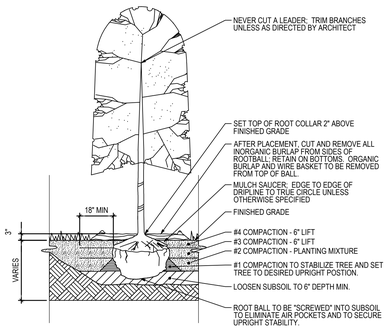


1 LANDSCAPE PLAN

0 20' 40'

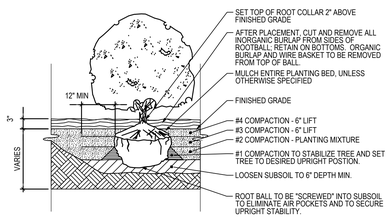
PLANT LIST

QUANTITY	KEY	BOTANICAL NAME COMMON NAME	SPACING (SPACE PLANTS EVENLY IN AREAS INDICATED)	SIZE
DECIDUOUS TREES				
2	AC	Amerlanchier canadensis Shadblow Serviceberry	As Shown	5-7' ht. B&B
3	MS	Magnolia stellata 'Royal Star' Royal Star Magnolia	As Shown	5-7' ht. B&B
54				
SHRUBS				
44	IG	Ilex glabra Inkberry	As Shown	24" B&B
15	VT	Viburnum trilobum American cranberry bush	As Shown	24" B&B
PERENNIALS / ORNAMENTAL GRASSES / BULBS				
42	SA	Sedum 'Autumn Joy' Autumn Joy Sedum	24" o.c.	1 gal. full
32	HN	Hemerocallis 'Stella D'Oro' Stella D'Oro Daylilies	24" o.c.	1 gal. full
9	MG	Miscanthus sinensis 'Gracillimus' Morning Light Maiden Grass	As Shown	1 gal. full
96	NA	Narcissus - Trumpet & Ice Follies Mix Daffodil mix	6" o.c. - plant with perennials	Bulbs



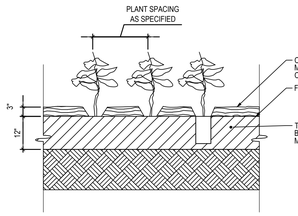
2 TYPICAL TREE PLANTING

NOT TO SCALE



3 TYPICAL SHRUB PLANTING

NOT TO SCALE



4 TYPICAL PERENNIAL PLANTING

NOT TO SCALE

LANDSCAPE PLAN LEGEND

NOTE: REFER TO THE EXISTING FEATURES PLAN FOR THE EXISTING FEATURES LEGEND

- PROPOSED TREES SEE PLAN FOR SPECIES AND QUANTITIES
- STORM WATER FACILITY PLUG PLANTS SIZE CP 72 - 12" O.C.
- LAWN SEEDING SEED AT 200 LB PER ACRE OR 5 LB PER 1000 PER SF
- NO MOW COVER MIX PENN DOT FORMULA L SEED MIX SEED AT 100 LB PER ACRE OR 3 LB PER 1000 SF
- 6" DECORATIVE RIVER GRAVEL WITH GEOTEXTILE FABRIC

DEDUCT ALT. NO. 1
DEDUCT PLUGS, ADD SEEDING

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions: Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT

ARCHITECTS/ENGINEERS:

AE works

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number: 13025

Drawing Title
Site Landscaping Plan

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 **Checked:** SM **Drawn:** BB

Project Number #613-116

Building Number #519

Drawing Number LP111

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

GENERAL NOTES

GENERAL

1. Dimensions and elevations shown on the structural drawings are obtained from the architectural drawings available prior to release of Contract Documents. Layout of building foundations or other items shall be based on the Architectural, Civil and Structural drawings. Any errors, inconsistencies or omissions in dimensions shall be forwarded to the Architect in writing for resolution.
2. The structural design is based only on the structure in its completed state. The Contractor and his subs shall take whatever precautions are necessary in their opinions, including but not limited to temporary bracing, shoring and needling, to withstand all horizontal and vertical loadings that may be encountered during the construction and prior to completion.
3. All written dimensions shall take precedence over the scale shown on plans, sections, and details. Do not scale the drawings.
4. Typical details and notes on these sheets shall apply unless specifically shown or noted otherwise. Construction details not fully shown or noted shall be similar to details shown for similar conditions. Typical details are not cut on drawing plan sheets, but shall apply at all applicable locations. Typical details also apply to items not shown on the structural drawings, which include but are not limited to mechanical openings for which structural typical detail framing applies and top of CMU wall bracing for CMU walls shown on the architectural drawings. Contractor shall coordinate between trades and make provision to obtain and install structural features per the typical details as required by other trades.
5. All work or construction shall comply with all applicable building codes, regulation and safety requirements.
6. Principle curbs, slabs, and openings are shown on the structural drawings. See architectural, mechanical, plumbing, and electrical drawings for sleeves, curbs, inserts, other openings, and slab depressions not shown. The contractor shall provide for all openings, curbs, and slab depressions, whether shown on the structural drawings or not. Size and location of openings shall be verified by the mechanical contractor. Any deviation from openings shown on the structural drawings shall be brought to the Engineer's attention for approval prior to fabrication or installation of structural members.
7. Where specifications and drawings contradict, the specifications shall govern.
8. It shall be the Contractor's sole responsibility to design and provide adequate shoring, bracing, and framework, as required for the protection of life and property during the construction of this building. Excess load capacity of slab shall not exceed loads equivalent to the design superimposed loads less construction dead and live load, partition load, and any other load not in place at the time of shoring.
9. The Contractor shall be solely responsible for all excavation procedure including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with all local, state and federal safety regulations and practices.
10. Cantilever and basement retaining wall(s) have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the wall(s) associated with their means and methods of construction.
11. Construction loads shall not exceed the design superimposed live load capacity of structural elements.
12. Design of crane foundations and crane openings in the structure are the responsibility of the Contractor. The design documents must bear the seal of a registered professional engineer in the state of West Virginia and all necessary calculations shall be submitted to the Architect and Engineer for review prior to fabrication. The Architect's review is not to imply acceptance of responsibility for design adequacy. This is the Contractor's responsibility.
13. Information shown in the structural drawings that is not specifically designed by the structural engineer is shown schematically for information purposes only. The Contractor shall coordinate with the appropriate drawings for the full intent of the information referenced.
14. If field conditions differ from those shown on drawings, Contractor shall notify architect/engineer in writing before proceeding with installation/erection. Notification shall occur sufficiently in advance of the Work to allow Engineer to review.
15. Shoring required for installation of new structures shall be the Contractor's responsibility. Shoring calculations and drawings shall be signed and sealed by the Contractor's engineer in the state of West Virginia and shall be submitted to the Engineer of Record for review.

FOUNDATIONS SPREAD FOOTINGS

1. Foundation design and subsurface information is based on the geotechnical recommendations prepared by Professional Service Industries, Inc. dated March 6, 2014, and supplemental letters, inclusive of rock profiles, dated August 2014, October 29, 2014 and December 4, 2014. Contractor shall review and comply with the recommendations in the geotechnical report, regardless of if such recommendations are explicitly stated within the documents.
2. All surface fill materials, consisting of gravel, brick fragments, concrete chips and wood chips shall be removed in the regions of all foundations in accordance with the geotechnical recommendations.
3. Slabs-on-grade shall rest on a minimum of 4" of free draining, well-graded gravel or crushed rock base coarse. A maximum particle size of ¾" with less than 5% material passing the No. 200 sieve shall be provided. Material shall be moisture conditioned to within +/- 2% percent of optimum moisture content and compacted by mechanical means to a minimum of 95% of the material's maximum dry density as defined by ASTM D698 Standard Proctor Test. Fill under the slabs-on-grade should be placed only after all unsuitable existing fill has been removed and the subgrade proof rolled under the direction of the Inspection Agency. Geotechnical report states that unsuitable existing fill should be expected. See note 4 this section regarding structural fill materials which should be anticipated to be required.
4. On-site soils are generally not anticipated to be suitable for structural fill per the geotechnical report. Structural fill materials shall be free of organic matter and construction debris, and should have rock fragments no larger than 3 inches in maximum dimension. Fill material shall have a maximum Liquid Limit of 45 and a Plasticity Index of 20 or less, tested per ASTM D-4318. Moisture content shall be within +/-2 percentage points optimum moisture content per ASTM D-698. Each fill area shall be compacted to 95% of Standard Proctor maximum dry density (ASTM D-698). See geotechnical report for additional information regarding soil types that may be suitable for structural fill if they meet the above criteria. Structural fill shall be placed in layers of not more than 8 inches in loose thickness with soils that have rock fragments that are no larger than 3 inches in their maximum dimension. All fill placement and compaction shall be monitored full-time by the Inspection Agency. Inspection Agency shall perform sufficient number of tests to verify proper degree of compaction has been achieved.
5. All footings have been designed as spread footings to bear on structural fill or undisturbed soil based on a minimum net allowable bearing capacity of 2000 PSF. The Testing and Inspection Agency shall verify soil bearing capacity at each footing prior to installation of footing. Notify Engineer of any variation from anticipated bearing capacity for appropriate redesign or lowering of footing.
6. The bottoms of all exterior footings and footings supporting unheated areas shall be 2'-6" minimum below finished grade. The top of all footings supporting heated areas shall be 0'-8" minimum below finished floor elevation, unless noted otherwise on the drawings.
7. Edges of footings shall not be placed at a greater than 1 (vertical) to 2 (horizontal) slope with respect to any adjacent footing or excavation.
8. All adjacent column footings that abut shall be separated by a paper joint.
9. Backfilling against walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum) and walls are properly shored and/or braced. Backfilling against basement walls shall not be done until the floor slabs at top and bottom of walls have been placed and have cured. Backfill foundation walls with earth on both sides of the wall by alternately placing backfill on each side so that height of backfill does not differ by more than 1'-6" from other side. Wall backfill should consist of SP-SM or better granular materials placed in the zone behind the wall defined by a 45 degree angle upward from the base of the wall footing behind the wall. Wall backfill shall be compacted to a minimum of 92 percent of the Modified Proctor maximum dry density (ASTM D 1557). All below grade walls shall be provided with perimeter drainage.
10. The contractor shall safeguard and protect all excavations, and all excavations shall be kept free of accumulated water.
11. Maximum length of foundation wall placed in one operation shall not exceed 60 feet.
12. No horizontal joints shall be placed in walls except as shown on the drawings without approval of the Engineer
13. The contractor shall refer to the Architectural, Plumbing, Mechanical and Electrical Drawings for all locations of trenches, pits, conduits, etc. not shown on the Structural Drawings.
14. Site geology is subject to possible sinkhole formation. Sinkholes exposed during construction, if any, shall be remediated per geotechnical report recommendations. Contracting officer shall be notified immediately in the event a sinkhole is found on-site.
15. Highly plasticity soils (fat clay) were found on site during the geotechnical investigation. Contractor shall remediate using either over excavation/replacement of high plasticity soils; or lime modification/stabilization. See note 18 for information from the geotechnical report.
16. Undocumented unsuitable fill is present to depths of approximately 2 to 5 feet per the geotechnical report. The need for overexcavation to remove unsuitable fills and replacement with suitable material during construction should be anticipated.
17. Geotechnical test boring results indicate the potential for highly variable depths to rock based on boring auger refusal depths. Contractor should anticipate rock excavation, and significant variations in rock depths as outlined in the geotechnical report. If localized rock is encountered beneath the building, it shall be replaced with a minimum 12 inches of low plasticity soils as measured from bottom of slabs and foundations. See geotechnical report for additional information regarding rock excavation and supplemental letter detailing rocj profiles.
18. Per geotechnical recommendations prepared by Professional Service Industries, Inc. dated March 6, 2014:

3.2.2 DISCUSSION OF LIME STABILIZATION

Given the fine-grained soil types and the presence of high plasticity soils, the owner/contractor can consider the use of lime to mitigate shrink/swell potential. Moreover, lime can be utilized to dry-back and stabilize wet or soft subgrade areas. Otherwise, the subgrade soils beneath foundations, slabs and pavements would need to be undercut and replaced with relatively non-porous, low-plasticity soils with USCS classifications of GC, SC, CL or ML. For the undercut option, PSI recommends that 2 feet of the design soil subgrade beneath foundations, slabs and pavements be over-excavated and replaced.

In general, lime stabilization can be effective on both lean and high plasticity clays and clayey sands. Lime chemically changes the behavior of the soil and will have both a drying effect and a change in the plasticity of the soil allowing it to be utilized. The percentage of lime required to stabilize the onsite soil types typically range between 4 and 8 percent lime by dry weight. However, specific percentage should be selected and evaluated by additional field sampling and laboratory testing.

Mixing lime with soil to modify the properties of the soil requires a thorough mixing process. This is best performed using rotary mixers that are specifically built for this purpose. In addition, the application rate of the lime has to be controlled to assure that it meets project requirements. As such, there are specific requirements for monitoring and testing during construction that should be implemented to confirm that the process is successfully completed. PSI recommends that and experienced, properly equipped stabilization contractor be engaged if lime stabilization is implemented.

Since lime is a caustic substance, precautions should be taken to protect the workers, public, and environment. If lime is utilized, then proper safety and quality control measures should be implemented and are discussed below. However, PSI is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

1. Care must be taken during construction to avoid skin and eye burns, especially if quicklime is used. Water must be applied and mixing operations started immediately after spreading in order to avoid or reduce potential burns. Water should be continuously sprinkled over the mixing area to reduce dusting and is should not be spread under windy conditions.
2. The contractor is to be responsible for controlling fugitive dust due to lime application, on and off project limits. Additionally, water runoff from the project site must be controlled by the contractor. Lime must not be allowed to flow with water runoff to any surface water body on or off the project site or onto an adjacent site.
3. A health and safety plan should be called for in the project specifications. The health and safety plan should include, but not be limited to, the identification of precautions for exposure to lime, associated operations and products, protocols for ensuring adherence to the plan requirements, and emergency medical treatment available on and near the job site. The health and safety plan should be prepared by a certified industrial hygienist for the contractor, and should be submitted to County officials if required. Field quality control should be provided and should be monitored by the Geotechnical Engineer of Record. Daily written documentation of all monitoring activities, including, but not limited to, field observations, construction equipment, source, type, grade and consistency of lime, sampling and testing locations, test results and supporting measurements shall be maintained at the project field office. At a minimum, the following elements should be included in a quality control plan.
4. Lateral extent of lime treatment should be established by a field survey. The extent of the treated areas will be identified by the Geotechnical Engineer of Record or his authorized representative.
5. The spread rate of dry lime should be determined or measured for each lift in terms of pounds of lime per unit area of surface. If lime is applied in bags, the spread rate can be determined from the number of bags used, the weight of lime per bag, and the area being treated. If lime is applied in bulk via mechanical means, a 1-square yard piece of canvas or other suitable material should be placed on the ground at random locations at least once per day during continuous operation, and the weight of lime spread on it measured after lime application is completed. At least three measurements should be conducted for bulk applications, with one test being conducted at the start of spreading lime. In addition, a check should be made of the total weight of lime used per day and the weight and volume of the treated soil.
6. Mixing should be accomplished using a rotary-type mixer or similar equipment to achieve uniform mixing. A disc-harrow or loader bucket teeth should not be used to mix the lime into the soil. The mixed soils should be assessed by visual observation to determine that the lime and soils have been completely blended. The soil-lime mixture should be allowed to mellow sufficiently to allow the chemical reaction to change the material. The duration of this mellowing period should be based on engineering judgment and is dependent on soil type.
7. For each type of soil to be stabilized at the site, a moisture density curve in accordance with ASTM D 698 should be determined for a mixture of that soil with the design lime content. The compaction in the field should be monitored based on the laboratory moisture density test results. For building pads, one field density test should be conducted per 2,500 square foot area of each compacted lift, with a minimum of three tests per lift. For pavements, one field density test should be conducted per 12,000 square foot area of each compacted lift, with a minimum of three tests per lift. In no case should the spacing between tests exceed 500 feet in each lift.
8. Other field tests may be appropriate to demonstrate the quality control or verify the anticipated performance of the lime-treated material for the particular application. The type, purpose, frequency and location of other field tests should be determined by the Geotechnical Engineer of Record as needed during construction. Such testing may be used to address nonconforming test results.

3.2.3 DISCUSSION OF MUDMAT OR BITUMEN SUBGRADE SEALING

Another option to mitigate the risks of potential shrink-swell would be use of either mudmat or bitumastic sealant. The use of a concrete mud-mat (a minimum of 4 inches thick) may be considered at the bottom of footing excavations and potentially at the floor slab soil subgrade. The foundation and slab excavations would needed to be of sufficient depth to fill in the 4-inch mud mat.

Alternatively, a bitumastic spray type sealant could be placed at the design soil subgrade for foundations, floor slabs and/or pavements without any required overexcavation if soil subgrade is otherwise suitable for support of the proposed construction. The bitumastic sealant should be an emulsified asphalt material that meets the requirements of Section 408 (Tack Coat) of the West Virginia Division of Highways Standard Specifications. The material specification sheet for the proposed bitumastic sealant should be submitted to PSI for review prior to usage. The "tack coat" should be applied uniformly and at a controlled rate (~0.13 to 0.15 gal/sy undiluted) across the soil subgrade target area.

The mud mat or bitumastic type sealant should be applied or sprayed immediately after excavation to reduce the potential for water infiltration into the soil. It may be necessary to perform these operations in several phases so that the sealant can be applied immediately. The excavations should be as clean as possible to not hinder the bond between the bitumastic sealant and the underlying materials. The bitumastic sealant must be applied in accordance with the manufacturer's recommendations, and must not be applied during wet or cool weather periods. If the material is exposed to rain prior to drying, the sealant will need to be removed, the surface cleaned and a new coat applied."

RETAINING WALLS

1. Retaining walls shall be either "Braced" or "Cantilevered" retaining walls.
2. "Braced" retaining walls are designed with lateral supports at the bottom and top of the wall. The Contractor shall provide temporary bracing as required during construction to support the wall until the final braced condition is met. The Contractor shall assume all walls are designed as "Braced" walls unless specifically noted otherwise on the Contract Documents. Backfilling against "Braced" walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum) and walls are properly shored and/or braced. "Braced" retaining walls have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the walls associated with their means and methods of construction.
3. "Cantilevered" retaining walls are designed without lateral supports at the [bottom or] top of the wall. The Contractor is not required to provide temporary support of these walls during construction. Backfilling against "Cantilevered" walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum). "Cantilevered" retaining walls have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the walls associated with their means and methods of construction.
4. Wall backfill should consist of SP-SM or more granualr materials placed in the zone behind the wall definied by a 45 degree angle upward from the base of the wall footing behind the wall. Backfill shall be compacted to a minimum of 92% of the Modified Proctor maximum dry density (ASTM D 1557). Small walk behind compaction equipment is required for compaction per the geotechnical report.

CONCRETE MATERIALS AND PROPORTIONING

1. All concrete work shall comply with the 033000 specifications.
2. Cement shall comply with ASTM C 150, Type I or III.
3. Aggregates and water/cement ratios shall be as indicated in the Specifications.
4. All concrete shall have slumps in accordance with ACI 211.1 and the Specifications.
5. All exterior concrete shall be air entrained 4% - 6% per the Specifications. Limit entrapped air in concrete to receive hard steel trowel finish to 3% maximum for slabs on grade, superstructure concrete, and concrete on metal deck.
6. All concrete, except footings, shall contain water reducer per manufacturer's recommendations.
7. No concrete shall be placed until concrete design mixes have been submitted for each class of concrete and have been approved by the engineer. Mix designs shall indicate where each is to be used in the work.
8. Welded wire reinforcement shall conform to ASTM A185. All welded wire reinforcement shall be spliced so that the overlap between outermost cross wires of each sheet is not less than the spacing of the cross wires plus 2 inches, unless otherwise shown on drawings.
9. Reinforcing steel shall be deformed bars of intermediate grade new billet steel conforming to current requirements of ASTM A 615, Grade 60, unless noted otherwise.
10. Reinforcing steel to be welded shall conform to the current requirements of ASTM A706.
11. Splice laps for all reinforcing shall be class 'B', unless otherwise noted. Lap splices of continuous reinforcing shall be made over supports for bottom bars and at midspan for top bars, unless noted otherwise. All hooks shall be standard hooks, unless otherwise noted.
12. Refer to Architectural Drawings and/or Specifications for concrete finishes.
13. All concrete shall be structural normal weight concrete shall have a maximum dry unit weight of 150 PCF.

FOUNDATION CONCRETE

1. All concrete shall be normal weight concrete having a minimum design compressive strength at 28 days as follows:
   a. Interior concrete, typical (includes all foundations) 4500 PSI
   b. Exterior slabs on grade (including dock slab and stoops), walls, and footings 5000 PSI
2. Minimum steel protection, unless otherwise shown, shall be 1" for interior face of walls, 2" for exterior face of walls, 3" for footings and other structural concrete deposited against ground, 2" for concrete permanently exposed to earth or weather.
3. Grade beams shall be formed on the sides with 2" minimum cover. Bottom of grade beams need not be formed. Provide 3" minimum cover at bottom of grade beams.
4. All structural members shall be poured to their full depths in one operation. Construction joints, such as day's pour joints, shall be located in the middle third of the span, main reinforcing to run through the joint, key and roughen joints to expose aggregate. Contractor shall submit drawing indicating construction joint locations for approval.
5. Excavations shall be kept free of accumulated water. No concrete shall be placed in water.
6. All slabs-on-grade shall have thickenings, depressions, openings, slopes, etc. as shown or as required by various trades.
7. Provide vertical dovetail inserts 2'-0" o.c. with anchors in all concrete surfaces faced with brick which are 1'-3" or greater in height.
8. Provide water stops at locations shown on drawings.
9. For additional concrete work not shown on Structural Drawings, see Architectural Drawings. All concrete within the building footprint shall be reinforced, unless specifically noted otherwise. See typical details for concrete items/reinforcing not shown on structural plans. If no reinforcing detail is shown for an item, contact the Engineer for review prior to work.

SUPERSTRUCTURE CONCRETE
(Supported by Metal Deck)

1. All concrete on metal deck shall be normal weight concrete having a minimum design compressive strength of 4500 PSI at 28 days.
2. Provide 6X6-W1.4XW1.4 welded wire reinforcement in all concrete slabs on metal deck unless noted otherwise.
3. Mesh shall be draped.
4. The contractor shall allow for 3/4" additional concrete during placing due to deflection of structure.
5. The contractor shall deposit all concrete, during placing in such a manner as not to overload the metal deck.
6. All slabs shall have thickenings, depressions, openings, slopes, etc. as shown herein or on Architectural, Mechanical, Electrical & Plumbing Drawings.
7. Horizontal unit of placement for concrete on metal deck shall not exceed 90 feet in any direction.

MISCELLANEOUS-CONCRETE

1. Contractor shall verify conditions in the field and immediately notify engineer or architect of any conditions not as assumed. He shall take field measurements as required and be responsible for same.
2. Contractor shall coordinate with all related trades for detailing, fabrication and erection prior to submitting shop drawings for approval.
3. All Structural work shall be coordinated with Architectural, Mechanical, Electrical, Plumbing, etc. requirements.
4. General Contractor to provide appropriate number of copies of coordinated drawings showing all sleeves, conduit boxes, duct openings, etc. as required for all trades for Structural Engineer's approval. This shall be done a minimum of two weeks prior to pouring affected slabs, beams, columns or footings.
5. No openings shall be made in any structural member unless specifically shown on the structural drawings approved by the Structural Engineer.
6. Conduits in concrete slabs must be spaced such that the distance between conduits, centerline to centerline, is a minimum of three times the outside diameter of the largest conduit.
7. No conduit may be placed in the concrete slab which has an outside diameter larger than one-third the total slab thickness.
8. Conduit shall be placed in the middle one-third of the slab thickness.
9. Conduits which cross one another in the concrete slab shall not consume a total space at the point of crossover that is greater than one third the total slab thickness.
10. Conduit embedded in slabs shall not pass thru column cages.
11. No conduits shall be run in the slab unless specifically indicated on the electrical drawings. Conduits that are to be run in the slab must collect only at an electrical panel or similar point. When conduit is to be placed in the slab, the Contractor must advise the Structural Engineer of the number of conduits to be placed and indicate proposed method of installation for the conduits. No conduit shall be placed without the Engineer's approval. Aluminum conduit is not permitted to be embedded in concrete slabs.
12. Embedment of electrical conduit in exterior slabs is not permitted.
13. Support details for elevator, escalator, architectural, mechanical, electrical and plumbing equipment are based upon manufacturer's information. Contractor shall coordinate requirements of actual equipment supplied with details and shall provide any additional framing.

PRE-ENGINEERED METAL BUILDING

1. Pre-engineered building shall be a clear span rigid frame with tapered columns and roof beams and gable roof. Secondary structural members, including roof purlins and wall girts shall be cold formed "C" or "Z" sections.
2. The engineering of the metal building shall be the responsibility of the Contractor. Building shall be manufactured by a facility certified by the American Institute of Steel Construction – Category MB.
3. Shop drawings and sample calculations, signed and sealed by a registered engineer in the state of West Viriginia, shall be submitted for review. Final foundation design to be based on final metal building reactions provided by manufacturer. Contractor shall allow sufficient time for review per the specifications plus additional time outside of the standard review period for redesign as required. Minimum time provided in addition to the standard review period for redesign shall be a minimum of 15 business days. Redesign period shall not be assumed concurrent with other shop drawing submittals.
4. All steel work shall have one shop coat of paint.
5. Pre-engineered metal building shall be designed for loads indicated under S002 "Design Criteria", "Loading Schedule", "Roof Loading Diagram", and as follows:

Loads	S002 "Loading Schedule" loads + self weight + loads per S002 "Roof Loading Diagram"
Maximum Lateral Drift	0.0025h
Maximum Wall Girt Deflection (w/masonry)	L/600 or 0.3" max.

6. Pre-engineered metal building engineer shall provide a written sprinkler certification, based on a review of the sprinkler shop drawings, confirming the structural adequacy of the pre-engineered metal building to support all imposed loads including the sprinkler system, where required by local governing agencies.
7. Architectural and MEP drawings indicate ceilings, skylights, ductwork, conduits and plumbing to be hung from metal building structure. See S002 "Roof loading diagram for additional information. Contractor shall coordinate attachment locations and weights with metal building provider. Contractor shall make provision for the installation of additional support for items hung from the metal building structure, regardless of if item shown on the structural drawings.

MASONRY

1. Masonry work shall comply with ACI 530.1/ASCE 6 "Specifications for Masonry Structures".
2. Hollow concrete masonry units shall be 2-cell block, conforming to ASTM C90, normal weight.
3. Reinforced masonry walls shall have a minimum f'm=1500 PSI at 28 days.
4. All mortar shall conform to ASTM C270, type S.
5. All reinforcing shall be deformed steel bars conforming to ASTM A615, Grade 60, with a yield strength of 60,000 PSI (design stress equal to 24,000 PSI). Provide masonry tension lap splices per ACI-530 and applicable building codes and masonry lap splice lengths in the typical details.
6. Masonry reinforcement cover shall be 2" minimum for bars within walls exposed to earth or weather and 1 ½" minimum for all other bars. Where only 1 bar per cell is specified, center bar in cell unless otherwise noted.
7. All masonry walls shall be continually reinforced with truss type horizontal joint reinforcing with a minimum wire size of 0.148" (9 gauge wire) at 16" on-center vertically (u.n.o. on drawings). Provide additional pieces immediately above and below openings, extending 2'-0" minimum beyond opening. Provide prefabricated 'T' and corner pieces at all intersecting walls and corners. Lap joint reinforcing 6" minimum.
8. All mortar joints, including cross webs, shall be filled 100% solid.
9. Reinforced masonry cells shall be filled solid with grout conforming to ASTM C476 with a minimum compressive strength of 3000 PSI, when tested in accordance with ASTM C1019.
10. Grout walls solid at all changes in bond, unit thickness, below finished grade, at all reinforced cells, and as otherwise noted. Fill cores solid with grout a minimum 24" below bearing plates, beams, lintels, posts and similar items. Grout cores solid 24" deep at locations where post installed wall anchors are required. Contractor shall coordinate with all trades.
11. Inspection holes shall be located at the bottom inside face of all grout filled block to insure that grout has been placed throughout all masonry voids. Inspection holes shall be 1 1/2" diameter holes located at each grout pour when the grout pour height exceeds 5'-0".
12. Provide control joints in all above-grade exterior masonry walls at 1.5 times the wall height not to exceed 25'-0" on center, unless noted otherwise. Provide control joints in all interior masonry walls at 30'-0" on center, unless noted otherwise. See Architectural drawings for control joint details and locations.
13. All masonry walls shall be braced at the top to the structure per the structural typical details unless specifically noted otherwise. This applies to all masonry walls shown on the architectural and/or structural documents and also walls shown on the architectural but not the structural documents.
14. Where Contractor designed steel framing bears on masonry walls, provide steel bearing plates as required such that the bearing stress does not exceed 0.33 x f'm for ACI 530-11.
15. All masonry shall be laid in a running bond pattern, unless otherwise noted.
16. For IBC 2012: The minimum Quality Assurance program for masonry shall meet Level B Quality Assurance per ACI 530.

LINTELS

1. Provide lintels or sleeves at all penetrations in new masonry walls at doors, windows, mechanical services, electrical services, equipment, etc. not specifically shown on the drawings, in accordance with the lintel schedule.
2. All lintels shall have 8" minimum bearing each end, unless noted otherwise, and shall be set on a full bed of mortar.
3. Contractor shall shore all lintels as required to prevent rotation during construction.
4. Contractor shall coordinate size and type of lintel with Architectural, Mechanical, Electrical and Plumbing Drawings.
5. All lintels on exterior walls shall be hot-dipped galvanized.

LINTEL SCHEDULE
(Non-Bearing Walls)

Provide one angle for each 4" of masonry thickness as follows:

Openings to 3'-0":	L 3-1/2 X 3-1/2 X 1/4
Openings 3'-0" to 5'-0":	L 4 X 3-1/2 X 5/16 LLV
Openings 5'-1" to 8'-0":	L 6 X 3-1/2 X 5/16 LLV

Provide 6" minimum bearing each end of angle lintel.

For 6" masonry walls provide lintels as follows:

Openings to 3'-0":	(2) L 3-1/2 X 2-1/2 X 1/4 LLV
Openings 3'-0" to 8'-0":	(2) L 3-1/2 X 2-1/2 X 5/16 LLV

Provide 6" minimum bearing each end of angle lintel.

Where required for architectural reasons, or as noted, provide precast concrete lintels for interior walls of same texture as adjacent masonry as follows:

Openings to 7'-0":	4" Walls - 4" X 8" w/ 1-#4 T&B
Openings to 7'-0":	6" Walls - 6" X 8" w/ 1-#5 T&B
Openings to 7'-0":	8" Walls - 8" X 8" w/ 2-#4 T&B
Openings to 7'-0":	12" Walls - 12" X 8" w/ 3-#4 T&B

Provide 8" minimum bearing each end of precast concrete lintel.

*For larger openings, see plan for lintel size. Provide 5/16" suspended plate 4" minimum below bottom flange of beam.

STRUCTURAL STEEL

1. All structural steel work shall conform to AISC specification for structural steel for buildings, and AWS D1.1, latest editions.
2. Structural steel shall conform to the following ASTM designations:

W shapes, Columns	ASTM A992 or ASTM 572-50
S, M, and HP shapes	ASTM A36
Column Base plates, Web Doubler Plates	ASTM A992 or ASTM 572-50
Channels, Tees, Angles, Bars, and Plates	ASTM A36
HSS rectangular or square section	ASTM A500-GR.B (Fy = 46 ksi)
HSS round	ASTM A500-GR.B (Fy = 42 ksi)
Steel Pipe	ASTM A53-GR. B (Fy= 35 ksi)
Anchor Rods	F1554, Gr. 36 typical, Gr. 55 where noted

3. Bolts shall conform to the following ASTM designations:
   High strength bolts - A325
   Standard fasteners - A307
4. All welding electrodes shall conform to the E-70 series of the specifications for mild steel arc welding electrodes ASTM A233, latest edition.
5. All bolts shall be 3/4" diameter, open holes 13/16" diameter, unless otherwise shown or noted.
6. All shop connections shall be high strength bolted or welded.
7. All field connections shall be high strength bolted except where details indicate welding. Standard fasteners may be used in welded connections which require adjustment prior to welding such as suspended lintels and wind bracing.
8. All connections of beams to columns, beams carrying columns or struts, and main beams supporting stairs shall be bolted with high strength bolts. High strength bolted connections are to be indicated on erection drawings thus whether shown on design drawings or not.
9. All welding shall be done by licensed welders and shall be inspected by an approved testing agency which shall issue an affidavit that all welding has been inspected and found to be in conformity with details.
10. No penetrations are permitted through structural steel members unless indicated on Structural Drawings or approved by the Engineer.
11. Approval of the Engineer shall be mandatory for the use of a cutting torch in the field.
12. During erection, structural steel frame shall be adequately braced in all lines, two ways.
13. Steel connections for all beams, including moment frames, not detailed on the drawings shall be designed by the structural steel fabricator. Beam connections shall develop the unfactored end reactions in kips for each size group provided in the table below, unless otherwise shown thus (Vxx) on the drawings. Reactions provided in the table below and on the drawings are not factored. Note number of bolts shown are the minimum required, and do not reflect the total bolt number required to achieve the reaction capacity. Connections shall be designed per AISC.

Size Group	Shear Rxn (k)	Min # Bolts
W10	12	2
W14	24	3
W18	33	3
W21	42	4

14. The structural steel fabricator shall provide certification by a professional engineer, registered in the state of West Virginia that the connection design is in accordance with all applicable codes and specifications.
15. All steel work shall have one shop coat of paint except that steel receiving spray-on fireproofing, within 2" of weld, with machined surface, or completely encased in concrete. In these cases steel shall be left unpainted.
16. Milled or butt welded stiffeners shall be provided on girders under all column concentrations and over all columns.
17. Where web of beam cannot pass a column flange, bolts connecting plate to beam shall be designed for shear and moment and connection of plate to column shall be designed for shear only.
18. All connections of beams and girders to tops of columns shall be framed unless they are cantilevers, in which case they shall run over top of column as per typical details.
19. All grout under steel plates shall be non-shrink "pre-mix" type and shall have minimum compressive strength per the specifications.
20. For all miscellaneous steel construction not shown on Structural Drawings, see Architectural Drawings.
21. Shop drawings shall include erection plans, erection details, fabrication details, member sizes, dimensions, plate sizes, weld symbols, bolt size and type, etc.
22. Where not indicated on plan, cantilever beams shall be the same size as the cantilever backspan.
23. Provide framed openings in composite or roof deck material per the structural typical details where openings are indicated on the structural, architectural, and mechanical drawings.
24. All steel exposed to weather shall be hot dipped galvanized.
25. Structural steel require to frame areas to be coordinated by the Contractor shall not be considered "For Construction" until after all coordination has been completed by the Contractor. Areas that may require Contractor coordination include areas with any items that are to be coordinated or selected by the Contractor, including elevators, mechanical equipment framing, dunnage support, equipment screens, high density filing support, etc. Structural steel materials for these areas shall not be ordered until the coordination has been completed by the Contractor.

COMPOSITE CONSTRUCTION

1. Shear connectors shall be 3/4" diameter, 4" long] steel headed-studs, conforming to ASTM A108, Grades 1015 through 1020 and to the requirements of Section 7 of AWS D1.1, Type B, welded by automatic equipment to the structural steel.
2. Connectors shall be of number shown equally spaced along length of beam, unless otherwise noted on plan.
3. All beam connections shall be designed for reactions shown on composite beam reaction schedule, or as indicated on drawings, whichever is greater.
4. Where composite construction occurs and no shear connectors are shown on plan, provide connectors at 24" on center maximum. Space connectors closer as required per the documents.
5. The contractor shall allow for ¾" additional concrete during placing due to deflection of structure.

METAL DECKING

1. Fabrication and erection of all metal deck shall conform to the latest edition of Steel Deck Institute Specifications.
2. Metal decking shall be made of steel conforming to ASTM A653 SQ Grade 33 with coating designation G60 at floors, and G90 at roof for galvanized deck in accordance with ASTM A924 having a minimum yield strength of 33,000 PSI.
3. All metal deck has been designed to be continuous over 3 spans minimum, and shall bear at least 2" on steel supports. For one or two span conditions, the contractor shall provide shoring as required, or furnish heavier gauge deck as required to support all the applicable loads. Contractor shall submit alternate for approval.
4. Deck shall be welded to supporting steel at ends of units and at all intermediate supports in accordance with manufacturer's recommendations. Side laps shall be welded or screwed at 3'-0" o.c. maximum for spans over 5'-0".
5. Composite metal deck shall be galvanized and shall be placed in continuous spans of three or more where possible (see note 4 above). In no case shall unshored metal deck spans exceed the manufacturer's published recommendations or deflection criteria of span divided by 240. Metal deck shall provide the following minimum properties:
   Typical floor and roof composite deck
   2" -- 19 GA.
   I =0.489 in4/ft
   Sp = 0.420 in3/ft
   Sn = 0.426 in3/ft
6. Deck units shall be lapped only at supports.
7. Provide ridge and valley plates, reinforcing channels, standard closures, cant strips, sump pans, finish strips, pour stops, and other accessories as shown on drawings and as required.
8. Canopy roof deck shall be wide rib, galvanized metal roof deck with the following minimum properties:
   1 1/2" Type B -- 20 GA.
   I = 0.212 in4/ft
   Sp = 0.234 in3/ft
   Sn = 0.347 in3/ft

COLD-FORMED METAL FRAMING

1. The engineering of all Cold-Formed Metal Framing, including their connections shall be the responsibility of the Contractor. Design and section properties shall be in accordance with AISI "Specification for the Design of Cold-Formed Steel Structural Members".
2. Shop drawings and sample calculations, signed and sealed by a registered engineer in the state of West Virginia shall be submitted for review.
3. Sizes indicated on the Contract Drawings are the minimum accepted sizes only, and the Contractor's use of them does not relieve him of the responsibility for their design.
4. All galvanized, painted or unpainted material shall conform to the following:
   Studs and joists of 12, 14 and 16 gage: ASTM A 1003, Grade ST50H, Fy=50,000 PSI minimum.
   Studs and joists of 18 and 20 gage, tracks, bridging, and accessories: ASTM A 1003, Grade ST33H, Fy=33,000 PSI minimum.
5. All exterior cold-formed metal walls galvanized material shall be formed from steel having a minimum G-90 galvanized coating conforming to ASTM A653. All interior load bearing walls galvanized material shall be formed from steel having a minimum G-60 galvanized coating conforming to ASTM A525.
6. All painted material shall be primed with rust-inhibiting paint, meeting performance requirements of TT-P-636C.
7. Infill walls shall be detailed to accommodate primary frame live load deflection for l/360 or 1" minimum or as indicated on the Contract Documents and Specifications, whichever is greater.
8. Shop drawings shall include, as a minimum, erection plans, elevations as required, erection details and general notes. Details should include dimensions, plate sizes, weld symbols, fastener size and type, etc.
9. Connections and fasteners to structural members are the responsibility of the cold-formed provider and contractor. Contractor shall provide and install all components not shown on the structural drawings required for the attachment of the cold-formed metal framing. See also note 10 this section.
10. Cold-formed provider shall make provision for design and installation all framing required for support of window and louver openings within stud walls. No additional steel support will be designed or provided by Architect/Engineer

METAL STAIRS

1. The engineering of all Metal Stair Framing, including their connections shall be the responsibility of the Contractor.
2. Metal stairs and platforms shall be designed to support a minimum uniform live load of 100PSF or a concentrated load of 300 pounds on a 4 square inch area, whichever produces the greatest stress. Maximum live load deflection shall be limited to L/360.
3. Shop drawings and calculations, signed and sealed by a registered engineer in the project state, shall be submitted for review.
4. Sizes indicated on the Contract Drawings are the minimum accepted sizes only, and the Contractor's use of them does not relieve him of the responsibility for their design.
5. Where steel construction occurs adjacent to stairs, connections to structural members shall be designed to attach directly to the adjacent beams. Do not attach to bent plates or other slab edge support metal.
6. Hanger connections to structural members shall be aligned with the centerline of the support members. Structural support beams have not been designed for eccentric stair hanger loads. Redesign or resizing of structural support members caused by eccentric hanger loads shall be at the Contractor's expense.
7. Contractor shall provide solid grouted cells at any location where stair is to be connected to masonry. See also note 8.
8. Where masonry construction occurs adjacent to stairs, connections to masonry are only permitted if stair provider submits calculations showing adequate masonry capacity.

SHOP DRAWINGS/SUBMITTALS

1. Reproduction of Contract Documents will not be accepted as shop drawings.
2. Electronic copies of structural drawings will not be made available for Contractor's use in preparing shop drawings. In the event the Contractor obtains a courtesy electronic copy from any source, it shall be used for coordination purposes only. Electronic dimensions shall not be scaled. Any use of electronic dimensions not explicitly shown on the Construction documents for construction layout purposes is at the Contractor's sole risk.
3. Shop Drawings shall be submitted for architect/engineer review for the following items:
   Concrete/Grout Design Mixes
   Concrete/Masonry Reinforcing Steel
   Concrete/Masonry Material Certifications
   Structural Steel
   Metal Deck
   Cold-Formed Metal Framing
   Metal Stairs
   Connection Calculations
   Shoring
   Pre-engineered metal building
   Shop drawings for all elements noted above and shown on the Contract Documents shall be submitted for architect and engineer review. If the Contractor or Owner fails to submit shop drawings, the engineer will not be held responsible for the design of the project. The shop drawings shall indicate any deviations or omissions from the Contract Documents.
4. The contractor shall supply the engineer with checked shop drawings bearing the contractor's stamp of approval and signature. The review of shop drawings by the engineer is only for general compliance with the structural drawings and specifications. This review does not guarantee in any way that the shop drawings are correct, complete, nor does it infer that they supersede the Contract Documents.
5. The Contractor shall review and verify all dimensions and conditions shown on these drawings and report any discrepancies to the architect. Shop drawings are an aid for field placement, and are superseded by the structural drawings. It shall be the responsibility of the general contractor to make certain that all construction is in full agreement with the latest structural drawings.
6. Submittals requiring certification by a professional engineer shall be signed and sealed prior to submittal of the submission for review.
7. Any work fabricated or installed incorrectly due to the Contractor's lack of verification shall be corrected at the Contractor's expense.
8. Shop Drawings should include sufficient information to be utilized in the shop for accurate fabrication of materials and in the field for accurate installation of the work.
9. All shop drawings used for work shall bear the stamp of the Architect/Engineer and shall be marked "Approved", "Approved as Noted", or "Reviewed".
10. Contractor shall provide a proposed submittal schedule showing anticipated shop drawing submission dates a minimum of two (2) weeks prior to the first shop drawing submittal.
11. Steel submissions shall be submitted such that each individual construction sequence is a separate stand alone submittal package with an Erection Plan, Assembly Drawings, and Piece Mark Drawings. Typical Details, Connections, Calculations and Sections may be submitted as one submittal package at Contractors option, but must be received prior to the first sequence submission. Sequence submittals shall be submitted in the order that they will be Fabricated and Erected. Processing time for review of each sequence shall be allowed and shall not be assumed to be concurrent.

INSPECTION

1. An independent inspection agency shall be retained to inspect/monitor/test the following items per IBC 2012, and local code requirements:
   Earthwork operations, including verification of bearing capacity
   Cast-in-place Concrete

   Precast Concrete
   Reinforced Masonry
   Structural Steel
   Steel Joists and Joist Girders
   Metal Deck
   Cold-Formed Metal Framing
   Metal Stairs
   Pre-engineered Metal Building
2. Testing and Inspection reports shall be forwarded in a timely manner. Daily reports shall be forwarded each week and deficiency reports shall be forwarded within 24 hours for review. Testing and Inspection agency shall issue a final letter of certification for each building component noted above.
3. The Engineer may periodically visit the site to observe the general progress of construction or to provide assistance resolving field conditions. Such visits to the site shall not be construed as meeting the project inspection requirements.

FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revision 1	Date 1
Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

ARCHITECTS/ENGINEERS:

AE WORKS
6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number: 13025

Drawing Title: GENERAL NOTES

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

Project Number: #613-116

Building Number: #519

Drawing Number: S001

Office of Construction and Facilities Management
Department of Veterans Affairs

LOADING SCHEDULE (PSF)

LOADING \ LOCATION	MEZZANINE	CANOPY ROOF	METAL BUILDING ROOF W/CEILNG	METAL BUILDING ROOF NO CEILNG	
5" NWC SLAB	49	-	-	-	
ADDT'L 3/4" CONCRETE	10	-	-	-	
METAL DECK	2	2	-	-	
M/E/C/L	8	8	5 + NOTE 7	2 + NOTE 7	
INSULATION	-	12	6	6	
ROOF MEMBRANE	-	2	2	2	
TPO ROOF SYSTEM	-	6	-	-	
STANDING SEAM ROOF	-	-	4	4	
TOTAL DEAD LOAD	69	30	17 + NOTE 7	14 + NOTE 7	
LIVE LOAD	150-NOTE 4	30	30	30	
TOTAL LOAD	219	60	47 + NOTE 7	44 + NOTE 7	

NOTES:

1. ALL LIVE LOADS ARE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE 2012 EDITION.
2. NO LIVE LOAD REDUCTION HAS BEEN TAKEN INTO ACCOUNT IN THE ABOVE TABLE. HOWEVER, LIVE LOAD REDUCTION HAS BEEN APPLIED WHERE PERMISSIBLE BY CODE IN THE DESIGN.
3. TOTAL DEAD LOADS DO NOT INCLUDE WEIGHT OF STEEL OR PRIMARY FRAMING MEMBERS.
4. WHERE INDICATED, LOAD SHOWN INCLUDES MAXIMUM PERMISSIBLE TOTAL DESIGN WEIGHT OF MECHANICAL EQUIPMENT, INCLUDING HOUSEKEEPING PAD, CURB, OR SIMILAR. WEIGHT OF PROVIDED UNIT SHALL NOT EXCEED THAT SHOWN. IN THE EVENT ACTUAL WEIGHT EXCEEDS MAXIMUM NOTED, IT SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCURING EQUIPMENT.
5. SEE PLANS FOR LOCALIZED CONCENTRATED LOADS.
6. ROOF LIVE LOADS ARE PER IBC AND ARE SHOWN FOR REFERENCE. IN LOCATIONS WHERE ROOF SNOW LOADS (INCLUDING DRIFTING OR SLIDING SNOW) ARE LARGER THAN LIVE LOADS, ROOF LIVE LOADS MAY NOT CONTROL ROOF DESIGNS. SEE DESIGN CRITERIA THIS SHEET FOR SNOW LOADS.
7. LOAD SHOWN ACCOUNTS FOR LIGHTING, CEILING, AND MISC. LOADS ONLY. LOADS PER S/S002 "ROOF LOADING DIAGRAM" SHALL BE ADDED TO LOADS IN TABLE.

DESIGN CRITERIA

1. This building has been designed to conform to applicable provisions of the 2012 International Building Code, all applicable supplements, and all applicable local building codes and amendments.

A. Design Live Loads:
See "Loading Schedule" this sheet.

B. Design Dead Loads:
See "Loading Schedule" this sheet.
Perimeter wall allowance has been provided as required by architecture – loading varies.

C. Wind Loads:
Ultimate Design Wind Speed Vult = 115 mph
Nominal Design Wind Speed Vasd = 90 mph
Exposure C
Risk Category II
Internal Pressure Coefficient GCpi = +/- 0.18

Components & Cladding Design Wind Pressures: Contractor may use table values shown below or may calculate actual values based on the specific geometry and conditions in accordance with applicable building codes and submit signed and sealed calculations for review. Values below assume 10 square feet tributary area.

Wall pressures

Zone	Pressure	Suction
4 (Interior)	+34 PSF	-37 PSF
5 (Corner)	+34 PSF	-45 PSF

Roof Pressures – Flat roof

Zone	Uplift
1 (Interior)	-45 PSF
2 (Edge)	-70 PSF
3 (Corner)	-100 PSF

C&C pressure notes: "a" = 7'-6" feet = distance from corner or edge for which Zone 2, 3, and 5 values apply. Reference ASCE 7, Figure (30.5-1) for more information.

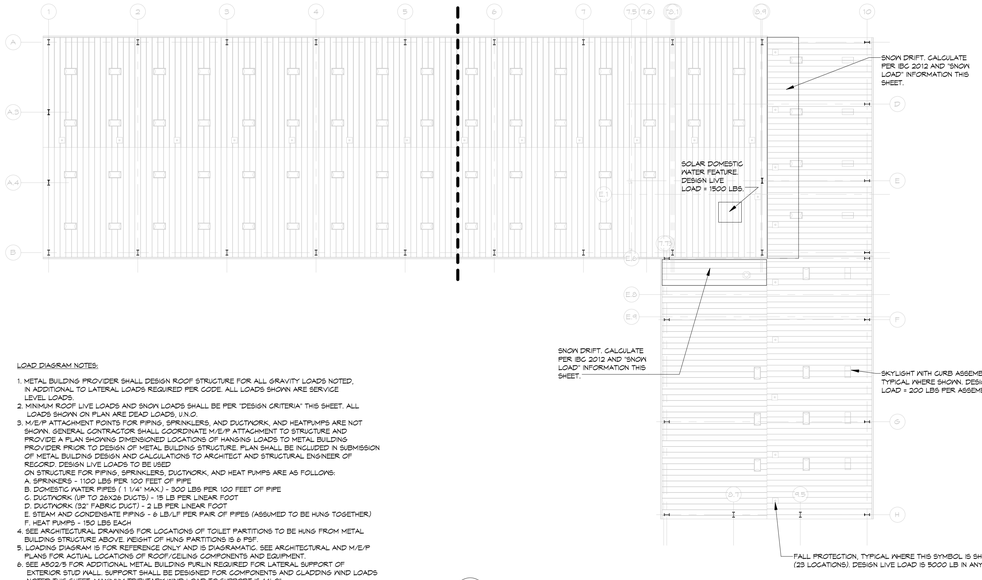
D. Snow Load:
Ground Snow Load Pg = 40 psf
Snow Exposure Factor Ce = 0.9
Snow Importance Factor Is= 1.2
Thermal Factor, Unheated Warehouse Ct=1.2
Thermal Factor, Conditioned Space Ct=1.0
Flat Roof Snow Load, Unheated Warehouse Pf = 34 psf + unbalanced, drifting, and sliding snow where applicable
Flat Roof Snow Load, Conditioned Space Pf = 28 psf + unbalanced, drifting, and sliding snow where applicable

E. Seismic Loading
Risk Category II
Seismic Importance Factor Ie = 1.0
Mapped Spectral Response Acceleration Parameters
Ss .130g
S1 .053g
Site Class C
Design Spectral Response Acceleration Parameters
SDS) 0.104g
SD1) 0.080g
Seismic Design Category A
Basic Seismic Force Resisting System
Steel Systems Not Specifically Detailed for Seismic Resistance
Seismic Response Coefficient
Cs = 0.0346
Response Modification Factor
R = 3
Analysis Procedure
Equivalent Lateral Force
Design Base Shear
V, mezzanine = 3 kips
V, metal building (estimated) = 1.5 kips max.

F. Special Loads:
I. Mechanical equipment live loads
Loads for mechanical equipment are based on assumed equipment as indicated on plan (including concrete pads where indicated). Any loads greater than those indicated shall be brought to the attention of the architect/engineer in writing prior to the fabrication of supporting structural members. Supporting members will need to be reviewed and possibly redesigned if loads exceed that shown.
II. Retaining Walls:
Equivalent At-Rest Earth Pressure = 63 pcf (with wall drainage)
Equivalent Active Earth Pressure = 42 pcf (with wall drainage)
Equivalent Passive Earth Pressure = KP = 3.0, however only 1/2 the full passive pressure should be used for design
(Bulk Density (Net) = 125 pcf
Angle of Internal Friction (fill soils) = 30 DEGREES
Coefficient of Friction (concrete on soil) = 0.30
Percentage of Surcharge Loads to be applied horizontally to wall = 50%
III. Handrails: Reference IBC 1607.8
IV. Stairs: Live Load is 100 PSF or 300 pounds on a 4 square inch area, whichever produces the greatest stress.

&	AND
@	AT
Ø	DIAMETER
PL	PLATE
℄	CENTER LINE
A	ABOVE, ANCHOR
A.A.	AFTER ALIGNMENT
A.B.	ANCHOR BOLT
ADD'L	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
APC	ARCHITECTURAL PRECAST
ARCH	ARCHITECT, ARCHITECTURAL
B	BELOW
B.E.	BOTH ENDS
B.O.	BOTTOM OF
B.S.	BOTH SIDES
B/	BOTTOM OF
BAL	BALANCE
BLDG	BUILDING
BM	BEAM
BOTT	BOTTOM OF
BP	BASEPLATE, BEARING PLATE
BRG	BEARING
C.E.	CONTINUOUS END
C.I.P.	CAST IN PLACE
C/C	CENTER TO CENTER
CA	CAISSON
CANT	CANTILEVER
CJ	CONSTRUCTION JOINT, CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN, CONNX	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CVR	COVER
D.E.	DISCONTINUOUS END
D.L.	DEAD LOAD
DBA	DEFORMED ANCHOR BAR
DBL	DOUBLE
DEG	DEGREE
DET	DETAIL
DIAM	DIAMETER
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E.E.	EACH END
E.F.	EACH FACE
E.O.D.	EDGE OF DECK
E.O.S.	EDGE OF SLAB, EDGE OF STEEL
E.S.	EACH SIDE
E.W.	EACH WAY
EA	EACH
EL, ELEV	ELEVATION, ELEVATOR
EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EQUAL, EQUIVALENT
EQUIP	EQUIPMENT
ETC	ET CETERA
EX, EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F.F.	FAR FACE
F.L.	FULL LENGTH
FNDN	FOUNDATION
FTG	FOOTING
GA	GAUGE, GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GR	GRADE
HK	HOOK
HORIZ	HORIZONTAL
I.F.	INSIDE FACE
IN	INCH(ES)
INT	INTERIOR
ISOL	ISOLATION
JT	JOINT

K	KILOPOUND (KIP)
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE
L.E.	LEFT END
L.L.	LIVE LOAD
LBS	POUNDS
LG	LIGHT GAGE, LONG
LL	DOUBLE ANGLE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE
M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING
M.O.	MASONRY OPENING
M/E/C/L	MECHANICAL, ELECTRICAL, CEILING, LIGHTING
MANUF	MANUFACTURER
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
MTL	METAL
N.F.	NEAR FACE
N.I.C.	NOT IN CONTRACT
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
NO	NUMBER
NWC	NORMAL WEIGHT CONCRETE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
P.A.F.	POWDER ACTUATED FASTENER
PEN	PENETRATION
PERF	PERFORATED
PLF	POUNDS PER LINEAL FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	REMAINDER
R.E.	RIGHT END
REF	REFERENCE
REINF	REINFORCEMENT
REQD	REQUIRED
REQMTS	REQUIREMENTS
RET	RETAINING
REV	REVISION
S.O.G.	SLAB ON GRADE
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SP	SPACING
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
T & B	TOP AND BOTTOM
T.O.	TOP OF
T/	TOP OF
THICK	THICKNESS
TRANS	TRANSVERSE
TRT'D	TREATED
TSF	TONS PER SQUARE FOOT
TTL	TOTAL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
VERT	VERTICAL
VT	VERTICAL TRUSS
W.W.R.	WELDED WIRE REINFORCEMENT
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WT	WEIGHT, WT STEEL SHAPE



LOAD DIAGRAM NOTES:

1. METAL BUILDING PROVIDER SHALL DESIGN ROOF STRUCTURE FOR ALL GRAVITY LOADS NOTED, IN ADDITIONAL TO LATERAL LOADS REQUIRED PER CODE. ALL LOADS SHOWN ARE SERVICE LEVEL LOADS.
2. MINIMUM ROOF LIVE LOADS AND SNOW LOADS SHALL BE PER "DESIGN CRITERIA" THIS SHEET. ALL LOADS SHOWN ON PLAN ARE DEAD LOADS, U.N.O.
3. M/E/P ATTACHMENT POINTS FOR PIPING, SPRINKLERS, AND DUCTWORK, AND HEATPUMPS ARE NOT SHOWN. GENERAL CONTRACTOR SHALL COORDINATE M/E/P ATTACHMENT TO STRUCTURE AND PROVIDE A PLAN SHOWING DIMENSIONED LOCATIONS OF HANGING LOADS TO METAL BUILDING PROVIDER PRIOR TO DESIGN OF METAL BUILDING STRUCTURE. PLAN SHALL BE INCLUDED IN SUBMISSION OF METAL BUILDING DESIGN AND CALCULATIONS TO ARCHITECT AND STRUCTURAL ENGINEER OF REGORD. DESIGN LIVE LOADS TO BE USED ON STRUCTURE FOR PIPING, SPRINKLERS, DUCTWORK, AND HEAT PUMPS ARE AS FOLLOWS:
A. SPRINKERS - 1100 LBS PER 100 FEET OF PIPE
B. DOMESTIC WATER PIPES (1 1/4" MAX.) - 300 LBS PER 100 FEET OF PIPE
C. DUCTWORK (UP TO 36X36 DUCTS) - 15 LB PER LINEAR FOOT
D. DUCTWORK (32" FABRIC DUCT) - 2 LB PER LINEAR FOOT
E. STEAM AND CONDENSATE PIPING - 6 LB/LF PER PAIR OF PIPES (ASSUMED TO BE HUNG TOGETHER)
F. HEAT PUMPS - 150 LBS EACH
4. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF TOILET PARTITIONS TO BE HUNG FROM METAL BUILDING STRUCTURE ABOVE. WEIGHT OF HUNG PARTITIONS IS 8 PSF.
5. LOADING DIAGRAM IS FOR REFERENCE ONLY AND IS DIAGRAMATIC. SEE ARCHITECTURAL AND M/E/P PLANS FOR ACTUAL LOCATIONS OF ROOF/CEILING COMPONENTS AND EQUIPMENT.
6. SEE A502/S FOR ADDITIONAL METAL BUILDING PURLIN REQUIRED FOR LATERAL SUPPORT OF EXTERIOR STUD WALL. SUPPORT SHALL BE DESIGNED FOR COMPONENTS AND CLADDING WIND LOADS NOTED THIS SHEET. MAXIMUM TRIBUTARY WIND LOAD TO SUPPORT IS 14'-0".

PLAN 1 S002 3/64" = 1'-0"

ROOF LOADING DIAGRAM

CONCRETE EXPOSURE CATEGORIES

ITEM	EXPOSURE CATEGORY AND CLASS - SEE NOTE 1.			
	F	S	P	C
CONCRETE WITHIN HEATED, ENCLOSED BUILDING FOOTPRINT, INCLUDING FOUNDATIONS & PIERS LOCATED ABOVE THE WATERTABLE	F0	S0	P0	C0
CONCRETE WITHIN INTERIOR SPACE THAT IS NOT HEATED, INCLUDING FOUNDATIONS & PIERS LOCATED ABOVE THE WATERTABLE	F1	S0	P0	C0
EXTERIOR CONCRETE	F3	S0	P0	C2

NOTES:
1. EXPOSURE CATEGORIES AND CLASSES REFERENCE TABLE 318-11 TABLE 4.2.1

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revision 1	Date 1
Revisions:	**Date**

CONSULTANTS:

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MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

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AE Works Project Number: 13025

Drawing Title
GENERAL NOTES

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 **Checked:** S.L.S. **Drawn:** M.T.H.

Project Number #613-116

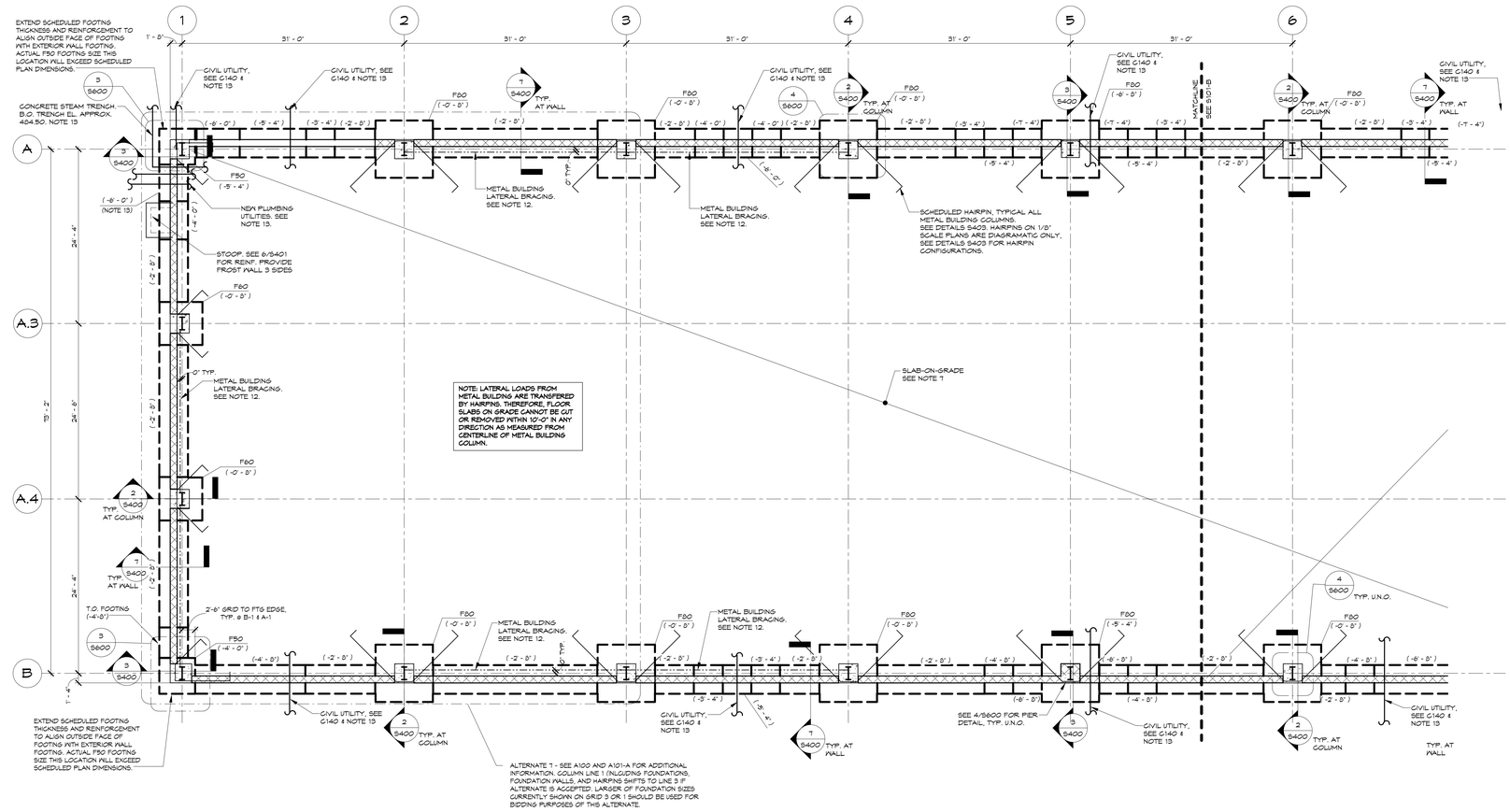
Building Number #519

Drawing Number S002

Office of Construction and Facilities Management

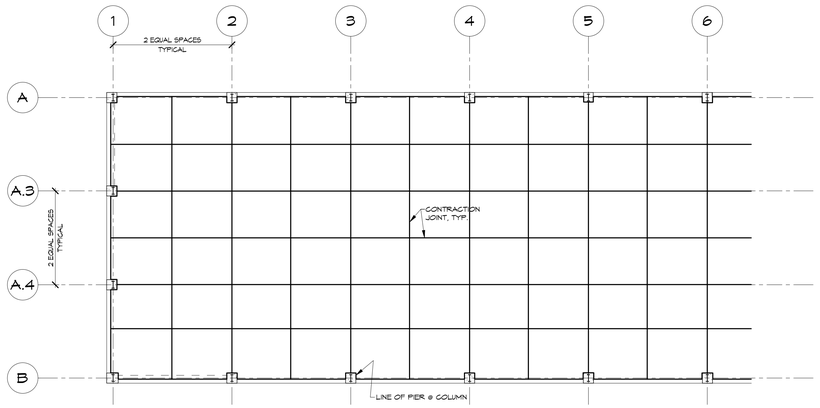
Department of Veterans Affairs

VA FORM 08-6231

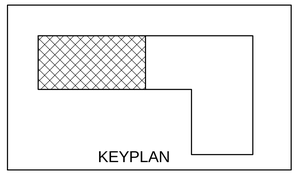


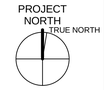
1 FIRST FLOOR FOUNDATION PLAN - WEST
1/8" = 1'-0"

FOUNDATION LEVEL NOTES:
1. ELEVATION TOP OF FINISHED FIRST LEVEL SLAB EQUALS ELEVATION 0.0' (WHICH IS REFERENCE DATUM ELEVATION. REFERENCE DATUM ELEVATION IS EQUIVALENT TO 484.00 M.S.L.
2. ALL ELEVATIONS NOTED ON PLAN ARE (WITH RESPECT TO REFERENCE DATUM ELEVATION.
3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
4. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF FOOTING ELEVATIONS.
5. ELEVATION TOP OF ALL FOOTINGS SHALL BE (-0'-0") UNLESS NOTED OTHERWISE IN PLAN.
6. BOTTOM OF ALL EXTERIOR FOOTINGS (AND GRADE BEAMS) SHALL BE MINIMUM 2'-6" BELOW FINISHED GRADE.
7. FLOOR SLAB SHALL BE 6" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #5 @ 12" O.C. EACH WAY AND PLACED ON VAPOR BARRIER OVER 4" GRANULAR BASE.
8. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. LOCATION AND EXTENT OF SLAB DEPRESSIONS AND RAMPS NOT SHOWN.
   C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS.
   D. EQUIPMENT PADS AND SUPPORTS.
   E. BRICK LEDGE ELEVATION AND EXTENT.
   F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS. SEE TYPICAL DETAILS FOR THICKENED SLAB AT MASONRY PARTITIONS.
9. MINIMUM SLAB ON GRADE THICKNESS OF 5 INCHES SHALL BE MAINTAINED AT ALL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOXES, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURAL DRAWINGS.
10. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: S001 AND S002
   B. FOUNDATION SCHEDULES, SECTIONS AND DETAILS: S400 SERIES
   C. SUPERSTRUCTURE SECTIONS AND DETAILS: S500 SERIES
   D. COLUMN SCHEDULE: S600
11. FOLLOWING NOTATIONS ARE USED ON PLAN:
   A. F: FOOTING DESIGNATION. SEE FOOTING SCHEDULE.
   B. T/W: TOP OF WALL ELEVATION
   C. B/W: BOTTOM OF WALL ELEVATION
   D. BL: BRICK LEDGE ELEVATION
12. —·—·—·— INDICATES ALLOWABLE LOCATION OF METAL BUILDING LATERAL CROSS-BRACING ABOVE. LOCATIONS ARE INDICATED DIAGRAMATICALLY ONLY. METAL BUILDING MANUFACTURER IS RESPONSIBLE FOR DESIGN OF LATERAL CROSS BRACING AS REQUIRED FOR SUPPORT OF THE METAL BUILDING. ADDITIONAL LATERAL BRACING LOCATIONS, IF ANY, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR REVIEW PRIOR TO BID.
13. DESIGN INTENT IS FOR ALL UTILITIES TO PASS THROUGH FOUNDATION WALLS. STEP TOP OF FOOTING AS REQUIRED AT A MAXIMUM 2 HORIZONTAL TO 1 VERTICAL PER THE GEOTECHNICAL REPORT (NOTE THIS MAY REQUIRE MORE THAN ONE STEP ELEVATION PER UTILITY.) PROVIDE ADDITIONAL BARS PER S/S400 AT ALL STEPPED FOOTINGS. UTILITIES SHALL NOT PASS THROUGH COLUMN PIERS OR FOUNDATIONS. REROUTE AS REQUIRED TO AVOID THESE ELEMENTS. APPROXIMATE FOOTING STEP LOCATIONS FOR UTILITIES ARE SHOWN FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY COORDINATE FINAL UTILITY LAYOUTS SHOWN ON THE CIVIL AND M/E/P DRAWINGS WITH FOOTING STEPS. CONTRACTOR SHALL MAKE PROVISION FOR INSTALLATION OF ALL FOOTING STEPS AND DROPPED FOOTINGS, REGARDLESS OF IF STEP/DROP IS EXPLICITLY SHOWN ON THE STRUCTURAL PLANS.
14. DESIGN OF FOUNDATIONS HAS BEEN BASED ON PRELIMINARY LOAD CALCULATIONS BY BASIS OF DESIGN METAL BUILDING PROVIDER FOR LOADS NOTED IN TABLE ON S600. FINAL LOADS SHALL NOT EXCEED TABLE VALUES NOTED. SEE S600 FOR ADDITIONAL INFORMATION.
15. (APPLIES S101-B ONLY) BEAM AND COLUMN NOTED IS TO SUPPORT OVERHEAD DOOR. PROVIDE CONNECTIONS OF OVERHEAD DOOR, DOOR JAMBS, ETC., AS REQUIRED TO STRUCTURE PROVIDED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MISC. STEEL NOT SHOWN FOR CONNECTION OF OVERHEAD DOOR TO STRUCTURE.
16. (APPLIES S101-B ONLY) TOILET PARTITIONS TO BE HUNG WITH UNISTRUT OR SIMILAR. CONTRACTOR SHALL MAKE PROVISION FOR DESIGN AND INSTALLATION OF FULL SYSTEM REQUIRED FOR SUPPORT OF TOILET PARTITIONS. CONTRACTOR COORDINATE HANGING LOADS WITH METAL BUILDING PROVIDER.
17. ELEVATIONS NOTED THUS (0'-0") ARE TOP OF PIER ELEVATIONS. TOP OF PIER = (0'-0"), TYP. U.N.O. SEE DETAILS S600 FOR PIER LAYOUTS.
18. INTERIOR MASONRY PARTITION WALLS SHALL BE REINFORCED #4@48" O.C. FOR WALLS LESS THAN 5'-0" TALL, AND #4@32" O.C. FOR WALLS MORE THAN 5'-0" TALL. BARS SHALL BE CENTERED IN CMU. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. PARTITION WALLS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. ALL WALLS SHALL HAVE DOWELS INTO CONCRETE BELOW TO MATCH VERTICAL REINFORCING. WALLS TALLER THAN 5'-0" SHALL BE BRACED TO STRUCTURE ABOVE PER 14/S500.



2 FIRST FLOOR JOINT PLAN - WEST
1/16" = 1'-0"
NOTES:
1. ALL JOINTS ARE CONTRACTION JOINTS, TYPICAL U.N.O. SEE 7/S401.





FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revisions:	Date
Revision 1	Date 1

CONSULTANTS:
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STRUCTURAL ENGINEERING
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MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

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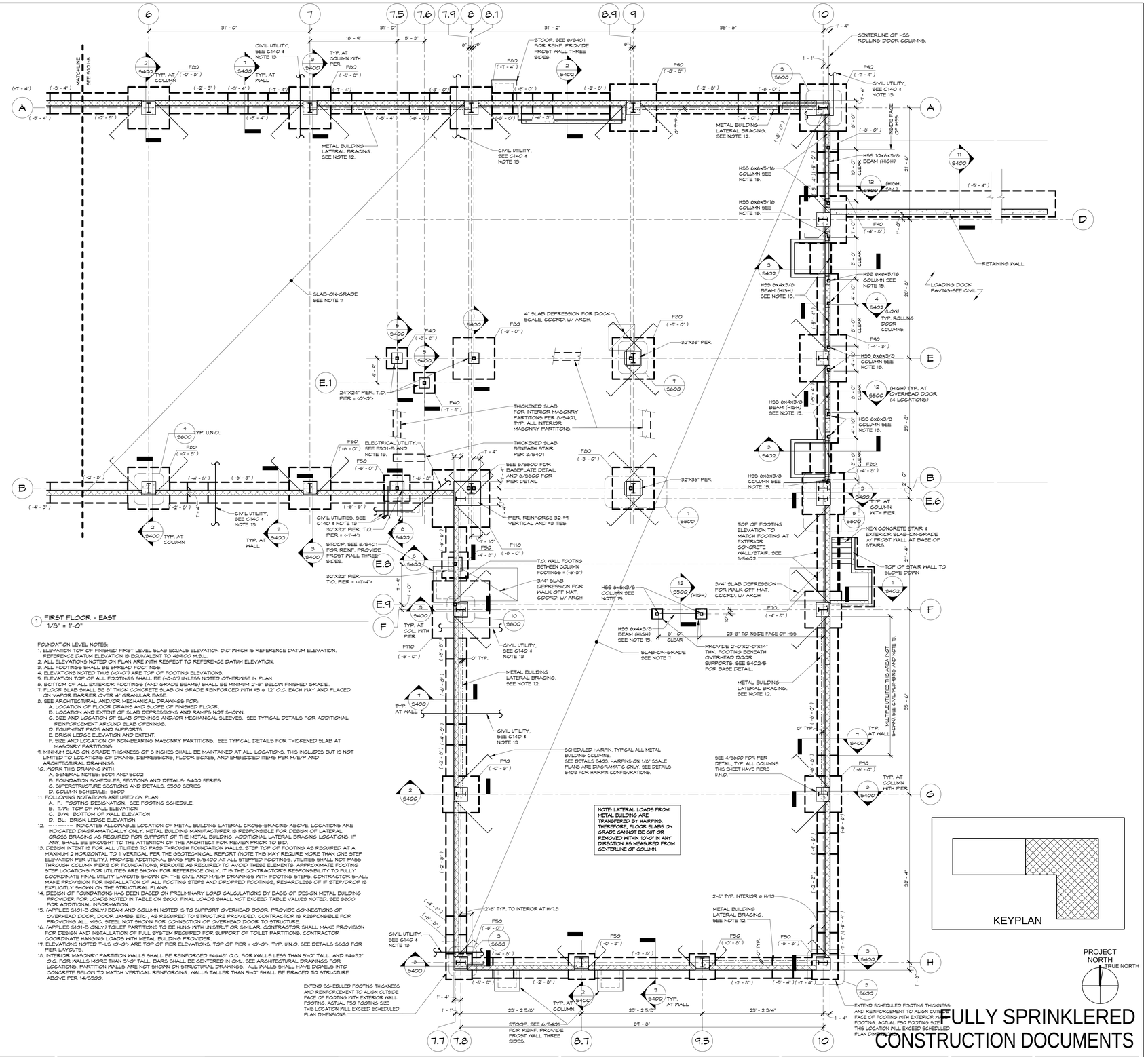
AE Works Project Number: 13025

Drawing Title: FIRST FLOOR FOUNDATION PLAN - WEST
Approved: Project Director
Project Title: NEW WAREHOUSE
Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405
Date: 06/24/2015 **Checked:** S.L.S. **Drawn:** M.T.H.
Project Number #613-116
Building Number #519
Drawing Number S101-A

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 FIRST FLOOR - EAST
1/8" = 1'-0"

FOUNDATION LEVEL NOTES:
1. ELEVATION TOP OF FINISHED FIRST LEVEL SLAB EQUALS ELEVATION 0.0' WHICH IS REFERENCE DATUM ELEVATION. REFERENCE DATUM ELEVATION IS EQUIVALENT TO 4574.00 M.S.L.
2. ALL ELEVATIONS NOTED ON PLAN ARE WITH RESPECT TO REFERENCE DATUM ELEVATION.
3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
4. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF FOOTING ELEVATIONS.
5. ELEVATION TOP OF ALL FOOTINGS SHALL BE (-0'-8") UNLESS NOTED OTHERWISE IN PLAN.
6. BOTTOM OF ALL EXTERIOR FOOTINGS (AND GRADE BEAMS) SHALL BE MINIMUM 2'-6" BELOW FINISHED GRADE.
7. FLOOR SLAB SHALL BE 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #5 @ 12" O.C. EACH WAY AND PLACED ON VAPOR BARRIER OVER 4" GRANULAR BASE.
8. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. LOCATION AND EXTENT OF SLAB DEPRESSIONS AND RAMPS) NOT SHOWN.
   C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS.
   D. EQUIPMENT PADS AND SUPPORTS.
   E. BRICK LEDGE ELEVATION AND EXTENT.
   F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS. SEE TYPICAL DETAILS FOR THICKENED SLAB AT MASONRY PARTITIONS.
9. MINIMUM SLAB ON GRADE THICKNESS OF 8 INCHES SHALL BE MAINTANED AT ALL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOXES, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURAL DRAWINGS.
10. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: S001 AND S002
   B. FOUNDATION SCHEDULES, SECTIONS AND DETAILS: S400 SERIES
   C. SUPERSTRUCTURE SECTIONS AND DETAILS: S500 SERIES
   D. COLUMN SCHEDULE: S600
11. FOLLOWING NOTATIONS ARE USED ON PLAN:
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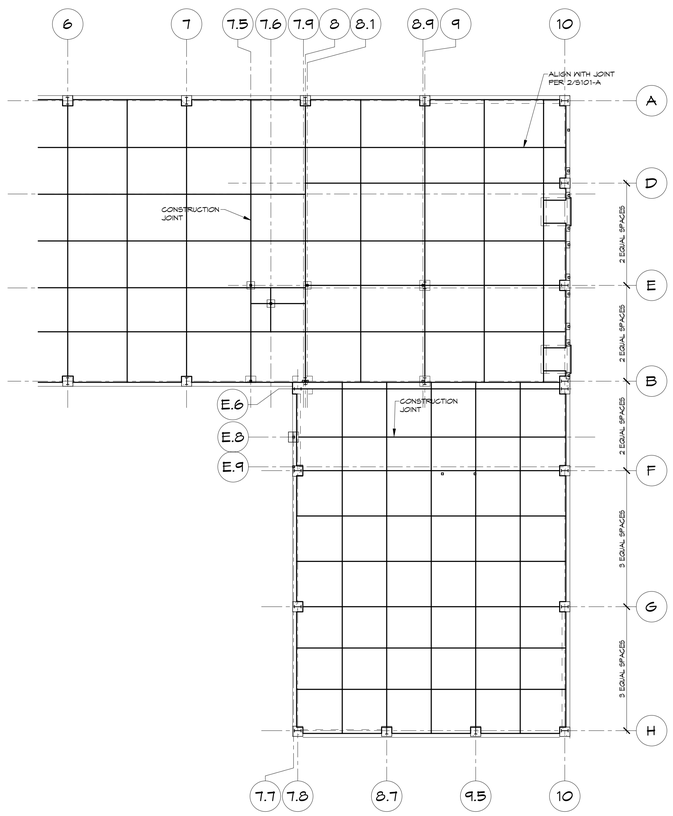
13. DESIGN INTENT IS FOR ALL UTILITIES TO PASS THROUGH FOUNDATION WALLS. STEP TOP OF FOOTING AS REQUIRED AT A MAXIMUM 2 HORIZONTAL TO 1 VERTICAL PER THE GEOTECHNICAL REPORT (NOTE THIS MAY REQUIRE MORE THAN ONE STEP ELEVATION PER UTILITY). PROVIDE ADDITIONAL BARS PER 8/S402 AT ALL STEPPED FOOTINGS. UTILITIES SHALL NOT PASS THROUGH COLUMN PIERS OR FOUNDATIONS. REROUTE AS REQUIRED TO AVOID THESE ELEMENTS. APPROXIMATE FOOTING STEP LOCATIONS FOR UTILITIES ARE SHOWN FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY COORDINATE FINAL UTILITY LAYOUTS SHOWN ON THE CIVIL AND M/E/P DRAWINGS WITH FOOTING STEPS. CONTRACTOR SHALL MAKE PROVISION FOR INSTALLATION OF ALL FOOTING STEPS AND DROPPED FOOTINGS, REGARDLESS OF IF STEP/DROP IS EXPLIGITLY SHOWN ON THE STRUCTURAL PLANS.
14. DESIGN OF FOUNDATIONS HAS BEEN BASED ON PRELIMINARY LOAD CALCULATIONS BY BASIS OF DESIGN METAL BUILDING PROVIDER FOR LOADS NOTED IN TABLE ON S600. FINAL LOADS SHALL NOT EXCEED TABLE VALUES NOTED. SEE S600 FOR ADDITIONAL INFORMATION.
15. (APPLIES S101-B ONLY) BEAM AND COLUMN NOTED IS TO SUPPORT OVERHEAD DOOR. PROVIDE CONNECTIONS OF OVERHEAD DOOR, DOOR JAMBS, ETC., AS REQUIRED TO STRUCTURE PROVIDED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MISC. STEEL NOT SHOWN FOR CONNECTION OF OVERHEAD DOOR TO STRUCTURE.
16. (APPLIES S101-B ONLY) TOILET PARTITIONS TO BE HUNG WITH UNISTRUT OR SIMILAR. CONTRACTOR SHALL MAKE PROVISION FOR DESIGN AND INSTALLATION OF FULL SYSTEM REQUIRED FOR SUPPORT OF TOILET PARTITIONS. CONTRACTOR COORDINATE HANGING LOADS WITH METAL BUILDING PROVIDER.
17. ELEVATIONS NOTED THUS <0'-0"> ARE TOP OF PIER ELEVATIONS. TOP OF PIER = <0'-0">, TYP. U.N.O. SEE DETAILS S600 FOR PIER LAYOUTS.
18. INTERIOR MASONRY PARTITION WALLS SHALL BE REINFORCED #4@48" O.C. FOR WALLS LESS THAN 5'-0" TALL, AND #4@32" O.C. FOR WALLS MORE THAN 5'-0" TALL. BARS SHALL BE CENTERED IN CMU. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. PARTITION WALLS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. ALL WALLS SHALL HAVE DOWELS INTO CONCRETE BELOW TO MATCH VERTICAL REINFORCING. WALLS TALLER THAN 5'-0" SHALL BE BRACED TO STRUCTURE ABOVE PER 14/S500.



2 FIRST FLOOR JOINT PLAN - WEST
1/16" = 1'-0"

NOTES:
1. ALL JOINTS ARE CONTRACTION JOINTS, TYPICAL U.N.O. SEE 7/S401.

FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revision 1	Date 1
Revisions:	Date

CONSULTANTS:

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STRUCTURAL ENGINEERING

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LANDSCAPE ARCHITECTURE

SEAL

ARCHITECTS/ENGINEERS:

AE WORKS

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www.ae-works.com

AE Works Project Number: 13025

Drawing Title: FIRST FLOOR FOUNDATION PLAN - EAST

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

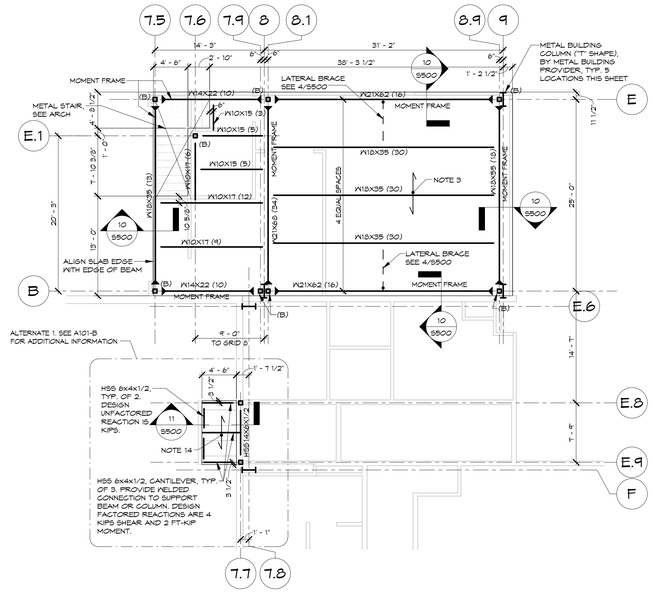
Project Number: #613-116

Building Number: #519

Drawing Number: S101-B

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 MEZZANINE FRAMING PLAN
1/8" = 1'-0"

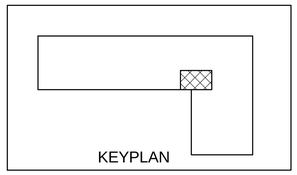
MEZZANINE FLOOR FRAMING PLAN NOTES:

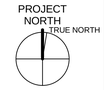
1. TOP OF SLAB ELEVATION = +10'-0" AS MEASURED FROM REFERENCE DATUM.
2. ELEVATIONS NOTED THUS (-0") IN PLAN ARE MEASURED FROM TOP OF SLAB ELEVATION.
3. MEZZANINE FLOOR SLAB:
   A. TOP OF MEZZANINE STEEL ELEVATION = (-5"), UNLESS NOTED OTHERWISE IN PLAN.
   B. MEZZANINE FLOOR SLAB SHALL BE 3" N.W. CONCRETE TOPPING ON 2"X18 ga. GALV. COMPOSITE METAL DECK (5" TOTAL THICK.) REINFORCE SLAB WITH 6x6 – W1.4 x W1.4 W.W.R. DRAPE PER 11/S500.
   C. (XX) IN PLAN INDICATES NUMBER OF EQUALLY SPACED 3/4" DIAM. x 4-1/2" LONG HEADED SHEAR STUDS. PROVIDE STUDS AT 24" MAX. O.C. WHERE NOT INDICATED AT MEZZANINE FLOOR SLAB ONLY.
   D. PROVIDE AVERAGE OF ¾" ADDITIONAL CONCRETE TO ACCOUNT FOR DEAD LOAD DEFLECTION AT MEZZANINE FLOOR SLAB.
4. ALL STEEL SHALL BE ASTM A992, UNLESS NOTED OTHERWISE.
5. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. PROVIDE ADDITIONAL FRAMING IN ACCORDANCE WITH TYPICAL FLOOR OPENING DETAIL.
   C. EQUIPMENT PADS AND/OR SUPPORTS.
6. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: S001 AND S002
   B. SUPERSTRUCTURE SECTIONS AND DETAILS: S500 SERIES
   C. COLUMN SCHEDULE: S600
7. COLUMNS NOTED THUS (A) IN PLAN ARE ABOVE.
8. COLUMNS NOTED THUS (B) IN PLAN ARE BELOW.
9. INDICATES DECK SPAN DIRECTION.
10. ON PLAN INDICATES A MOMENT CONNECTION. COORDINATE WITH TYPICAL DETAILS.
11. FILLER BEAM LAYOUT IS BASED ON EQUAL SPACING BETWEEN COLUMN LINES, UNLESS NOTED OTHERWISE. COORDINATE WITH TYPICAL DETAILS AROUND OPENINGS.
12. (VXX) INDICATES UNFACTORED END REACTIONS. SEE GENERAL NOTES UNDER "STRUCTURAL STEEL" FOR ADDITIONAL INFORMATION.
13. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR REVIEW.
14. CANOPY DECK SHALL BE 1 1/2" TYPE "B" GALVANIZED METAL ROOF DECK.
15. NO SLAB JOINTS ARE PERMISSIBLE IN MEZZANINE FLOOR SHALL BE CONSTRUCTED IN A SINGLE CONCRETE POUR.
16. PROVIDE BENT PLATE PER 10/S500 AT ALL MEZZANINE SLAB EDGES AND OPENINGS.
17. FULL HEIGHT CMU PARTITION WALLS BELOW THIS LEVEL SHALL BE BRACED AT TOP PER S500/9. SEE ARCHITECTURAL DRAWINGS FOR PARTITION WALL LOCATION AND S-101A NOTE 18 FOR PARTITION WALL REINFORCING.

MEZZANINE BEAM REACTION SCHEDULE

BEAM	UNFACTORED REACTIONS (KIPS)							
	DEAD		LIVE		WIND		SEISMIC	
	SHEAR (KIP)	MOMENT (FT-KIP)	SHEAR (KIP)	MOMENT (FT-KIP)	SHEAR (KIP)	MOMENT (FT-KIP)	SHEAR (KIP)	MOMENT (FT-KIP)
W10 & W14 MOMENT FRAME	3	4	5	15	-	3	-	5
W18 MOMENT FRAME	15	10	25	17	-	5	-	8
W21 MOMENT FRAME @ GRID 8.1	-	20	-	35	-	6	-	12
W21 MOMENT FRAME @ GRIDS B & E	10	13	15	20	-	3	-	5
GRAVITY BEAMS	SEE S001, "STRUCTURAL STEEL" NOTE 13.							

NOTES:
1. ALL VALUES GIVEN ABOVE ARE NOT FACTORED.
2. MINIMUM QUANTITY OF BOLTS PER S001, "STRUCTURAL STEEL," NOTE 13, APPLY TO ALL BEAMS. PROVIDE ADDITIONAL BOLTS AS REQUIRED BY REACTIONS THIS TABLE.
3. SIGNED AND SEALED CONNECTION CALCULATIONS ARE REQUIRED TO BE SUBMITTED ILLUSTRATING THAT CONNECTION DESIGN MEETS DESIGN LOADS THIS TABLE.





FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revision 1	Date 1
Revisions:	**Date**

VA FORM 08-6231

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
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MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

ARCHITECTS/ENGINEERS:

AE WORKS

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AE Works Project Number: 13025

Drawing Title
MEZZANINE FLOOR FRAMING PLAN

Approved: Project Director

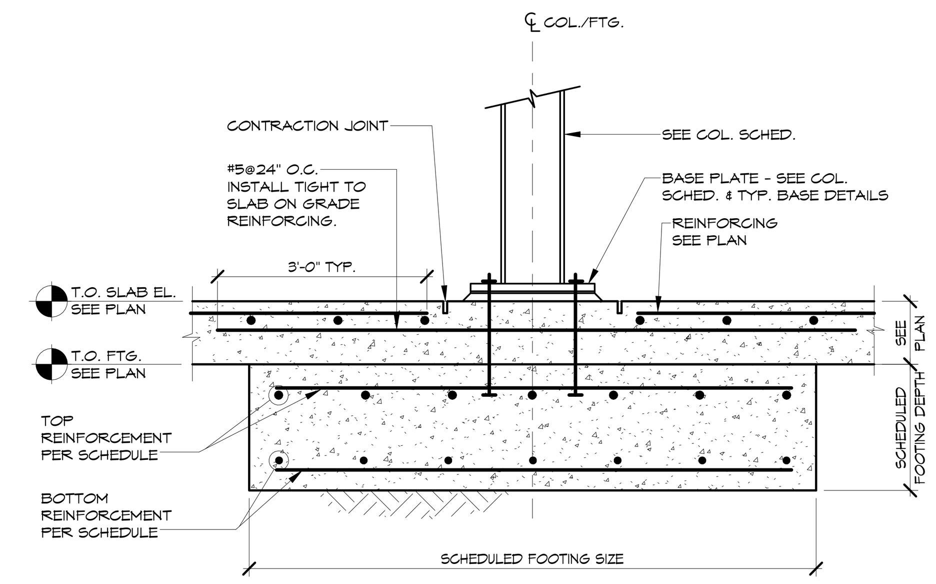
Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015
Checked: S.L.S.
Drawn: M.T.H.

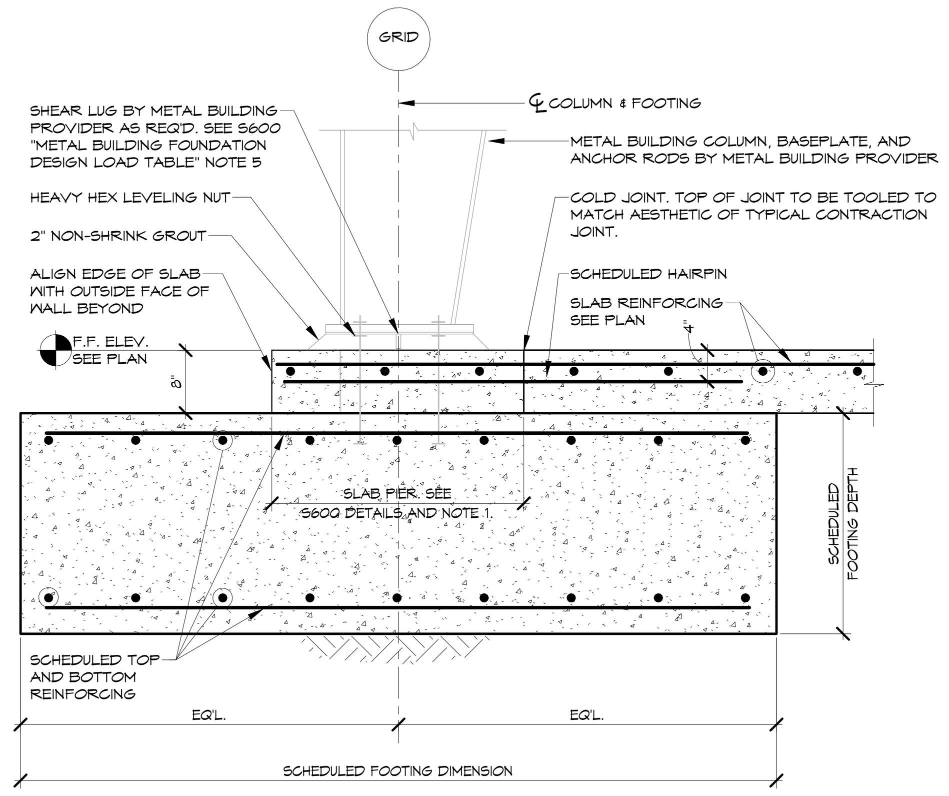
Project Number #613-116
Building Number #519
Drawing Number S102-B

Office of Construction and Facilities Management
Department of Veterans Affairs



DETAIL 1/S400 — 3/4" = 1'-0"

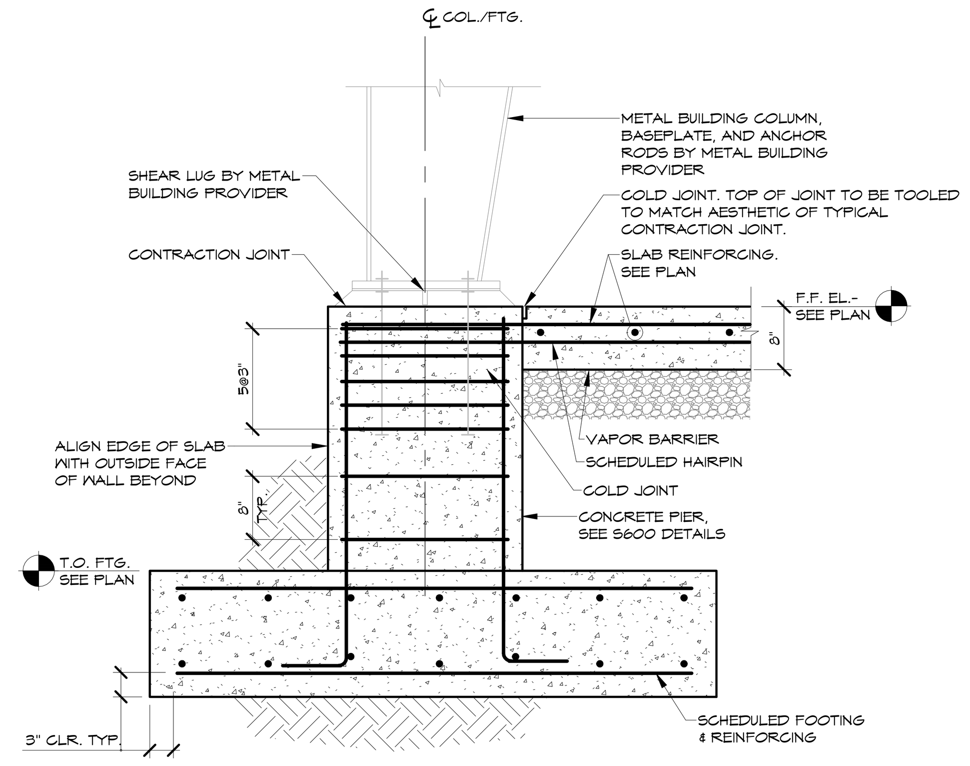
TYPICAL INTERIOR MEZZANINE FOOTING WITHOUT PIER



NOTES:
1. EIGHT INCH DEEP "SLAB PIER" DOES NOT REQUIRE ADDITIONAL VERTICAL REINFORCING AND/OR TIES. SEE S600 FOR SLAB PIER PLAN DIMENSIONS.

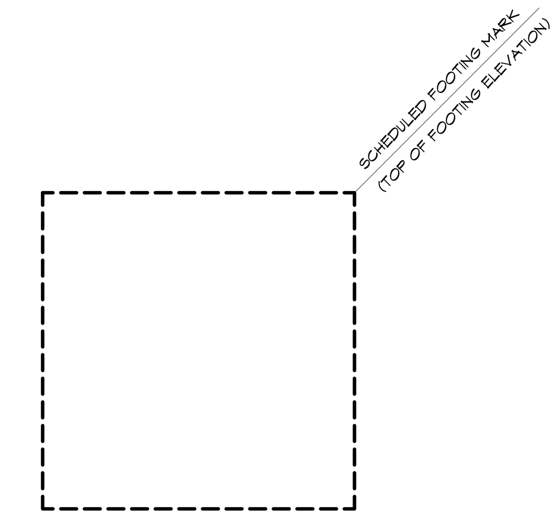
DETAIL 2/S400 — 3/4" = 1'-0"

METAL BUILDING EXTERIOR COLUMN AT SLAB PIER



DETAIL 3/S400 — 3/4" = 1'-0"

METAL BUILDING EXTERIOR COLUMN WITH PIER



DETAIL 4/S400 — 3/4" = 1'-0"

TYPICAL SPREAD FOOTING DESIGNATION

MASONRY LAP SPLICE LENGTH (in.)
Fy = 60,000 psi

IBC 2107

fm' = 1,500 PSI

BAR SIZE	NOMINAL CMU SIZE 6" CEN.	6" I.F.	8" CEN.	8" I.F.	10" CEN.	10" I.F.	12" CEN.	12" I.F.
3	16	19	16	19	16	19	16	19
4	21	34	21	34	21	34	21	34
5	32	53	26	53	16	53	26	53
6	M.S.	M.S.	43	M.S.	40	M.S.	40	M.S.
7	N/A	N/A	M.S.	M.S.	M.S.	M.S.	M.S.	M.S.
8	N/A	N/A	M.S.	M.S.	M.S.	M.S.	M.S.	M.S.
9	N/A	N/A	N/A	N/A	M.S.	M.S.	M.S.	M.S.

NOTES:

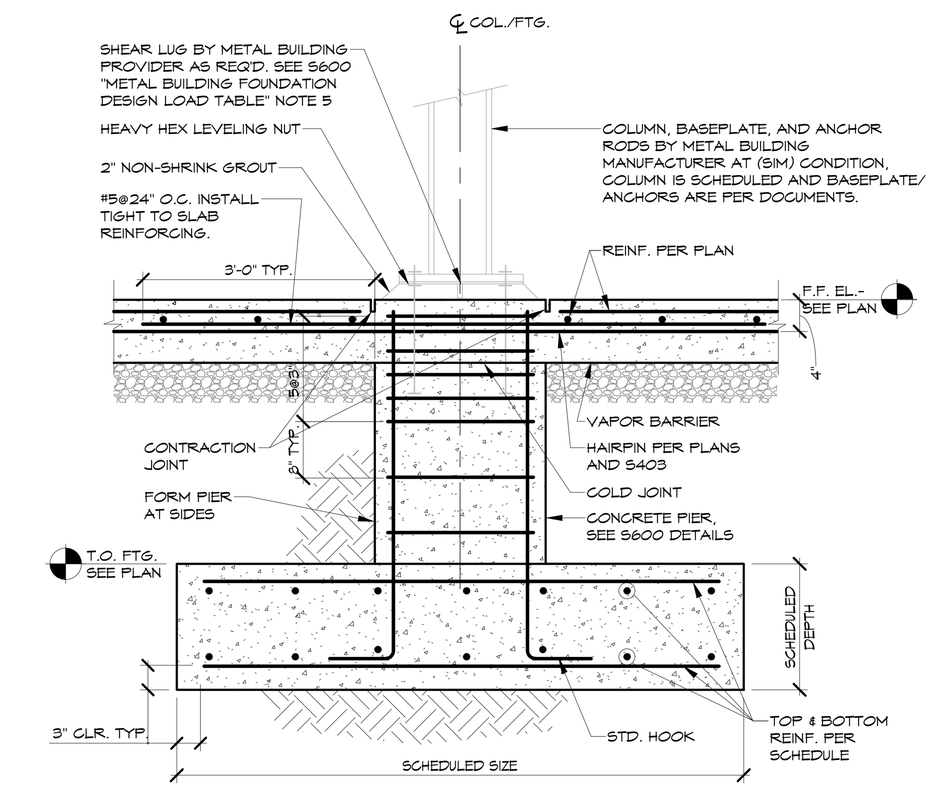
CEN. = BARS CENTERED IN THE WALL.
I.F. = BARS ON INSIDE OR OUTSIDE FACE OF WALL.
M.S. = MECHANICAL SPLICE.

1. MECHANICAL SPLICES MAY BE SUBSTITUTED FOR THE ABOVE, PROVIDED BARS ARE CONNECTED TO DEVELOP TENSION OR COMPRESSION, AS REQUIRED, AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH.
2. MASONRY LAP SPLICE LENGTHS INDICATED IN THE SCHEDULE ARE BASED ON THE FOLLOWING:
   A. 2012 INTERNATIONAL BUILDING CODE.
   B. ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES".
   C. ASTM C-90 COMCRETE MASONRY DIMENSIONS, MINIMUM FACE SHELL, AND MINIMUM WEB THICKNESS.
   D. MAXIMUM OF ONE BAR PER CELL, AND CELLS GROUTED AT REINFORCEMENT LOCATIONS ONLY.
3. COMPLY WITH ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" FOR REINFORCING PLACEMENT, COVER, AND GROUTING REQUIREMENTS.
4. LAP LENGTH SHALL BE BASED ON THE LARGER BAR DIAMETER BEING LAPPED.

FOOTING SCHEDULE

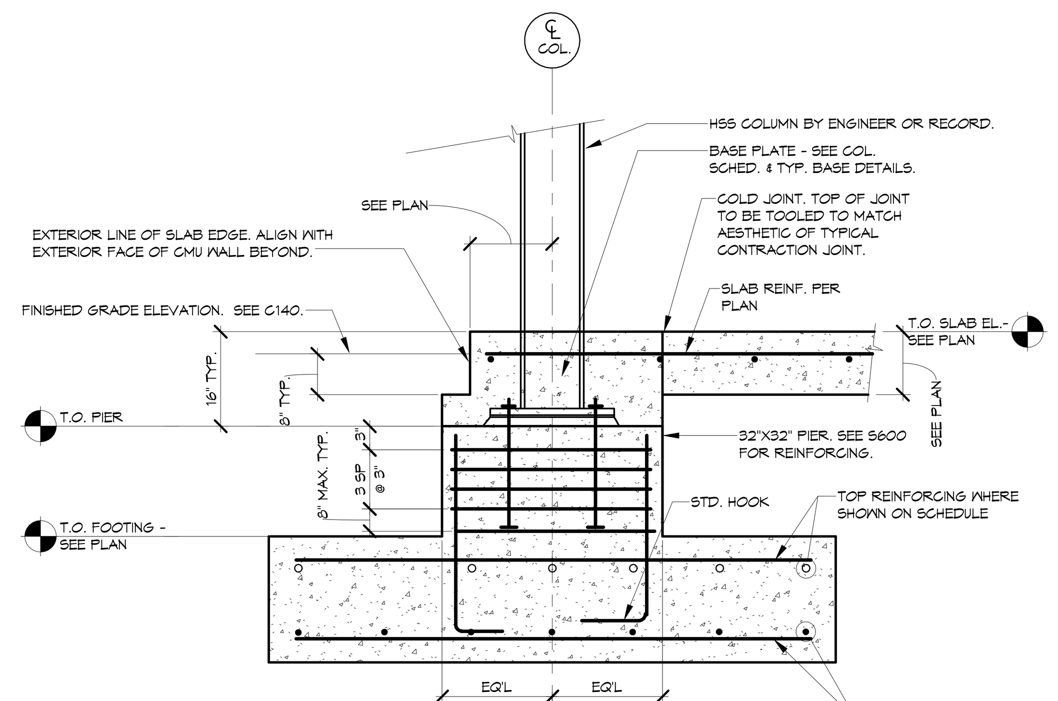
MARK	SIZE	DEPTH	REINFORCING - NOTE 1
F40	4'-0"x4'-0"	22"	(5) - #6
F50	5'-0"x5'-0"	22"	(6) - #6
F60	6'-0"x6'-0"	28"	(7) - #7
F70	7'-0"x7'-0"	28"	(8) - #7
F80	8'-0"x8'-0"	28"	(9) - #7
F90	9'-0"x9'-0"	28"	(9) - #8
F110	11'-0"x11'-0"	28"	(11) - #8
F50x100	5'-0"x10'-0"	28"	(6) - #6 LONG BARS (11) - #6 SHORT BARS

NOTES: 1. ALL REINFORCING SHALL BE PROVIDED TOP & BOTTOM, EACH WAY.
2. WHERE SCHEDULED COLUMN FOOTING DOES NOT EXTEND TO MATCH OUTSIDE FACE OF WALL FOOTING, EXTEND COLUMN FOOTING TO OUTSIDE FACE OF WALL FOOTING. CONTRACTOR NOTE THIS WILL RESULT IN A LARGER THAN SCHEDULED FOOTING SIZE AND SHALL BE INCLUDED IN PRICING.

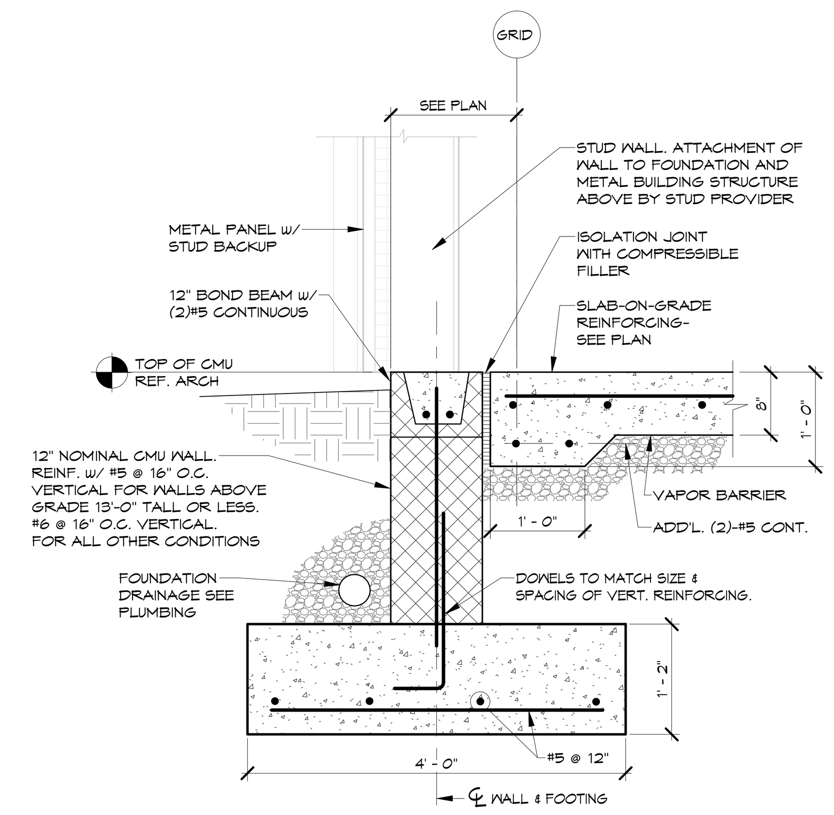


DETAIL 5/S400 — 3/4" = 1'-0"

TYPICAL INTERIOR FOOTING WITH PIER



SECTION 6/S400 — 3/4" = 1'-0"



SECTION 7/S400 — 3/4" = 1'-0"

TENSION LAP SPLICE & TENSION DEVELOPMENT LENGTH SCHEDULE
Fy = 60 KSI

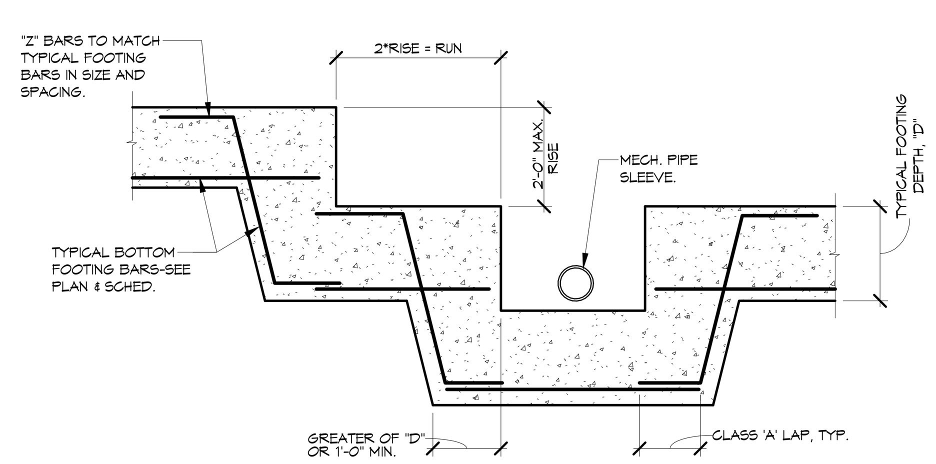
(ACI 318-05)

f'c	BAR SIZE	VERTICAL & BOTTOM BARS L_D	L_A	L_B	TOP BARS * L_{DT}	L_{AT}	L_{BT}
f'c = 4,000 PSI AND 4,500 PSI	3	22	22	28	28	28	36
	4	29	29	37	37	37	48
	5	36	36	47	47	47	60
	6	43	43	56	56	56	72
	7	63	63	81	81	81	106
	8	71	71	93	93	93	121
	9	81	81	105	105	105	136
	10	91	91	118	118	118	153
	11	101	101	131	131	131	170
f'c = 5,000 PSI OR GREATER	3	20	20	25	25	25	33
	4	26	26	34	34	34	44
	5	32	32	42	42	42	54
	6	39	39	50	50	50	65
	7	56	56	73	73	73	95
	8	64	64	83	83	83	108
	9	72	72	94	94	94	122
	10	81	81	106	106	106	137
	11	90	90	117	117	117	152

* HORIZONTAL BARS WITH MORE THAN 12" OF CONC. BELOW

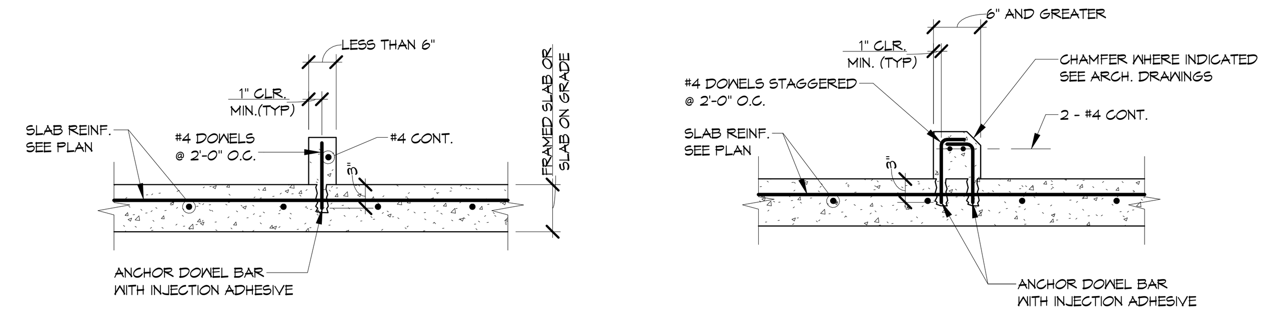
NOTES:

1. ALL LAP SPLICES SHALL BE L_B OR L_{BT} , U.N.O.
2. L_D, L_{DT} = STRAIGHT TENSION DEV. LENGTH IN INCHES.
   L_A, L_{AT} = CLASS A TENSION LAP SPLICE LENGTH IN INCHES.
   L_B, L_{BT} = CLASS B TENSION LAP SPLICE LENGTH IN INCHES.
3. SPLICE AND DEVELOPMENT LENGTHS INDICATED ARE FOR WORST CASE SITUATIONS, WITH NO LIMITS ON COVER OR BAR SPACING.
4. CONTRACTOR MAY REDUCE SCHEDULED LENGTHS IN ACCORDANCE WITH CH. 12 OF ACI 318 CODE TO ACCOUNT FOR ACTUAL BAR SPACING, AMOUNT OF COVER, AND ENCLOSING TRANSVERSE REINFORCEMENT. THE SHOP DRAWINGS SHALL CLEARLY SHOW ALL SPLICE AND DEVELOPMENT LENGTHS WHICH DIFFER FROM THIS SCHED.
5. INCREASE LENGTHS 30% FOR LIGHTWEIGHT CONCRETE.
6. INCREASE LENGTHS 50% FOR EPOXY COATED REINF., EXCEPT FOR TOP BARS, INCREASE 30%.
7. LAP LENGTH SHALL BE BASED ON THE LARGER BAR DIAMETER BEING LAPPED.
8. IF THE REQ'D f'c IS NOT INCLUDED IN THE ABOVE SCHEDULE, USE THE NEXT LOWEST f'c TO DETERMINE BAR DEVELOPMENT LENGTH.



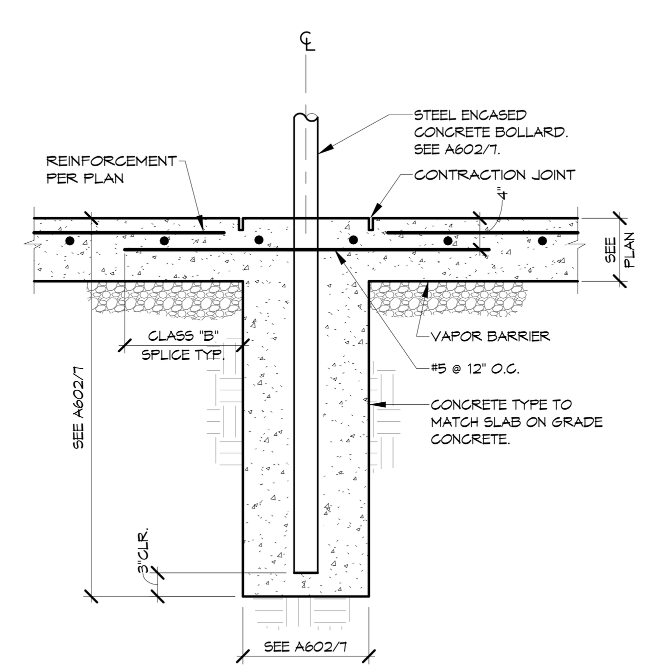
DETAIL 8/S400 — 3/4" = 1'-0"

TYPICAL STEP FOOTING DETAIL



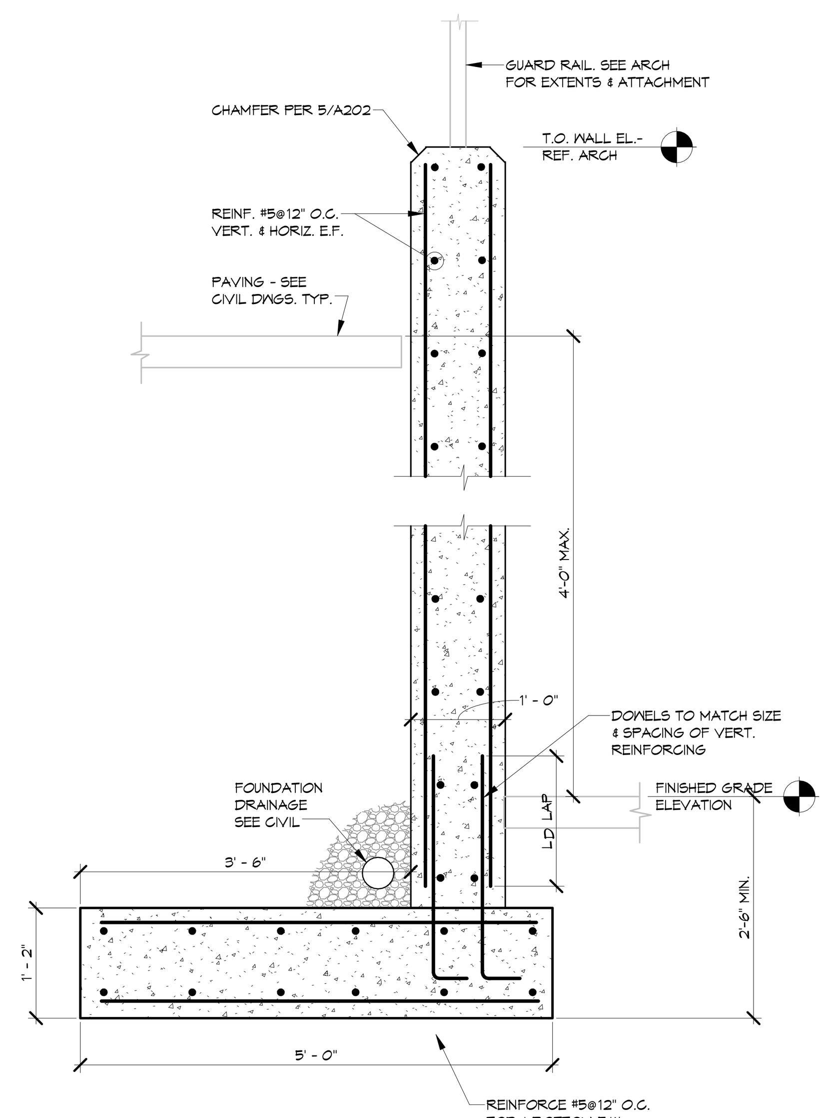
DETAIL 9/S400 — 3/4" = 1'-0"

CURB DETAIL



DETAIL 10/S400 — 3/4" = 1'-0"

STEEL ENCASED CONCRETE BOLLARD DETAIL



DETAIL 11/S400 — 3/4" = 1'-0"

DOCK RETAINING WALL

FULLY SPRINKLERED
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Ph: 412.287.7333 Fax: 412.287.7334
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AE Works Project Number: 13025

Drawing Title: TYPICAL FOUNDATION DETAILS

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

Project Number: #613-116

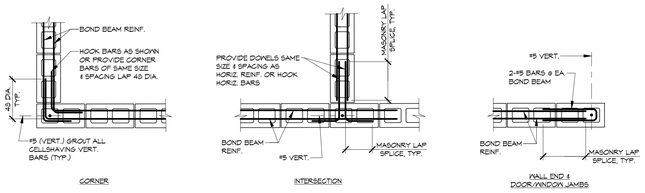
Building Number: #519

Drawing Number: S400

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

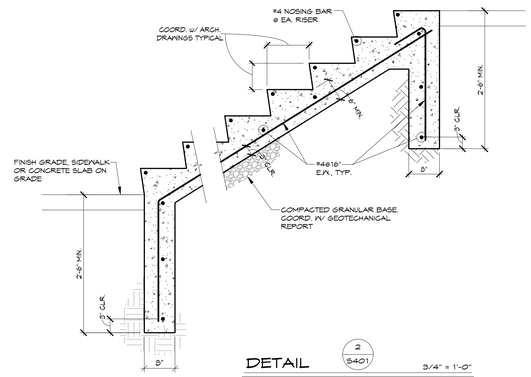


NOTES:
1. CORNERS AND INTERSECTIONS
UNLESS OTHERWISE NOTED OR SPECIFIED, AT POINTS WHERE CONCRETE MASONRY WALLS MEET OR INTERSECT, LAY 50% OF UNITS IN MASONRY BOND WITH ALTERNATE UNITS HAVING A BEARING ON NOT LESS THAN 4 INCHES ON THE UNIT BELOW

2. DOWELS
UNLESS OTHERWISE NOTED OR SPECIFIED, PROVIDE DOWELS FROM CONCRETE FOOTING OR WALL BELOW WITH SAME SIZE AND SPACING AS VERTICAL BARS AT LEVEL BELOW. LAP 40 BAR DIAMETERS MINIMUM U.N.O.

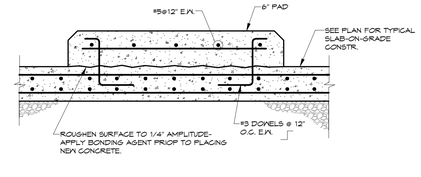
DETAIL 1/S401 3/4" = 1'-0"

TYPICAL 8" MASONRY WALL DETAILS



DETAIL 2/S401 3/4" = 1'-0"

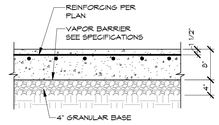
TYPICAL EXTERIOR STAIR-ON-GRADE



NOTES:
1. COORDINATE SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. HOUSEKEEPING PAD LOCATIONS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
2. CHAMFER ALL EXPOSED EDGES 1" TYPICAL.

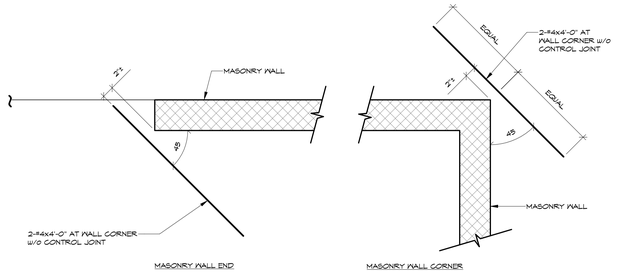
DETAIL 3/S401 3/4" = 1'-0"

EQUIPMENT PAD



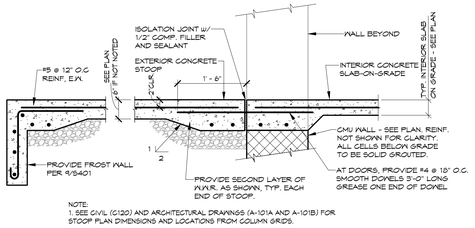
DETAIL 4/S401 3/4" = 1'-0"

TYPICAL SLAB-ON-GRADE



DETAIL 5/S401 3/4" = 1'-0"

TYPICAL SLAB-ON-GRADE CRACK CONTROL BARS

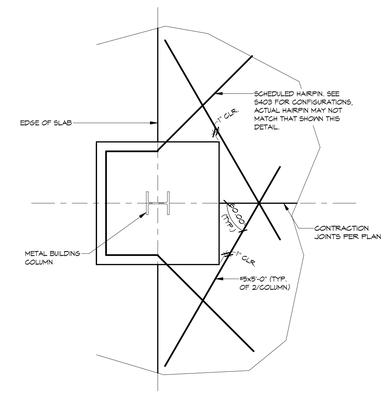


NOTE
1. SEE CIVIL (C120) AND ARCHITECTURAL DRAWINGS (A-101A AND A-101B) FOR STOOP PLAN DIMENSIONS AND LOCATIONS FROM COLUMN GRIDS.

TYPICAL STOOP DETAIL - STOOP NOT BEARING ON FOUNDATION

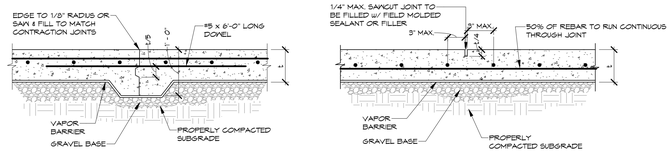
DETAIL 6/S401 3/4" = 1'-0"

TYPICAL CONCRETE STOOP



DETAIL 11/S401 3/4" = 1'-0"

CRACK CONTROL AT STEEL EDGE COLUMN



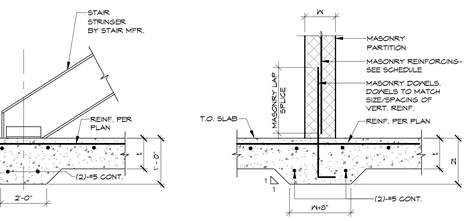
CONSTRUCTION JOINT

CONTRACTION JOINT

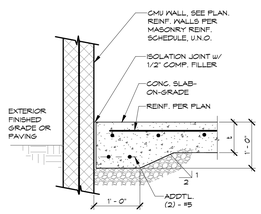
NOTE:
1. CONTRACTOR IS RESPONSIBLE FOR IN-PLACE QUALITY OF SLAB-ON-GRADE. CONSTRUCTION AND CONTRACTION JOINTS SHALL BE PLACED IN THE SLAB WHERE INDICATED ON PLAN.
2. 50% OF SLAB REINFORCING AT JOINTS SHALL BE CONTINUOUS. CONTINUOUS BARS SHALL BE LAPPED WITH A TENSION LAP "L_{BT}" PER S400.

DETAIL 7/S401 3/4" = 1'-0"

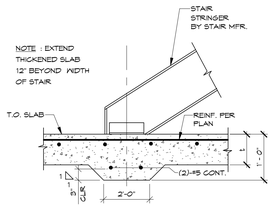
TYPICAL SLAB-ON-GRADE JOINT DETAILS



THICKENED SLAB AT EXTERIOR DOOR

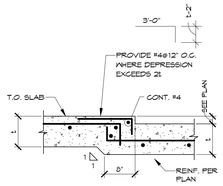


THICKENED SLAB AT WALL



THICKENED SLAB UNDER STAIRS

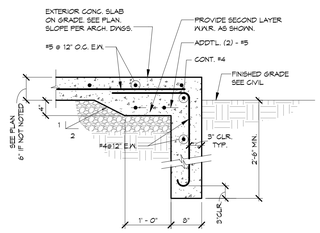
THICKENED SLAB UNDER MASONRY PARTITION WALLS



SLAB DEPRESSION

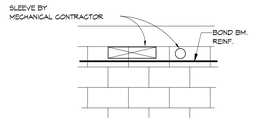
DETAIL 8/S401 3/4" = 1'-0"

TYPICAL SLAB-ON-GRADE DETAILS

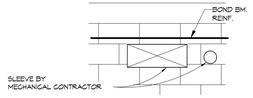


DETAIL 9/S401 3/4" = 1'-0"

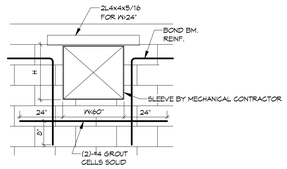
TYPICAL FROST WALL DETAIL



DUCT OR PIPE SLEEVE ABOVE BOND BM. REINF.



DUCT OPENIING BELOW BOND BEAM, W< 30"



DUCT OPENING THRU BOND BEAM, W< 60"

PIPE & DUCT PENETRATIONS THRU MASONRY WALLS

NOTE:
1. PROVIDE 12" OF MASONRY BETWEEN ADJACENT DUCT PENETRATIONS.
2. MECHANICAL OPENINGS IN MASONRY WALLS LARGER THAN 60" NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL NOT BE PLACED WITHOUT WRITTEN PERMISSION/FRAMING RECOMMENDATIONS FROM THE STRUCTURAL ENGINEER NOT SHOWN ON THE STRUCTURAL DRAWINGS.

DETAIL 10/S401 3/4" = 1'-0"

PENETRATIONS THRU MASONRY WALLS

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revision 1	Date 1
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CONSULTANTS:

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Drawing Title
TYPICAL FOUNDATION DETAILS

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 **Checked:** S.L.S. **Drawn:** M.T.H.

Project Number #613-116

Building Number #519

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Office of Construction and Facilities Management

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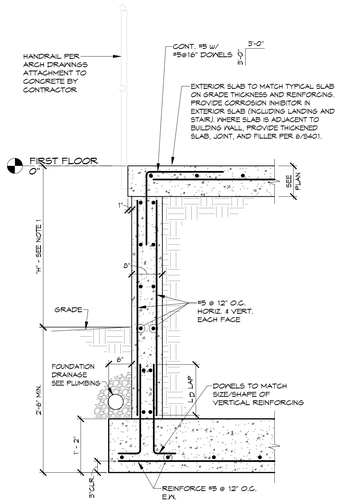
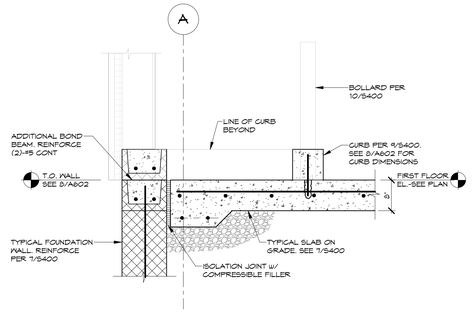
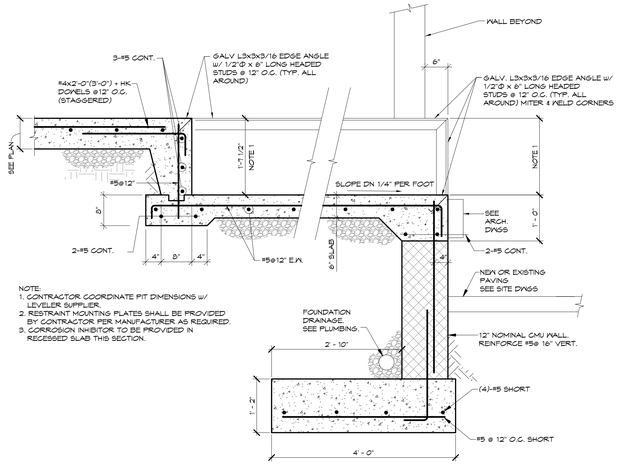


NOTES:
1. WALL HAS BEEN DESIGNED AS A "CANTILEVERED" RETAINING WALL PER S001. MAXIMUM ALLOWABLE DESIGN HEIGHT "H" IS 4'-6".
2. CORROSION INHIBITOR IS NOT REQUIRED IN WALL OR FOOTING THIS SECTION.

DETAIL 1/S402 3/4" = 1'-0"



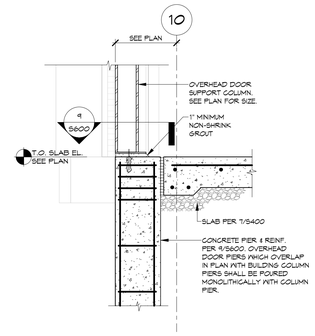
DETAIL 2/S402 3/4" = 1'-0"



NOTE:
1. CONTRACTOR COORDINATE PIT DIMENSIONS w/ LEVELER SUPPLIER.
2. RESTRAINT MOUNTING PLATES SHALL BE PROVIDED BY CONTRACTOR PER MANUFACTURER AS REQUIRED.
3. CORROSION INHIBITOR TO BE PROVIDED IN RECESSED SLAB THIS SECTION.

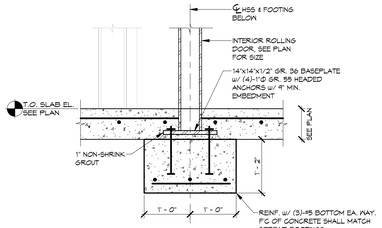
DETAIL 3/S402 3/4" = 1'-0"

DOCK LEVELER CONTROL BARS



DETAIL 4/S402 3/4" = 1'-0"

EXTERIOR ROLLING DOOR BASE SECTION



NOTES: SEE 1/S600 FOR TYP. BASEPLATE DETAILS

DETAIL 5/S402 3/4" = 1'-0"

INTERIOR ROLLING DOOR BASE DETAIL

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revision 1	Date 1
Revisions:	**Date**

CONSULTANTS:

HOPE FURRER ASSOCIATES
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AE Works Project Number: 13025

Drawing Title
FOUNDATION SECTIONS

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | **Checked:** S.L.S. | **Drawn:** M.T.H.

Project Number #613-116

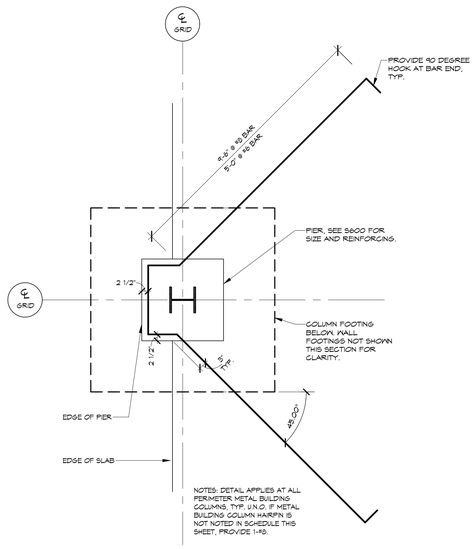
Building Number #519

Drawing Number S402

Office of Construction and Facilities Management

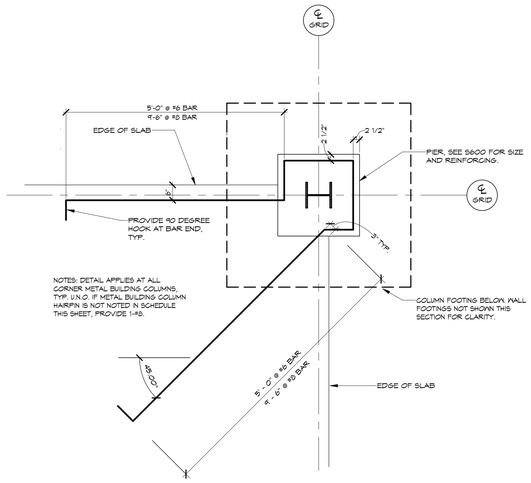
Department of Veterans Affairs

VA FORM 08-6231



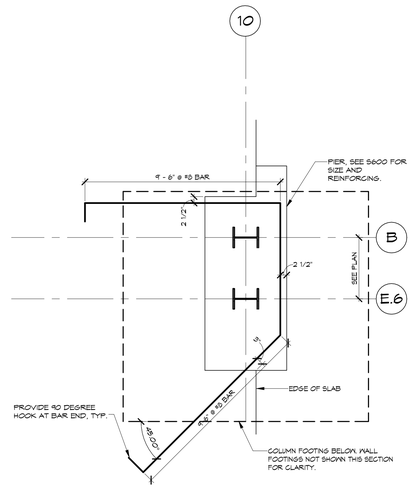
DETAIL 1/S403 1/2" = 1'-0"

TYPICAL HAIRPIN AT PERIMETER METAL BUILDING COLUMN



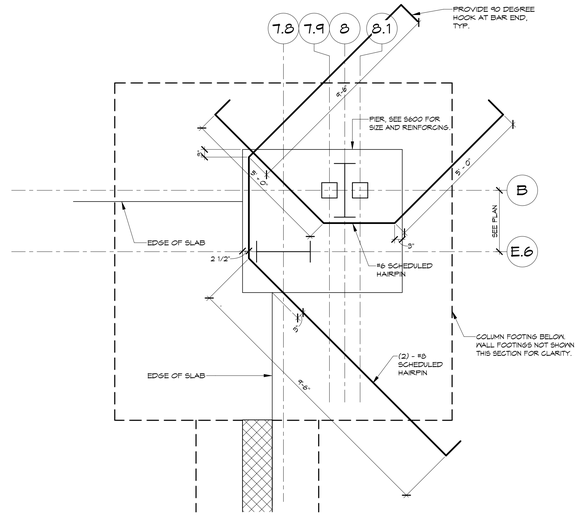
DETAIL 2/S403 1/2" = 1'-0"

TYPICAL HAIRPIN AT CORNER METAL BUILDING COLUMN



DETAIL 3/S403 1/2" = 1'-0"

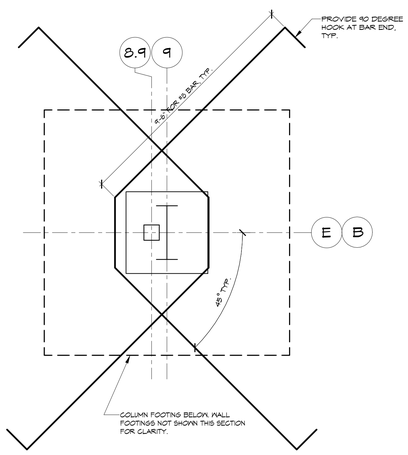
HAIRPIN DETAIL - B/10 AND E.6/10



NOTES:
1. HSS COLUMNS ARE MEZZANINE COLUMNS DESIGNED BY THE ARCHITECT/ENGINEER OF RECORD. "I" SHAPED COLUMNS ARE BY METAL BUILDING PROVIDER.

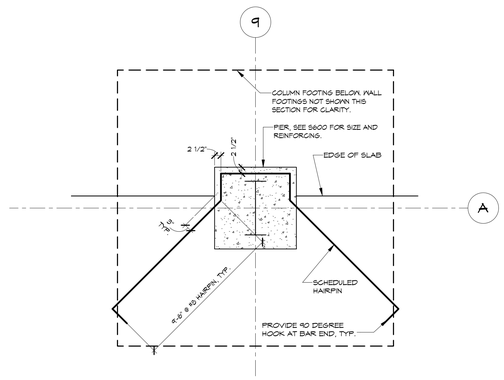
DETAIL 4/S403 1/2" = 1'-0"

HAIRPIN DETAIL - 7.9/8/8.1-E.6

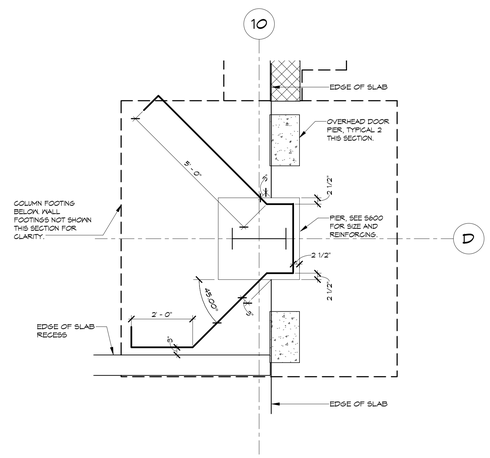


NOTES:
1. HSS COLUMNS ARE MEZZANINE COLUMNS DESIGNED BY ARCHITECT/ENGINEER OF RECORD. "I" SHAPED COLUMNS ARE BY METAL BUILDING PROVIDER.

DETAIL 5/S403 1/2" = 1'-0"



DETAIL 6/S403 1/2" = 1'-0"



DETAIL 7/S403 1/2" = 1'-0"

HAIRPIN SCHEDULE

COLUMN	BAR SIZE	S403 DETAIL
10/H	6	2
9.5/H	6	1
8.7/H	6	1
7.8/H	6	2
10/G	(2) - #5	1
7.8/G	(2) - #5	1
10/F	(2) - #5	1
7.8/F	(2) - #5	1
10/E.6 & 10/B	(2) - #5	3
7.8/E.6 & B/B	(2) - #5 & (1) - #6	4
1/B	6	2
1/A.4	6	1
1/A.3	6	1
1/A	6	2
2/B	5	1
2/A	5	1
3/B	5	1
3/A	5	1
4/B	5	1
4/A	5	1
5/B	5	1
5/A	5	1
6/B	5	1
6/A	5	1
7/B	5	1
7/A	5	1
8/A	5	1
9/B	(1) - #5 & (1) - #6	5
9/E	(1) - #5 & (1) - #6	5
9/A	5	6
10/E	6	1
10/D	6	7
10/A	6	2

NOTES:
1. MAXIMUM ALLOWABLE HAIRPIN DESIGN LOADS ARE PER "METAL BUILDING FOUNDATION DESIGN" LOAD TABLE ON S600. IN THE EVENT LOADS ARE EXCEEDED, HAIRPIN BAR SIZES ARE INVALID AND WILL NEED TO BE REDESIGNED. CONTRACTOR IS RESPONSIBLE FOR ALL REDESIGN, IF ANY.
2. SEE PLAN FOR HAIRPIN ORIENTATION. DETAIL REFERENCE MAY BE MIRRORED, ROTATED, OR OPPOSITE HAND FROM THAT SHOWN ON PLAN.
3. DESIGN INTENT IS FOR EXTERIOR EDGE OF HAIRPINS TO BE LOCATED IMMEDIATELY INSIDE PIER REBAR CAGE.
4. METAL BUILDING PROVIDER COORDINATE ANCHOR ROD PLACEMENT WITH PIER REINFORCING AND HAIRPINS TO AVOID CONFLICT.

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
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AE Works Project Number: 13025

Drawing Title: HAIRPIN DETAILS

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

Project Number: #613-116

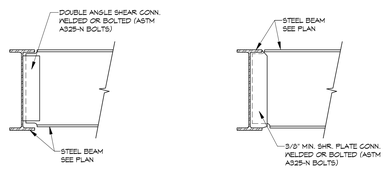
Building Number: #519

Drawing Number: S403

Office of Construction and Facilities Management

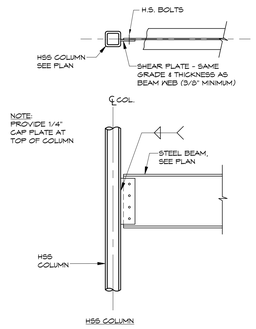
Department of Veterans Affairs

VA FORM 08-6231



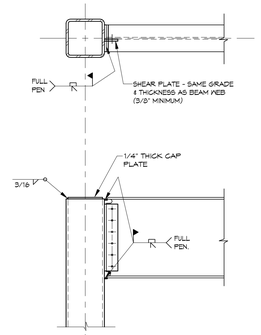
DETAIL 1/S500 3/4" = 1'-0"

BEAM TO BEAM SHEAR CONNECTIONS



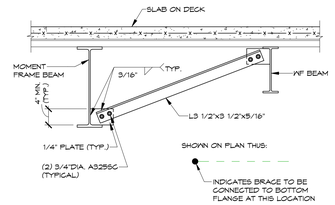
DETAIL 2/S500 3/4" = 1'-0"

BEAM TO COLUMN SHEAR CONNECTION



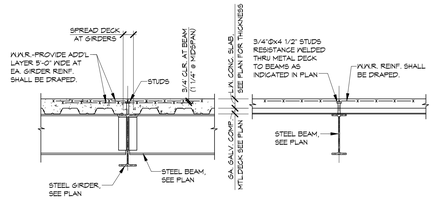
DETAIL 3/S500 3/4" = 1'-0"

TYPICAL MOMENT CONNECTION TO TUBE COLUMN



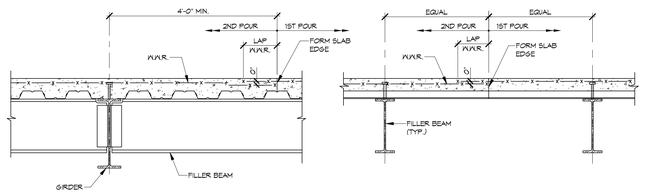
DETAIL 4/S500 3/4" = 1'-0"

TYPICAL LATERAL BRACE DETAIL



NOTES:
1. CONTRACTOR SHALL SUPPORT WIRE MESH ON CHAIRS OVER FILLER BEAMS AND GIRDERS. SEE "TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS."

DETAIL 5/S500 3/4" = 1'-0"



JOINT PARALLEL TO DECK

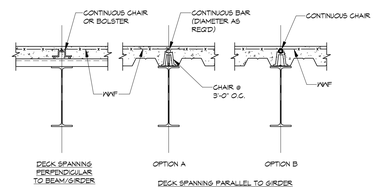
NOTE: LAP=CROSS WIRE SPACING + 2"

JOINT PERPENDICULAR TO DECK

NOTE: LAP=CROSS WIRE SPACING + 2"

DETAIL 6/S500 3/4" = 1'-0"

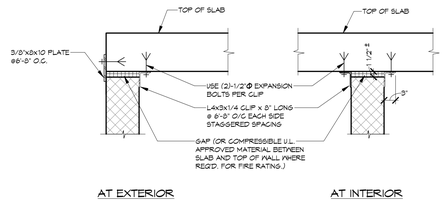
TYPICAL CONSTRUCTION JOINT DETAIL FOR SLAB ON METAL DECK



NOTES:
1. WELDED WIRE FABRIC (WWF) SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BEFORE THE CONCRETE IS PLACED, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN PERMITTED TOLERANCES.
2. PROVIDE CONTINUOUS SUPPORTS FOR WWF AT BEAMS AND GIRDERS USING ONE OF THE METHODS SHOWN ABOVE.
3. MESH SHALL BE DRAPED.

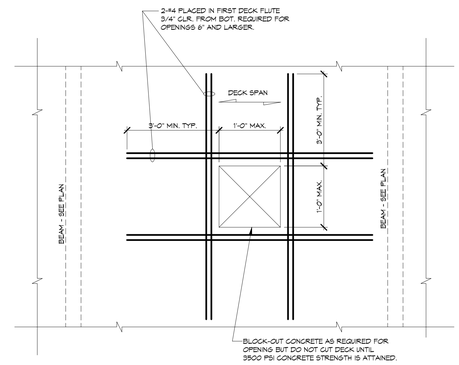
DETAIL 7/S500 3/4" = 1'-0"

TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS



DETAIL 8/S500 3/4" = 1'-0"

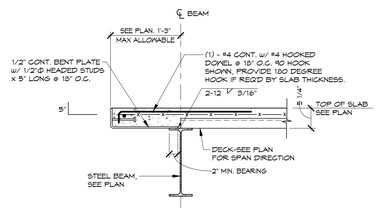
TYPICAL SLAB-ON-GRADE CRACK CONTROL BARS



NOTES:
1. MULTIPLE SMALL OPENINGS SUCH AS SLEEVE CLUSTERS, RECESSED BOXES, CONDUITS, ETC., OCCURRING WITHIN MAXIMUM DIMENSIONS INDICATED SHALL BE TREATED AS UNFRAMED OPENINGS.
2. RECTANGULAR OPENINGS SHOWN. MAXIMUM UNFRAMED ROUND OPENING IS 12" DIAMETER.

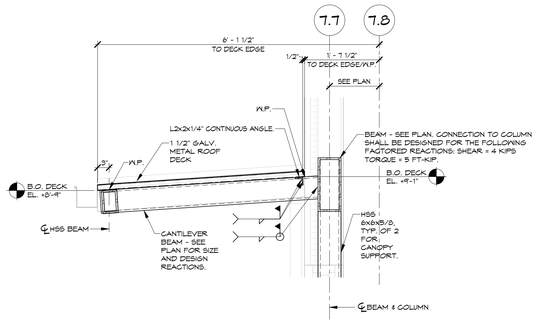
DETAIL 9/S500 3/4" = 1'-0"

TYPICAL UNFRAMED COMPOSITE FLOOR/ROOF OPENING - OPENINGS 1'-0" x 1'-0" AND LESS



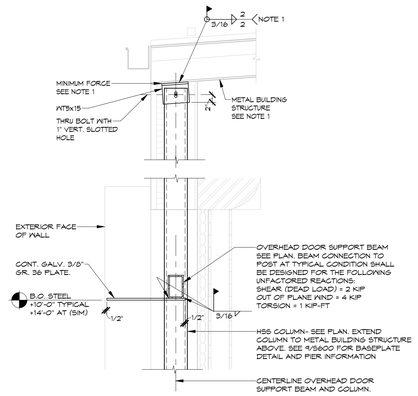
DETAIL 10/S500 3/4" = 1'-0"

TYPICAL BENT PLATE AT CONCRETE EDGE DETAIL



DETAIL 11/S500 3/4" = 1'-0"

CANOPY SECTION



NOTES:
1. METAL BUILDING PROVIDER SHALL PROVIDE ADDITIONAL SUPPORT MEMBERS IMMEDIATELY ABOVE OVERHEAD DOOR COLUMNS. ATTACHMENT OF WT TO PURLIN SHALL BE CAPABLE OF TRANSFERRING A MINIMUM FORCE OF 2 KIPS WIND LOAD (UNFACTORED).
2. MAXIMUM DESIGN WEIGHT ALLOWANCE OF OVERHEAD DOOR IS 10 PSF. ACTUAL DOOR SELECTED SHALL NOT EXCEED THIS VALUE. IF DOOR SELECTED DOES EXCEED THIS VALUE, CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS OF REDESIGN AND INSTALLATION OF REVISED STRUCTURE IF SELECTED DOOR EXCEEDS WEIGHT ALLOWANCE NOTED.

DETAIL 12/S500 3/4" = 1'-0"

TYPICAL OVERHEAD DOOR SUPPORT

FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

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AE Works Project Number: 13025

Drawing Title: TYPICAL SUPERSTRUCTURE DETAILS

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

Project Number: #613-116

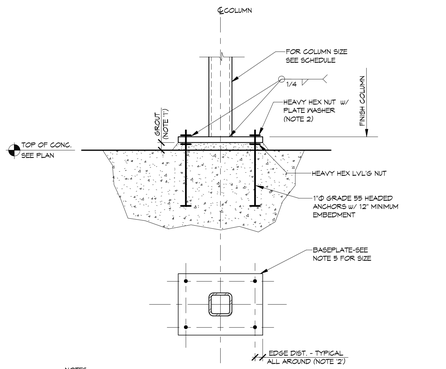
Building Number: #519

Drawing Number: S500

Office of Construction and Facilities Management

Department of Veterans Affairs

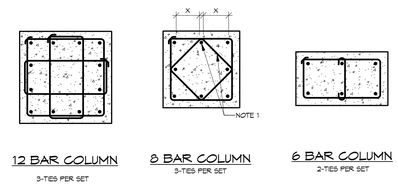
VA FORM 08-6231



NOTES:
1. PROVIDE 2" GROUT TYPICAL. FOR BASEPLATES LESS THAN 24" SQUARE 3/4" GROUT AND 1/4" STEEL LEVELING PLATE MAY BE SUBSTITUTED. COORDINATE COLUMN CUTOFF LENGTHS AS REQUIRED.
2. REFER TO "BASEPLATE DETAILING SCHEDULE" FOR THE BASEPLATE HOLE DIAMETERS, PLATE WASHER DIMENSIONS AND ANCHOR BOLT EDGE DISTANCE.
3. 'd' IS THE ANCHOR BOLT DIAMETER AS DEFINED IN THE COLUMN SCHEDULE.
4. UNHEADED ANCHOR BOLTS WITH DOUBLE HEAVY HEX NUTS MAY BE SUBSTITUTED FOR HEADED ANCHOR BOLTS.
5. BASEPLATE SIZES FOR COLUMNS SHALL BE AS FOLLOWS. ALL BASEPLATES ARE GR. 50, U.N.O.
   A. MEZZANINE HSS (SEE COLUMN SCHEDULE) - 18"X18"X1", TYP. IF MEZZANINE HSS BASEPLATE IS COMBINED WITH METAL BUILDING COLUMN, SEE DETAILS THIS SHEET FOR MAXIMUM SIZE REQUIREMENTS.
   B. OVERHEAD DOOR COLUMNS - SEE 4/S600 (EXTERIOR DOORS) AND 5/S402 (INTERIOR DOORS).
   C. CANOPY COLUMN AT 7.7/E.9 - 16"X16"X1.5"
   D. CANOPY COLUMN AT 7.7/E.9 - SEE 10/S600.
6. BASEPLATES SHALL BE SUPPLIED WITH LEVELING PLATES.

DETAIL 1/S600 — 3/4" = 1'-0"

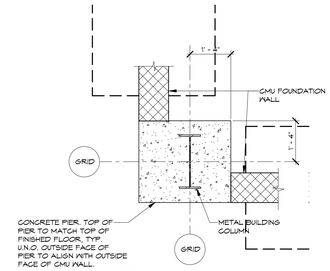
TYPICAL 4 BOLT COLUMN BASE DETAIL AT MEZZANINE COLUMNS



NOTES:
1. THESE BARS MUST BE TIED AS SHOWN BY DASHED LINES WHEN X DISTANCE IS OVER 6".
2. THESE BARS NEED NOT BE TIED WHEN X DISTANCE EQUALS 6" OR LESS.
3. 1 1/2" MIN. COVER TO TIES (TYPICAL)
4. PROVIDE VERTICAL PIER REINFORCING AS FOLLOWS:
   24"X24" - (5)-#9 VERTICALLY, TYP.
   32"X32" AND 32"X36" - (12)-#8 VERTICALLY, TYP.
5. PROVIDE #3 TIES, SPACED 5 SETS OF TIES @ 3" O.C. FROM TOP OF PIERS. REMAINDER OF TIES TO BE SPACED AT 8" MAX. O.C.
6. ALTERNATE LOCATIONS OF TIE HOOKS WHEN PLACING SUCCESSIVE SETS OF TIES.
7. "SLAB PIERS", DEFINED AS PIERS 8" IN DEPTH, DO HAVE VERTICAL PIER REINFORCING OR TIES. ALL PIERS EXCEEDING 8" IN DEPTH SHALL BE REINFORCED WITH TIES PER NOTE 4 AND PLAN DETAILS.

DETAIL 2/S600 — 3/4" = 1'-0"

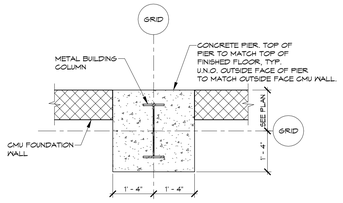
REBAR TIE DETAIL



NOTES:
1. SEE 2/S600 FOR PIER REINFORCING NOT SHOWN.
2. THIS DETAIL APPLIES AT ALL CORNER COLUMNS, TYP. U.N.O.

PLAN 3/S600 — 1/2" = 1'-0"

TYPICAL CORNER COLUMN PIER DETAIL



NOTES:
1. SEE 2/S600 FOR PIER REINFORCING NOT SHOWN.
2. DETAIL APPLIES AT ALL PERIMETER COLUMNS, TYP. U.N.O.

PLAN 4/S600 — 1/2" = 1'-0"

TYPICAL EXTERIOR COLUMN PIER DETAIL

HIGH ROOF				HIGH ROOF
43' - 0 3/8"				43' - 0 3/8"
UPPER ROOF				UPPER ROOF
28' - 0"				28' - 0"
MEZZANINE				MEZZANINE
10' - 0"	HSS8X8X3/8	HSS8X8X5/8	HSS8X8X7/8	10' - 0"
FIRST FLOOR				FIRST FLOOR
0"				0"
Column Locations	B-7.5	B-7.9, B-8.1, B-8.9, E-8.1, E-8.9	E-7.5, E.1-7.6	

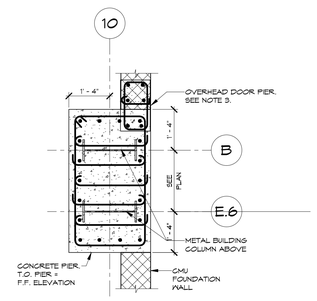
STEEL COLUMN SCHEDULE NOTES:

1. WHERE BASE PLATE IS SHOP WELDED TO COLUMN, PROVISIONS SHALL BE MADE FOR LEVELING.
2. ALL COLUMNS AND BASEPLATES SHALL BE ASTM A572, GR. 50, UNLESS NOTED OTHERWISE.
3. SEE 1/S600 FOR BASEPLATE AND ANCHOR INFORMATION.
4. SEE 2/S600 FOR PIER INFORMATION. ALL COLUMNS HAVE PIERS U.N.O.

BASEPLATE DETAILING SCHEDULE

ANCHOR ROD DIAMETER (d)	BASEPLATE HOLE DIAMETER	PLATE WASHER DIAMETER	PLATE WASHER THICKNESS (U.N.O.)	ANCHOR ROD EDGE DISTANCE (U.N.O.)
1"	1 13/16"	3"	3/8"	1 3/4"

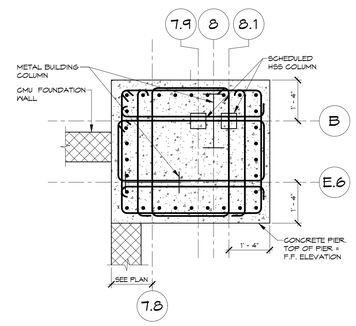
NOTES:
1. SEE S600/1 FOR ANCHOR BOLT DIAMETER.
2. PLATE WASHERS SHALL HAVE STANDARD HOLES.



NOTES:
1. REINFORCE PIER W/ (18) - #9 VERTICAL AND #3 @ 8" O.C. TIES MAX. TYP. PROVIDE 1 SET CLOSED TIES AND ADDITIONAL TIES AS SHOWN.
2. MAXIMUM PERMISSIBLE BASEPLATE SIZE ABOVE IS 24"X36". SHORT DIMENSION IS PARALLEL TO GRID B.
3. SEE 4/S600 FOR OVERHEAD DOOR PIER SIZE AND REINFORCING. OVERHEAD DOOR PIER TO BE POURED MONOLITHICALLY WITH BUILDING COLUMN PIER.

PLAN 5/S600 — 1/2" = 1'-0"

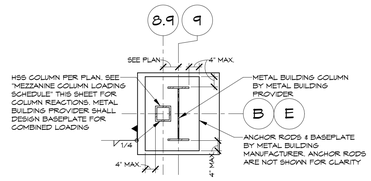
PIER DETAIL - B/10 & E.6/10



NOTES:
1. REINFORCE (32) - #9 VERTICAL. PROVIDE 3 SETS CLOSED TIES.

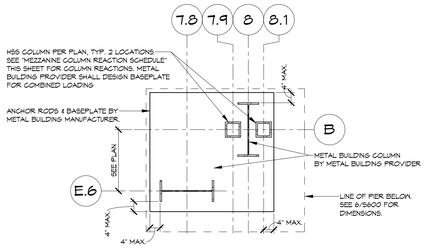
PLAN 6/S600 — 1/2" = 1'-0"

PIER DETAIL - 7.9/B/8.1 - E.6



DETAIL 7/S600 — 1/2" = 1'-0"

BASE PLATE DETAIL - 9/E AND 9/B



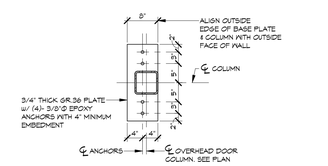
DETAIL 8/S600 — 1/2" = 1'-0"

BASEPLATE DETAIL 7.9/B/8.1 - E.6

METAL BUILDING FOUNDATION DESIGN LOAD TABLE

COLUMN	TOTAL (ASD) BASIS OF DESIGN LOAD (KIPS)			
	HORIZONTAL		VERTICAL	
	PARALLEL TO FACADE	PERP. TO FACADE	UPLIFT	DOWN
10/H	1	0	3	8
9.5/H	1.4	1.44	7	20
8.7/H	1.4	1.44	7	20
7.5/H	1	0	3	8
10/G	3	48	13	52
7.5/G	3	48	13	52
10/F	2	45	12	43
7.5/F	2	45	12	43
10/E.6	0	42	10	36
7.5/E.6	0	42	10	37
1/B	3	0	4	8
1/A.4	4	6	12	20
1/A.3	4	6	9	20
1/A	3	0.01	4	8
2/B	4	19	22	51
2/A	3	19	22	51
3/B	4	19	18	51
3/A	3	19	15	51
4/B	4	19	15	51
4/A	0.03	19	18	51
5/B	0.03	19	15	51
5/A	0.03	19	15	51
6/B	0.03	19	18	51
6/A	0.03	19	18	51
7/B	0.02	19	18	51
7/A	3	19	15	51
8/B	0.05	19	19	51
8/A	3	19	21	51
9/B	0	4	19	44
9/E	3	0	20	75
9/A	3	8	17	47
10/B	0	1	7	21
9/B	0	1	6	35
10/E	2	0	7	21
10/D	2	0	7	22
10/A	1	0	2	4

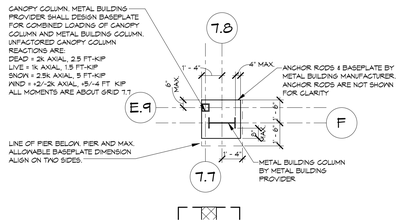
NOTES:
1. SPREAD FOOTING FOUNDATIONS SHOWN ON PLAN HAVE BEEN SIZED USING VERTICAL LOADS NOTED IN THE TABLE ONLY. FOUNDATIONS HAVE NOT BEEN DESIGNED FOR HORIZONTAL FORCES.
2. HAIRPINS AND SLAB ON GRADE HAVE BEEN DESIGNED FOR HORIZONTAL FORCES NOTED IN THE TABLE.
3. FINAL METAL BUILDING FORCES SHALL NOT EXCEED TABLE VALUES. IN THE EVENT THAT FORCES DO EXCEED TABLE VALUES, CONTRACTOR IS RESPONSIBLE FOR ALL ADDITIONAL COSTS, INCLUDING ENGINEERING AND INSTALLATION OF ALTERNATE FOUNDATIONS. CONTRACTOR SHALL RETAIN HIS OWN ENGINEER FOR THIS PURPOSE IF REQUIRED. SIGNED AND SEALED CALCULATIONS FROM THE CONTRACTOR'S ENGINEER FOR BOTH FOUNDATIONS AND HAIRPINS ARE REQUIRED TO BE SUBMITTED IN THE EVENT FINAL METAL BUILDING FORCES EXCEED THAT IN THE NOTED IN THE TABLE.
4. MAXIMUM PERMISSIBLE METAL BUILDING BASEPLATE SIZE IN PLAN IS 24"X24". TYPICAL. ATYPICAL COLUMN LAYOUTS MAY ALSO HAVE ADDITIONAL SIZE ALLOWANCES OR REQUIREMENTS PER DETAILS THIS SHEET. IF REQUIRED SIZE EXCEEDS 24"X24", CONTRACTOR IS RESPONSIBLE FOR COSTS OF PIER REDESIGN AND INCREASED PIER SIZES, INCLUSIVE OF CONSTRUCTION SCHEDULE IMPACTS. NOTE DETAILS THIS SHEET TAKE PRECEDENCE OVER 24"X24" MAXIMUM SIZE - IF DETAIL THIS SHEET REQUIRES A SMALLER SIZE, THE SMALLER SIZE SHALL BE USED.
5. HORIZONTAL FORCES GREATER THAN 10 KIPS TOTAL SHALL BE RESISTED BY SHEAR LUGS. CONTRACTOR SHALL MAKE PROVISION FOR COST OF DESIGN AND INSTALLATION OF SHEAR LUGS. DESIGN IS THE CONTRACTOR'S RESPONSIBILITY. IT IS ACCEPTABLE TO USE ANCHOR RODS TO RESIST SHEAR FORCES LESS THAN 10 KIPS IF CALCULATIONS VALIDATE THIS APPROACH.
6. ALL ANCHOR RODS SHALL BE DESIGNED TO FIT WITHIN PIER PLAN PROFILES PROVIDED. ANCHOR RODS SHALL PASS ALL ACI APPENDIX D CHECKS.



NOTES:
1. BOTTOM OF GROUT BELOW BASEPLATE TO ALIGN WITH TOP OF FINISHED FLOOR SLAB.
2. PROVIDE 20"X CMU WIDTH (12" NOMINAL) CONCRETE PIER BENEATH BASEPLATE TO FOUNDATION. REINFORCE W/ (6) - #6 VERTICAL & TWO SETS OF #3 @ 8" TIES.

DETAIL 9/S600 — 3/4" = 1'-0"

OVERHEAD DOOR BASEPLATE DETAIL EXTERIOR WALL



PLAN 10/S600 — 1/4" = 1'-0"

CANOPY BASEPLATE 7.7/E.9

MEZZANINE COLUMN REACTION SCHEDULE

COLUMN	UNFACTORED REACTIONS (KIPS)			
	DEAD	LIVE	WIND	SEISMIC
B/7.5	9	15	2	2
E/7.5	7	10	2	2
B/7.9	3	6	3	3
B/8.1	3	6	3	3
E/8.1	30	50	4	2
B/8.9	20	35	2	2
E/8.9	20	35	2	2
E.1/7.6	5	7	N/A	N/A

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

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STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

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AE Works Project Number: 13025

Drawing Title: COLUMN SCHEDULE

Approved: Project Director

Project Title: NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015 | Checked: S.L.S. | Drawn: M.T.H.

Project Number: #613-116

Building Number: #519

Drawing Number: S600

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

ARCHITECTURAL ABBREVIATIONS

	&	AND
A	A	AIR (CLINICAL)
	AAP	ALARM ANNUNCIATOR PANEL
	AB	ANCHOR BOLT
	ACFL	ACCESS
	ACOUS	ACOUSTICAL
	ACT	ACOUSTICAL CEILING TILE
	AD	AREA DRAIN
	ADD	ADDENDUM
	ADDL	ADDITIONAL
	ADJ	ADJUST/ ABLE
	ADJ	ADJACENT
	ADMIN	ADMINISTRATION
	AFF	ABOVE FINISH FLOOR
	AHU	AIR HANDLING UNIT
	AL	ALIGN
	ALT	ALTERNATE
	ALUM	ALUMINUM
	AM	ANESTHESIA MONITOR
	AMEND	AMENDMENT
	ANES	ANESTHESIOLOGY
	ANUN	ANNUNCIATOR
	AP	ACCESS PANEL
	APC	ARCHITECTURAL PRECAST CONCRETE
	APROX	APPROXIMATE
	ARCH	ARCHITECTURAL
	AUTO	AUTOMATIC
	AWT	ACOUSTICAL WALL TREATMENT
B	BA	BACTERIOLOGY
	BACT	BUILDING ACCESSORY\
	BASS	BASSINET
	BBD	BULLETIN BOARD
	BC	BRICK COURSES
	BD	BOARD
	BFE	BOTTOM FOOTING ELEVATION
	BG	BUMPER GUARD
	BIT	BITUMINOUS
	BKT	BRACKET
	BLDG	BUILDING
	BLKG	BLOCKING
	BLT	BORROWED LIGHT
	BLW	BELOW
	BM	BEAM
	BO	BY OWNER
	BOF	BY OWNER FUTURE
	BOT	BOTTOM
	BPC	BED PAN CABINET
	BPG	BLOOD PRESSURE GAUGE
	BR	BRICK
	BRG	BEARING
	BRL	BRICK LEDGE
	BSMT	BASEMENT
	BTWN	BETWEEN
	BUR	BUILT-UP ROOFING
C	C	CHANNEL
	C DISP	CUP DISPENSER
	CAB	CABINET
	CANTL	CANTILEVER
	CAP	CAPACITY
	CAT	CATEGORY
	CBD	CHALKBOARD
	CCT	CUBICLE CURTAIN TRACK
	CCTV	CLOSED CIRCUIT TELEVISION
	CD	COLLING DOOR
	CD	COLLING GRILLE
	CG	CORNER GUARD
	CH	COAT HOOK
	CHEM	CHEMISTRY
	CJT	CONTROL JOINT
	CL	CENTER LINE
	CL	CLASS
	CLG	CEILING
	CLR	CLEAR
	CM	CONSTRUCTION MANAGER
	CMU	CONCRETE MASONRY UNIT
	CO	CLEAN OUT
	CO	CASED OPENING
	CO2	CARBON DIOXIDE
	COL	COLUMN
	COMB	COMBINATION/-ED
	CONC	CONCRETE
	CONF	CONFERENCE
	CONN	CONNECT/-ED /-ION
	CONST	CONSTRUCTION
	CONT	CONTINUE/OUS
	CONTR	CONTRACTOR
	COORD	COORDINATE
	CORR	CORRIDOR
	CPT	CARPET
	CT	CERAMIC TILE
	CT	CAT SCAN
	CTR	CENTER
	CTSK	COUNTERSUNK
	CUH	CABINET UNIT HEATER
	CV	CARDIOVASCULAR
	CW	CURTAIN WALL
	CW	COLD WATER
	CYL	CYLINDER
	CYSTO	CYSTOSCOPY
D	D	DEPTH OR DEEP
	DEMO	DEMOLITION
	DEPR	DEPRESSION
	DEPT	DEPARTMENT
	DET	DETAIL/S
	DF	DRINKING FOUNTAIN
	DIA	DIAMETER
	DIAG	DIAGONAL
	DICT	DICTATION
	DIFF	DIFFUSER
	DIM	DIMENSION
	DIR	DIRECTOR
	DISP	DISPENSER
	DIST	DISTRIBUTION
	DIV	DIVISION
	DIW	DEIONIZED WATER
	DJT	DUMMY JOINT
	DN	DOWN
	DP	DEMOUNTABLE PARTITION
	DP	DATA PROCESSING
	DR	DOOR
	DR	DOCTOR
	DS	DOWNSPOUT
	DSW	DISTILLED WATER
	DW	DUMBWAITER
	DWG	DRAWING
	DWLS	DOWELS
E	E	EXISTING
	EC	ELECTRIC CABINET
	ECG	ELECTROCARDIOGRAPHY
	EEG	ELECTROENCEPHALOGRAPHY
	EENT	EYE EAR NOSE & THROAT
	EF	EXHAUST FAN
	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
	EJ	EXPANSION JOINT
	EL	ELEVATION
	ELEC	ELECTRICAL
	ELEV	ELEVATOR
	EMERG	EMERGENCY
	EMG	ELECTROMAYOGRAPHY
	ENCL	ENCLOSURE
	ENT	EAR NOSE THROAT
	ENTR	ENTRANCE
	EO	ELECTRICAL OUTLET
	EP	EXPLOSION PROOF
	EQ	EQUAL
	EQUIP	EQUIPMENT
	ES	END SECTION
	ETR	EXISTING TO REMAIN
	EWC	ELECTRIC WATER COOLER
	EXA	EXHAUST AIR
	EXC	EXCAVATE/-ED/-ION
	EXH	EXHAUST HOOD
	EXIST	EXISTING
	EXP	EXPANSION
	EXT	EXTERIOR
F	FA	FIRE ALARM
	FB	FIRE BLANKET
	FBR	FACE BRICK
	FD	FLOOR DRAIN
	FDN	FOUNDATION
	FDV	FIRE DEPARTMENT VALVE
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FGS	FOAM GASKET SEAL
	FH	FIRE HOSE
	FHC	FIRE HOSE CABINET
	FHP	FULL HEIGHT PARTITION
	FHV	FIRE HOSE VALVE
	FIN	FINISH
	FIXT	FIXTURE
	FL	FLOOR
	FL	FLOW LINE
	FLASH	FLASHING
	FLEX	FLEXIBLE
	FLG	FLANGE
	FLUOR	FLUORESCENT
	FLUORO	FLUOROSCOPY/FLUOROSCOPE
	FP	FIRE PROOFING
	FRMG	FRAMING
	FRS	FLUSHING RIM SINK
	FS	FULL SIZE
	FS	FLOOR SINK
	FSTOP	FIRESTOPPING
	FT	FOOT/FEET
	FTG	FOOTING
	FTR	FIN TUBE RADIATION
	FURR	FURRING
	FUT	FUTURE
	FV	FILM VIEWER
G	G	GAS
	GA	GAUGE
	GAL	GALLONS
	GALV	GALVANIZED
	GB	GRAB BAR
	GB	GRADE BEAM
	GC	GENERAL CONTRACTOR
	GEN	GENERAL
	GEN	GENERATOR
	GL	GLASS
	GMU	GLASS MASONRY UNIT
	GR	GRADE
	GYB	GYPSUM BOARD
	GYN	GYNECOLOGY
	GYPSHTG	GYPSUM SHEATHING
H	H	HIGH
	HB	HOSE BIB
	HD	HAND DRYER
	HDCP	HANDICAP
	HDR	HEADER
	HOW	HARDWARE
	HM	HOLLOW METAL
	HORIZ	HORIZONTAL
	HPT	HIGHPOINT
	HR	HANDRAIL
	HSKP	HOUSEKEEPING
	HT	HEIGHT
	HTR	HEATER
	HVAC	HEATING, VENTILATING, AIR CONDITIONING
	HW	HOT WATER
	HW	HEAD WALL
	HWD	HARDWOOD
I	IC	INTERCOM
	ICCU	INTENSIVE CARDIAC CARE UNIT
	ICU	INTENSIVE CARE UNIT
	LD	INSIDE DIAMETER
	IN	INCH
	INSUL	INSULATION
	INT	INTERIOR
	ISO	ISOLATION
	ISOLPP	ISOLATED POWER PANEL
	IV	INTRA VENOUS
J	JAN	JANITOR
	JB	JUNCTION BOX
	JST	JOIST
	JT	JOINT
K	KO	KNOCK OUT
L	L	L ANGLE
	L	LAVATORY
	LAV	LAVATORY
	LB	POUND
	LCD	LINEAR CEILING DIFFUSER
	LF	LINE FIGURED
	LIN	LINEAR
	KKR	LOCKER
	LLH	LONG LEG HORIZONTAL
	LLV	LONG LEG VERTICAL
	LMC	LINEAR METAL CEILING
	LOC	LOCATION OR LOCATE
	LPT	LOW POINT
	LS	LAWN SPRINKLING
	LT	LIGHT
	LTG	LIGHTING
	LVR	LOUVER
	LWC	LINEAR WOOD CEILING
M	M	MIDDLE
	MAN	MANUAL
	MATL	MATERIAL
	MAX	MAXIMUM
	MBD	MARKER BOARD
	MC	MEDICINE CABINET
	MCU	MODULAR COOLING UNIT
	MECH	MECHANICAL
	MED	MEDICAL/TION
	MEMB	MEMBRANE
	MET	METAL
	MEZZ	MEZZANINE
	MFR	MANUFACTURER
	MGA	MEDICAL GAS ALARM
	MH	MANHOLE
	MHC	MATERIAL HANDLING CONVEYOR
	MIN	MINIMUM
	MIR	MIRROR
	MISC	MISCELLANEOUS
	MD	MASONRY OPENING
	MONO	MONOLITHIC
	MPC	METAL PAN CEILING
	MPU	MULTI-PURPOSE UNIT
	MRI	MAGNETIC RESONANCE IMAGING
	MTD	MOUNTED
	MTL	METAL
	MTR	MOTOR
	MULL	MULLION
N	NA	NOT APPLICABLE
	NIC	NOT IN CONTRACT
	NO	NUMBER
	NOM	NOMINAL
	NRC	NOISE REDUCTION COEFFICIENT
	NT	NOTE
	NTS	NOT TO SCALE
O	O	OXYGEN
	OB	OBSTETRICS
	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFF	OFFICE
	OH	OVERHEAD
	OP	OPERABLE PARTITION
	OP	OUTPATIENT
	OPER	OPERATOR
	OPNG	OPENING
	OPP	OPPOSITE
	OR	OPERATING ROOM
	ORD	OVERFLOW ROOF DRAIN
	ORTHO	ORTHOPEDICS
	OT	OCCUPATIONAL THERAPY
P	PAR	POST ANESTHESIA RECOVERY
	PART	PARTITION
	PB	PUSH BUTTON
	PCD	PAPER CUP DISPENSER
	PED	PEDESTAL
	PEDS	PEDIATRICS
	PHARM	PHARMACY
	PHYS	PHYSICAL
	PHYSICS	PHYSIOLOGICIAL
	PICU	PEDIATRIC INTENSIVE CARE UNIT
	PL	PLATE
	PL	PROPERTY LINE
	PLAM	PLASTIC LAMINATE
	PLBG	PLUMBING
	PLS	PLASTER
	PNL	PANEL
	PR	PAIR
	PRELIM	PRELIMINARY
	PREP	PREPARATION
	PRES	PLASTIC RESIN
	PRESS	PRESSURE
	PRIM	PRIMARY
	PROC	PROCEDURE
	PROJ	PROJECTION
	PRV	POWER ROOF VENTILATOR
	PSYCH	PSYCHOLOGY
	PT	PHYSICAL THERAPY
	PT	PAINT
	PTC	PNEUMATIC TUBE STATION
	PTR	PAPER TOWEL CABINET
	PTS	PRINTER
	PULMO	PULMONARY
	PVC	POLYVINYL CHLORIDE
Q	QT	QUARRY TILE
R	R	RADIUS
	RA	RETURN AIR
	RAD	RADIATION/OLOGY
	RB	RESILIENT BASE
	RD	ROOF DRAIN
	RE	RELOCATE EXISTING
	REC	RECESSED
	RECP	RECEPTION
	REF	REFERENCE
	REFR	REFRIGERATOR
	REG	REGISTER
	REHAB	REHABILITATION
	REINF	REINFORCE/-ED/-ING
	REM	REMOVE
	REQD	REQUIRED
	RET	RETAINING
	REV	REVERSE
	REV	REVISE
	RF	RESILIENT FLOOR
	RF	RADIO FREQUENCY
	RFI	REQUEST FOR INFORMATION
	RH	ROOF HATCH
	RO	ROUGH OPENING
	RWCS	RAIN WATER CONDUCTOR
S	SAN	SANITARY
	SD	SMOKE DAMPER
	SDISP	SOAP DISPENSER
	SECY	SECRETARY
	SF	SQUARE FOOT
	SH	SHOWER
	SHD	SHOWER HEAD
	SHTG	SHEATHING
	SIM	SIMILAR
	SL	SEALER
	SLV	SLEEVE
	SM	SURFACE MOUNTED
	SNC	SANITARY NAPKIN CABINET
	SND	SANITARY NAPKIN DISPOSER
	SP	STANDPIPE
	SPC	SPECIMEN PASS THROUGH CABINET
	SPEC	SPECIFICATIONS
	SR	SERVICE RECEPTOR
	SS	SERVICE SINK
	SSS	SURGEONS SCRUB SINK
	SST	STAINLESS STEEL
	ST	STONE TILE
	STA	STATION
	STC	SOUND TRANSMISSION
	STD	STANDARD
	STER	STERILIZER
	STL	STEEL
	STOR	STORAGE
	STRUCT	STRUCTURAL
	STS	STEEL STRUCTURE
	SUPV	SUPERVISOR
	SURG	SURGERY/ICAL
	SUSP	SUSPENDED
	SW	SWITCH
	SYM	SYMMETRICALTOP
T	T	TOP
	TAN	TANGENT
	TB	TACK BOARD
	TC	TIME CLOCK
	TCAB	TOWEL CABINET
	TDISP	TISSUE DISPENSER
	TEL	TELEPHONE
	TEMP	TEMPERATURE
	TER	TERRAZZO
	TG	TONGUE & GROOVE
	THER	THERAPIST/Y
	THRES	THRESHOLD
	TPH	TOILET PAPER HOLDER
	TRANSF	TRANSFORMER
	TS	TUBE SECTION
	TSC	TOILET SEAT COVER DISPENSER
	TV	TELEVISION
	TYP	TYPICAL
U	U	URINAL
	UC	UNDER COUNTER
	UFO	UNDER FLOOR DUCT
	UG	UNDERGROUND
	UH	UNIT HEATER
	UNFIN	UNFINISHED
	UNO	UNLESS NOTED OTHERWISE
	US	UTILITY SHELF
	UTIL	UTILITY
V	V	VACUUM
	VB	VACUUM BREAKER
	VC	VALVE CABINET
	VCO	VACUUM CLEANING OUTLET
	VENT	VENTILATION
	VERT	VERTICAL
	VIF	VERIFY IN FIELD
	VR	VAPOR RETARDER
	VTR	VENT THROUGH ROOF
W	W	WIDTH/WIDE
	W	WIDE FLANGE
	W/	WITH
	W/0	WITHOUT
	WC	WATER CLOSET
	WC	WALL COVERING
	WD	WOOD
	WE	WASHER EXTRACTOR
	WDW	WINDOW
	WG	WALL GUARD
	WH	WALL HYDRANT
	WHCH	WHEELCHAIR
	WHTR	WATER HEATER
	WP	WATERPROOF
	WPS	WALL PROTECTION SYSTEM
	WR	WASTE RECEPTACLE
	WS	WEATHERSTRIP
	WS	WASHER STERILIZER
	WSCT	WAINSCOT
	WT	WINDOW TREATMENT
	WT	WEIGHT
	WW	WOOD WINDOW
	WWF	WELDED WIRE FABRIC
Z	ZVB	ZONE VALVE BOX
	ZBC	ZONE VALVE CABINET

SYMBOLS LEGEND :

DESCRIPTION	SYMBOL
DRAWING BLOCK TITLE MARK	ITEM NUMBER / LETTER; ITEM TITLE/ DESCRIPTION; 1; DRAWING BLOCK TITLE; 1/4" = 1'-0"; ITEM SCALE
WALL SECTION MARK	SECTION IDENTIFIER; 1; A310; SHEET NUMBER
BUILDING SECTION MARK	SECTION IDENTIFIER; 1; A302; SHEET NUMBER
DETAIL INDICATOR	DETAIL IDENTIFIER; 1; A5.01; SHEET NUMBER; LEADER; DETAIL BOUNDARY
EXTERIOR ELEVATION MARK	1; ELEVATION IDENTIFIER; A701; SHEET NUMBER
INTERIOR ELEVATION MARK (SINGLE VIEW)	1; ELEVATION IDENTIFIER; A701; SHEET NUMBER
INTERIOR ELEVATION MARK (MULTIPLE VIEWS)	4; ELEVATION IDENTIFIER; 3; A701; 1; 2; SHEET NUMBER
NORTH ARROW	PROJECT NORTH; TRUE NORTH
ROOM NAME INDICATOR	OFFICE; ROOM NAME; 102; ROOM NUMBER
COLUMN GRID IDENTIFICATION	1; GRID LINE IDENTIFICATION; A; COLUMN GRID LINE
DOOR IDENTIFICATION	A101A; DOOR NUMBER
WINDOW IDENTIFICATION	W1; WINDOW/ CURTAINWALL TYPE
WALL TYPE IDENTIFICATION	A; WALL TYPE INDICATOR; WALL
KEYNOTE IDENTIFICATION	3.01; KEYNOTE NUMBER
REVISION IDENTIFICATION	REVISION CLOUD; 1; REVISION NUMBER
DATUM POINT IDENTIFICATION	10'-0"; ELEVATION RELATIVE TO FIRST FLOOR TOP OF SLAB

MATERIALS LEGEND :

- ACOUSTIC TILE
- BATT INSULATION
- BRICK
- CONCRETE
- CONCRETE BLOCK
- EARTH - COMPACTED FILL
- GRAVEL, CRUSHED STONE
- GYPSUM BOARD, PLASTER
- PLYWOOD
- RIGID INSULATION
- SAND, GROUT, LIMESTONE
- STEEL
- TAPERED INSULATION
- WOOD, FINISH
- WOOD, FRAMING THROUGH MEMBER
- WOOD, FRAMING INTERRUPTED MEMBER

GENERAL PROJECT NOTES:

1. ALL CONSTRUCTION WORK SHALL CONFORM WITH THE APPLICABLE CODES AND ORDINANCES OF THE LOCAL JURISDICTION, THE STATE OF WEST VIRGINIA, AND THE CURRENT ADOPTED VERSION OF THE INTERNATIONAL BUILDING CODE FAMILY. THE CONTRACTOR SHALL POST NOTICES AND COMPLY WITH THE GOVERNING LAWS OF THE JURISDICTION.

2. INSTALLATIONS PERFORMED IN CONNECTION WITH THESE DRAWINGS SHALL BE IN STRICT COMPLIANCE TO THE MOST RECENT NFPA EDITION.

3. THE SITE WORK SHALL BE PROPERLY SUPERVISED BY THE CONTRACTOR'S JOB SITE SUPERINTENDENT. SUFFICIENT PERSONNEL SHALL BE EMPLOYED TO COMPLETE THE WORK WITHIN THE CONTRACTED TIME. PERSONNEL SHALL BE SKILLED IN THE TASK ASSIGNED.

4. THE CONTRACTOR SHALL, AT ALL TIMES, MAINTAIN ADEQUATE PROTECTION TO SAFEGUARD THE PUBLIC AND ALL PERSONS ENGAGED IN THE PERFORMANCE OF THE WORK.

5. THE DRAWINGS REFLECT CONDITIONS AS CAN BE INFERRED FROM VISIBLE CONDITIONS, OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER, BUT CANNOT BE GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL GRADES, LINES, LEVELS AND DIMENSIONS INDICATED ON THE DRAWINGS AND SHALL REPORT ALL INCONSISTENCIES TO THE ARCHITECT PRIOR TO THE EXECUTION OF THE WORK. RECHECK ALL DIMENSIONS PRIOR TO ORDERING MANUFACTURED AND/OR FABRICATED ITEMS.

6. PLAN DIMENSIONS, UNLESS NOTED OTHERWISE, ARE TO THE FACE OF THE WALL FINISH OR CENTERLINE OF COLUMN.

7. ALL INDICATIONS OF MASONRY ARE SHOWN IN ACTUAL DIMENSIONS (NOT NOMINAL), UNLESS NOTED OTHERWISE.

8. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PROTECTION AND SAFEKEEPING OF PRODUCTS PURCHASED FOR THIS PRODUCT AND STORED ON THE PROJECT SITE. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ON PREFERRED LOCATIONS FOR STORED MATERIALS ON THE PROJECT SITE, IF ALLOWED AS PART OF THE REQUIREMENTS OF THIS PROJECT.

9. THE CONTRACTOR SHALL MAINTAIN AREAS UNDER THE CONTRACTOR'S CONTROL TO BE FREE OF WASTE MATERIALS, DEBRIS, AND RUBBISH. CONTAINERS FOR DEPOSIT OF DEBRIS AND RUBBISH SHALL BE PROVIDED BY THE CONTRACTOR. COORDINATE LOCATION OF CONTAINERS WITH THE OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT. REMOVE AND DISPOSE OF DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH APPLICABLE CODES AND/OR SPECIFICATIONS.

10. EXTRANEOUS MATERIALS SHALL BE PERIODICALLY REMOVED, AND, AT THE CONCLUSION OF THE PROJECT. ALL UNUSED TOPSOIL SHALL BE STOCKPILED ON THE SITE FOR THE OWNER'S USE.

11. INDIVIDUAL CONTRACTOR'S SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL FIRESAFING/FIRESTOPPING MATERIALS AT ALL THROUGH-WALL AND THROUGH-CEILING PENETRATIONS AS REQUIRED FOR THE CONSTRUCTION WORK OF THEIR INDIVIDUAL CONTRACT AND TO MAINTAIN FIRE RATINGS OF FLOORS AND WALLS. MATERIALS AND INSTALLATION DETAILS SHALL CONFORM TO UNDERWRITER LABORATORIES LISTING FOR RATED ASSEMBLIES.

12. ALL WOOD FRAMING AND SHEATHING SHALL BE FIRE RETARDANT TREATED AS REQUIRED BY THE BUILDING CODE CLASSIFICATION OF 'NONCOMBUSTIBLE'.

13. DO NOT SCALE DRAWINGS. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DEVIATIONS OR DISCREPANCIES FOUND & RECEIVE DIRECTION BEFORE PROCEEDING.

14. REMOVE AND DISPOSE OF DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH THE APPLICABLE CODES AND/OR SPECIFICATIONS.

15. NO CONSTRUCTION SHALL START UNTIL ALL SUBMITTALS HAVE BEEN APPROVED BY THE VA.

16. ASBESTOS AND LEAD ARE NOT ANTICIPATED TO EXIST IN THE WORK AREA. HOWEVER, IF ASBESTOS-CONTAINING MATERIAL IS DISCOVERED OR SUSPECTED, STOP WORK IN THE AREA IMMEDIATELY AND CONTACT THE CONTRACTING OFFICER.

17. ALL REVISIONS TO THE DRAWINGS MUST PROCEED THROUGH THE OWNER. ARCHITECT/CONTRACTOR REVISIONS MAY BE CONSIDERED INVALID.

18. ALL EXPOSED GYPSUM WALL BOARD EDGES TO HAVE METAL EDGE TRIM.

19. THE CONTRACTOR IS RESPONSIBLE FOR COMPARING AND COORDINATING ALL DRAWINGS FOR PROPER FIT AND ATTACHMENT OF ALL PARTS. DETAILS NOT SHOWN OR CALLED DESCRIBED IN THESE NOTES SHALL BE CONSTRUCTED TO SAME SIZE AND CHARACTER AS FOR SIMILAR CONDITIONS WHICH ARE SHOWN, SPECIFIED, OR COMMONLY CONSTRUCTED IN THE INDUSTRY.

20. NO STRUCTURAL MEMBER SHALL BE OMITTED, NOTCHED, CUT, BLOCKED OUT, OR RELOCATED WITHOUT PRIOR APPROVAL BY THE ARCHITECT OR ENGINEER.

21. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION.

22. ALL TEMPORARY BRACING AND SHORING SHALL BE DESIGNED TO SUSTAIN ALL CONSTRUCTION LOADS, SOIL PRESSURE, LATERAL AND OTHER LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED.

23. CONTRACTOR SHALL COORDINATE LOCATIONS OF LIGHT FIXTURES, SPRINKLER HEADS, REGISTERS, ETC. WITH THE ELECTRICAL, HVAC, PLUMBING AND SPRINKLER SUB-CONTRACTORS.

24. ALL SPRINKLER HEADS, DIFFUSERS AND REGISTERS SHALL BE CENTERED WITH SUSPENDED ACOUSTICAL PANELS, UNLESS NOTED OTHERWISE ON DRAWINGS.

25. CONTRACTOR SHALL FILL ALL VOIDS IN MASONRY AND CONCRETE CREATED AROUND ALL PENETRATIONS WITH CONSTRUCTION TO MATCH SURROUNDING CONDITIONS.

26. CONTRACTOR IS RESPONSIBLE FOR PAINTING ALL EXPOSED STEEL, DECKING, PIPING, CONDUIT, SPRINKLER PIPING AND DUCTS WHICH ARE EXPOSED IN AREAS WITH NO CEILINGS AND SCHEDULED TO RECEIVE PAINT FINISH AS INDICATED ON THE FINISH SCHEDULE.

FULLY SPRINKLERED
CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
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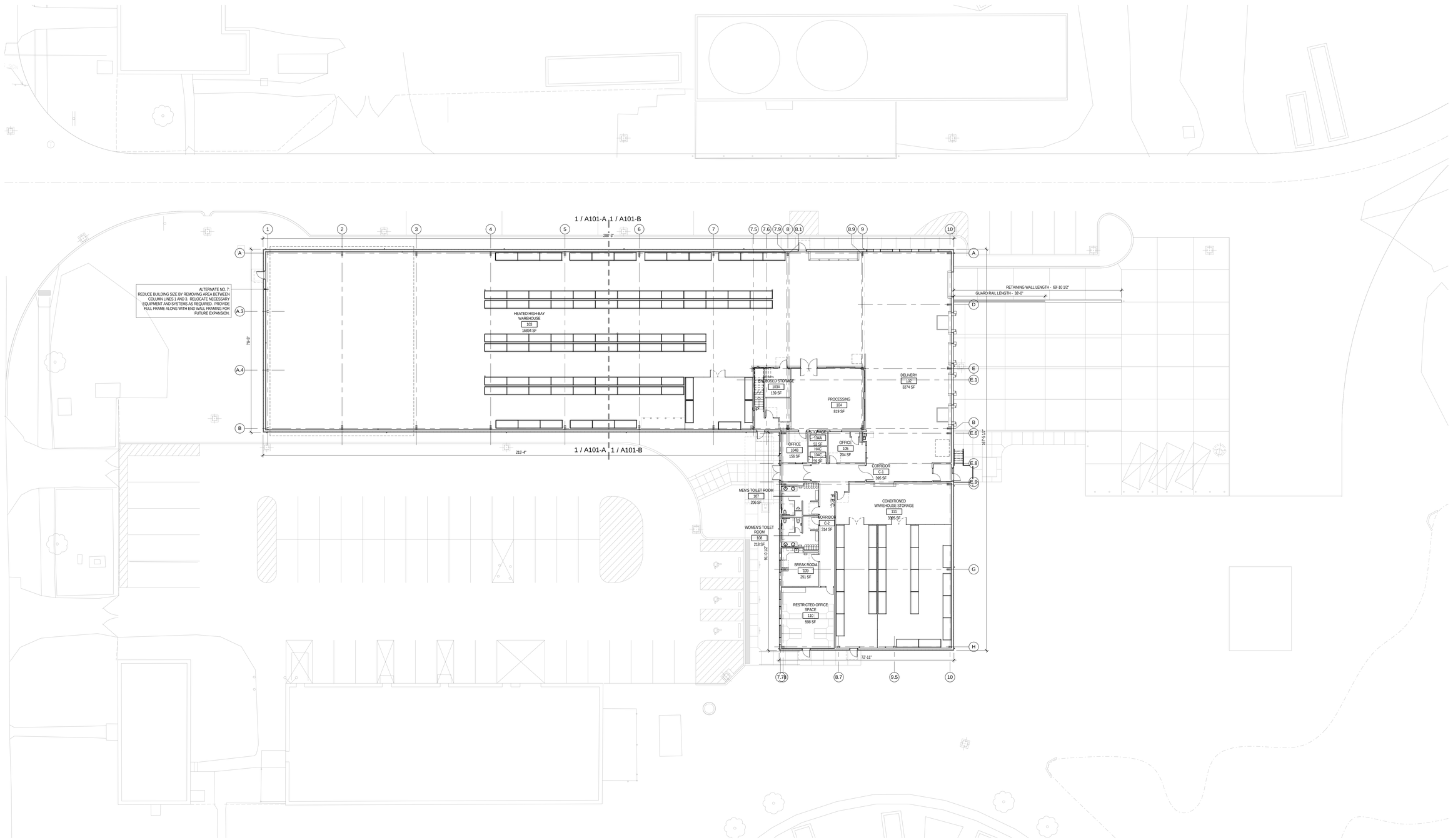
AE Works Project Number: 13025

Drawing Title	ARCHITECTURAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
Project Title:	NEW WAREHOUSE
Project Number	#613-116
Building Number	#519
Approved: Project Director	
Location:	510 BUTLER AVENUE, MARTINSBURG, WV 25405
Date:	06/24/2015
Checked:	JD
Drawn:	PR
Drawing Number	A001

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 OVERALL FLOOR PLAN
1/16" = 1'-0"

PROJECT NORTH
TRUE NORTH

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date

CONSULTANTS:

HOPE FURRER ASSOCIATES
STRUCTURAL ENGINEERING

CLARK SURVEYING + ENGINEERING
CIVIL ENGINEERING

MOORE DESIGN ASSOCIATES
LANDSCAPE ARCHITECTURE

SEAL

REGISTERED ARCHITECT
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AE Works Project Number: 13025

Drawing Title
FIRST FLOOR PLAN - OVERALL

Approved: Project Director

Project Title:
NEW WAREHOUSE

Location: 510 BUTLER AVENUE, MARTINSBURG, WV 25405

Date: 06/24/2015
Checked: JD
Drawn: PR

Project Number #613-116

Building Number #519

Drawing Number A100

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231