THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

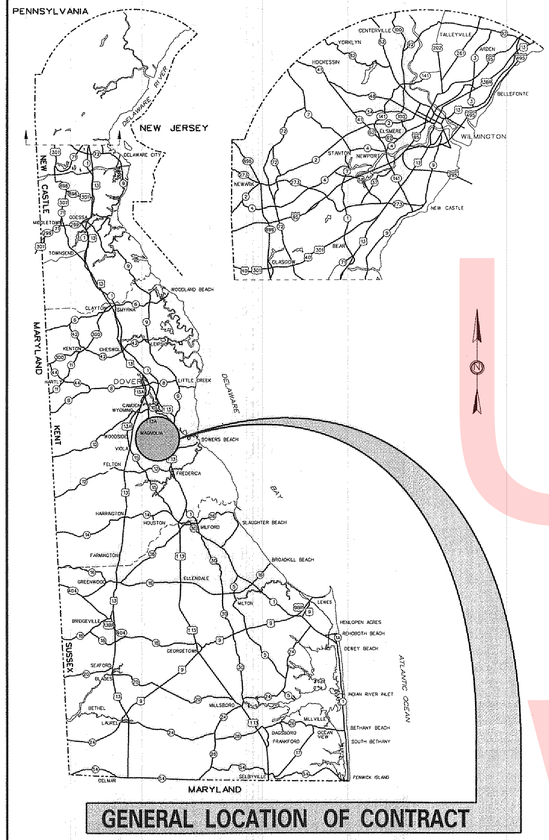
CONSTRUCTION PLANS FOR:

MAGNOLIA TRUCK WASH

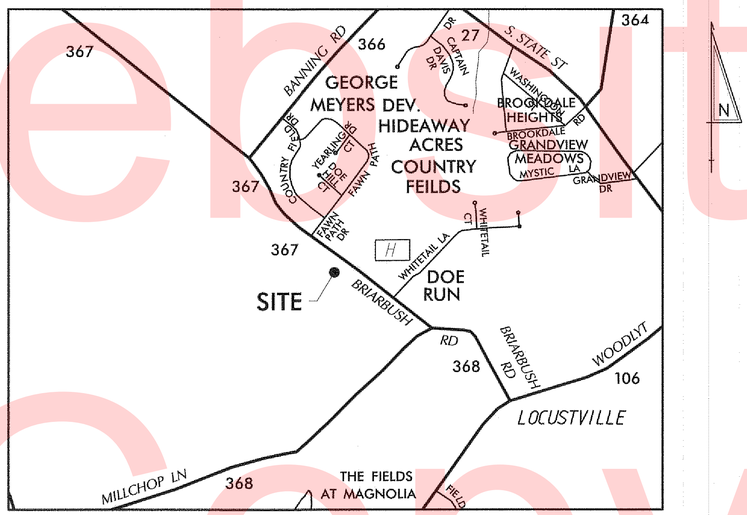
CONTRACT NUMBER: T201680102

FEDERAL AID PROJECT NUMBER: N/A

COUNTY: KENT M.R. #: N/A



GENERAL LOCATION OF CONTRACT



LOCATION MAP

SCALE: N.T.S.

DESIGN DESIGNATION

FUNCTIONAL CLASS: N/A		D.H.V. PROJECTED: N/A	YEAR: N/A
TYPE OF CONSTRUCTION: N/A		DESIGN SPEED: N/A	
A.A.D.T. CURRENT: N/A	YEAR: N/A	TRUCKS: N/A	
A.A.D.T. PROJECTED: N/A	YEAR: N/A	DIRECTION OF DISTRIBUTION: N/A	

INDEX OF SHEETS

TOTAL SHEETS: 21

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME

CONSTRUCTION SPECIFICATIONS

CONSTRUCTION ON THIS SITE SHALL BE IN CONFORMANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED AUGUST 2001, WITH SPECIFICATION SECTIONS AS INDICATED WITHIN THE PROJECT NOTES.

T-001

PREPARED BY
THE CONSULTING FIRM OF

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
121 Continental Drive, Suite 300 Newark, DE 19713

DAVID M. CHANDLER No. 13501 REGISTERED PROFESSIONAL ENGINEER DELAWARE
SEAL

RECOMMENDED 05/06/2016
DATE

RECOMMENDED

MAINTENANCE ENGINEER 5/19/16 DATE

DISTRICT ENGINEER 5/17/16 DATE

STATEWIDE SUPPORT SERVICES ENGINEER 5/17/16 DATE

ASSISTANT DIRECTOR STATEWIDE SUPPORT SERVICES 5/18/16 DATE

DIRECTOR, MAINTENANCE & OPERATIONS 5/19/16 DATE

RECOMMENDED
STORMWATER ENGINEER
DATE _____ SEAL

RECOMMENDED AS TO PROCESS
CHIEF ENGINEER
DATE 5/18/2016 SEAL

RECOMMENDED
BRIDGE DESIGN ENGINEER
DATE _____ SEAL

RECOMMENDED
GROUP ENGINEER, PROJECT DEVELOPMENT
DATE _____ SEAL

RECOMMENDED
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS
DATE _____ SEAL

APPROVED
CHIEF ENGINEER
DATE _____ SEAL

PLOTTED BY: MONTES DATE: 5/6/2016 FILE LOCATION: Q:\SMD\120995_017_MAGNOLIA_MAINTENANCE\CADD\TC.DGN [SHEET: 01]

ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
ADT	Average Daily Traffic
AHD	Ahead
APPROX.	Approximate
B. or B/. L.	Baseline
BK	Back / Book
BIT.	Bituminous
B.C.	Bituminous Concrete
B.M.	Bench Mark
BOT.	Bottom
C.C.	Center of Curve
CAT.V.	Cable Television
C.B.R.	California Bearing Ratio
C. or C/. L.	Centerline
CL.	Class
CLF.	Chainlink Fence
CMP.	Corrugated Metal Pipe
C.O.	Cleanout
COMB.	Combination
CONC.	Concrete
CONSTR.	Construction
COR.	Corner
CORR.	Correction
DC.	Degree of Curve
D.H.V.	Design Hourly Volume
D.I.	Drop Inlet
DIA.	Diameter
D.O.	Double Opening
E.	East
E.	Electric
E.	External Distance
EA.	Each
E.B.	Eastbound
ELEV.	Elevation
E.R.C.C.P.	Elliptical Reinforced Cement Concrete Pipe
ES.	End Section
EX. or EXIST.	Existing
F.T.	Feet
F.F.	Finshed Floor
F. or F.L.	Flowline
F.B.D.	Flat Bottom Ditch
F.H.	Fire Hydrant
FWD.	Forward
G.	Gas
G.V.	Gas Valve
H.B.	Handbox
H.D.P.	High Density Polyetheylene
HDWL.	Headwall
H.E.R.C.P.	Horizontal Ellipitical Reinforced Concrete Pipe
HMA	Hot Mix Asphalt
HP.	High Point
IN.	Inch
I.S.T.	Inlet Sediment Trap
INV.	Invert
J.B.	Junction Box
K.	K Inlet
L.	Length
L.F.	Linear Feet
L.L.	Liquid Limit
LOD.	Limit of Disturbance
LP.	Low Point
L.P.	Light Pole
LT.	Left
MAC.	Macadam
M.C.	Moisture Content
MAX.	Maximum
M.D.D.	Maximum Dry Content
MOD.	Modified
MIN.	Minimum
MUTCD	Manual of Uniform Traffic Control Devices
N.	North
N.B.	Northbound
N.E.	Northeast
N.P.	Non-Plastic
O.C.	On Center
OHE	Overhead Electric
O.M.	Optimum Moisture
PAV.T.	Pavement
P.C.	Point of Curvature
P.C.C.	Point of Compound Curvature
P/C	Point of Crown
P/GE	Profile Grade Elevation
P.G.E.	Profile Ground Elevation
P.G.L.	Profile Grade Line
P/GL	Profile Ground Line
P/R	Point of Rotation
P.I.	Plasticity Index
P.I.	Point of Intersection
P.O.C.	Point On Curve
P.O.T.	Point On Tangent
PROP.	Proposed
P.R.C.	Point of Reverse Curve
P.T.	Point
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curve
P.V.C.	Polyvinyl Chloride
P.V.I.	Point of Vertical Intersection
P.V.R.C.	Point of Vertical Reverse Curve
P.V.T.	Point of Vertical Tangency
R.	Radius
R.F.	Rock Fragments
R.T.	Right
R.W. or R/. W.	Right of Way
R.C.P.	Reinforced Cement Pipe
R.C.C.P.	Reinforced Cement Concrete Pipe
R.Q.D.	Rock Quality Designation
R.M.	Rootmat
RMP.	Raised Pavement Marking
S.	South
SAN.	Sanitary Sewer
SB. or S/. B.	Southbound
S.D.	Storm Drain
S.D.D.	Surface Drain Ditch
S/E.	Super Elevation
SF.	Silt Fence
S.F.	Square Feet
SHT.	Sheet
S.P.P.	Structural Plate Pipe
S.P.T.	Standard Penetration Testing
SSD.	Stopping Sight Distance
SSF.	Super Silt Fence
STD.	Standard
STA.	Station
SO.	Single Opening
S.Y.	Square Yards
SWM.	Stormwater Management
T.	Tangent
T.	Telephone
T.C.	Top of Cover
T.G.	Top of Grate
T. or TL.	Traverse Line
T.M.	Top of Manhole
TRAV.	Traverse
TS.	Temporary Swale
T.S.	Top of Slab
T.S.	Topsoil
TYP.	Typical
U.D.	Under Drain
U.G.	Underground
U.P.	Utility Pole
U.S.D.A.	United States Department of Agriculture
V.C.L.	Vertical Clearance
V.C.L.	Vertical Curve Length
W.	Water
W.	West
W.B.	Westbound
WB.	Wetland Buffer
W.M.	Water Meter
W.S.	Wrapped Steel
WUS.	Waters of the United States
W.V.	Water Valve

CONVENTIONAL SIGNS

STATE, COUNTY OR CITY LINES

RIGHT OF WAY LINE

BASE OR SURVEY LINE

LIMIT OF DISTURBANCE

DRAINAGE AREA BOUNDARY

FENCE

FENCE REMOVAL

EXISTING CURB & GUTTER

PROPOSED CURB & GUTTER

TREE

TREE REMOVAL

UTILITY POLE

EXISTING SIGN

LIGHT POLE

ELECTRICAL HAND BOX - SIGNALS — H.B.

FIRE HYDRANT — F.H.

FULL DEPTH PAVEMENT REMOVAL

NEW FULL DEPTH HMA PAVEMENT

CONCRETE

PROPOSED CULVERT

EXISTING CULVERT

STORM DRAIN INLET

STORM DRAIN MANHOLE

WATERS OF THE US — WUS

WETLANDS

WETLANDS BUFFER — B — B

EXIST. GROUND ELEVATION (P./G.E.) — DATUM LINE 173.6

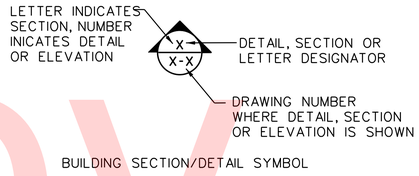
PROP. GRADE ELEVATION (P.G.E.) — DATUM LINE 20.22

TEST PIT — TP-4

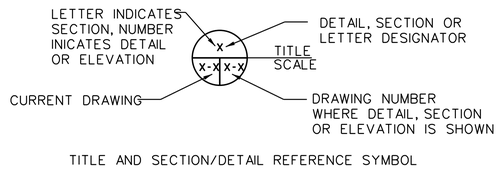
SOIL BORING — SB-5

GENERAL NOTES

1. *THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.*
2. *HORIZONTAL CONTROL: THIS PROJECT IS ORIENTED TO CONFORM TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NAD 83/91.*
3. *VERTICAL CONTROL: THE LOCATION AND ELEVATION OF BENCH MARKS ARE SHOWN ON THE PLANS. ALL ELEVATIONS ARE IN FEET AND ARE BASED ON THE U.S. COAST AND GEODETIC SURVEY MEAN SEA LEVEL DATUM OF 1988 (NAVD 88).*
4. *PIPE CULVERTS: THE LOCATION AND LENGTH OF PIPES SHALL BE VERIFIED BY THE CONTRACTOR AT ANY DRAINAGE STRUCTURES BEFORE ORDERING.*
5. *MATERIALS SALVAGED: MATERIAL SALVAGED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS.*
6. *UTILITIES: THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE.*
7. *THE CONTRACTOR MUST PROTECT IN PLACE ALL ACTIVE UNDERGROUND UTILITIES UNLESS OTHER TREATMENT IS CALLED FOR.*
8. *INVERT ELEVATIONS: ALL INVERT ELEVATIONS ARE APPROXIMATE AND MAY BE VARIED TO SUIT FIELD CONDITIONS AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR SHALL VERIFY ALL PROPOSED INLET AND MANHOLE LOCATIONS AND EXISTING UTILITY CROSSING ELEVATIONS PRIOR TO FABRICATION OF PRECAST DRAINAGE STRUCTURES. ALL CONFLICTS SHALL BE REPORTED TO THE ENGINEER.*
9. *STAGING AREAS - PROPER EROSION AND SEDIMENT CONTROL MEASURES AS DETERMINED BY THE ENGINEER SHALL BE INSTALLED IN ALL STAGING AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE CONTRACT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDED AND MULCHED IN ACCORDANCE WITH DELAWARE STANDARD SPECIFICATIONS 732, 734 AND 735, FOR TOPSOIL, SEED AND MULCH RESPECTIVELY, TO THE SATISFACTION OF THE ENGINEER. THE SEED SHALL ADHERE TO THE SPECIFICATIONS OF SECTION 734 FOR PERMANENT GRASS SEEDING - DRY GROUND. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH REESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.*
10. *ELECTRONIC PROJECT FILES WILL NOT BE MADE AVAILABLE TO THE CONTRACTOR*
11. *THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.*
12. *THE DISTURBED AREA FOR THIS PROJECT IS .80 ACRES.*
13. *THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONSTRUCTION SITE POLLUTION PREVENTION SPECIFICATIONS AS DETAILED IN SECTION 3.6 OF THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK". ALL COSTS ASSOCIATED WITH ADHERING TO THE STANDARDS SHALL BE INCIDENTAL TO THE OVERALL CONTRACT COSTS.*
14. *THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONSTRUCTION SITE POLLUTION PREVENTION SPECIFICATIONS AS DETAILED IN SECTION 3.6 OF THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK". ALL COSTS ASSOCIATED WITH ADHERING TO THE STANDARDS SHALL BE INCIDENTAL TO THE OVERALL CONTRACT COSTS.*



BUILDING SECTION/DETAIL SYMBOL



TITLE AND SECTION/DETAIL REFERENCE SYMBOL

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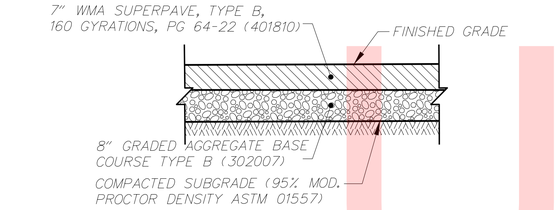
5/11/2016

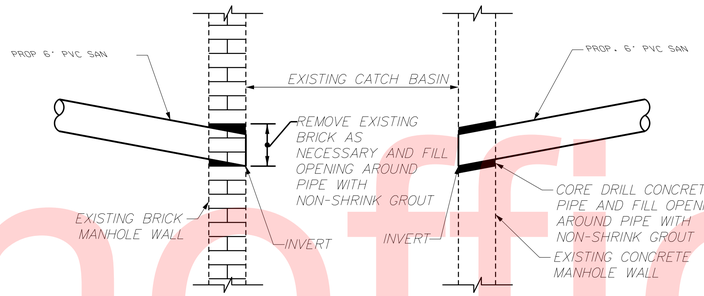
C–001

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102 / COUNTY KENT	BRIDGE NO. N/A / DESIGNED BY: WES / CHECKED BY: RJM
GENERAL NOTES AND ABBREVIATIONS	SHEET NO. 2 / TOTAL SHTS. 39				



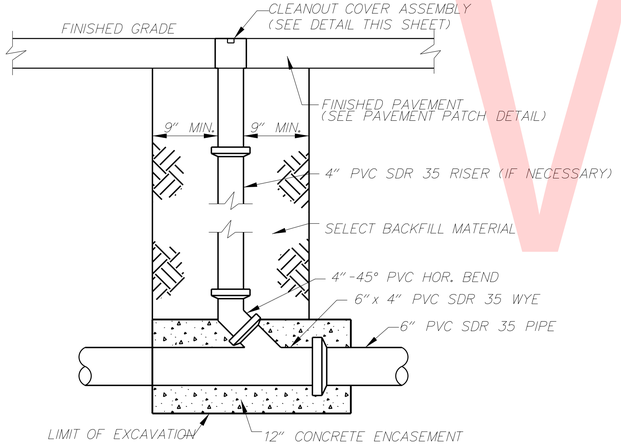
1 C-002 C-002 FULL-DEPTH ASPHALT PAVEMENT DETAIL

N.T.S.



2 C-002 C-002 CONNECTION TO EXISTING BRICK OR CONCRETE CATCH BASIN DETAIL

N.T.S.



3 C-002 C-002 ROOF DRAIN CLEANOUT DETAIL - INLINE

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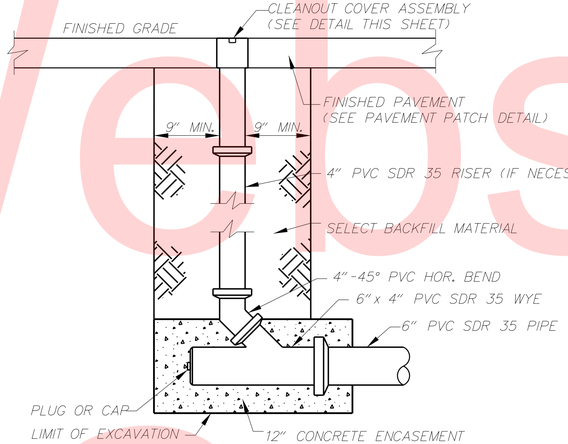
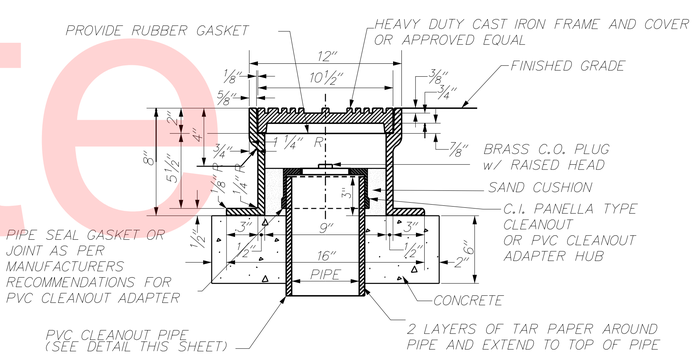


4 C-002 C-002 ROOF DRAIN CLEANOUT DETAIL - AT BEND

N.T.S.



5 C-002 C-002 CLEANOUT COVER ASSEMBLY

N.T.S.

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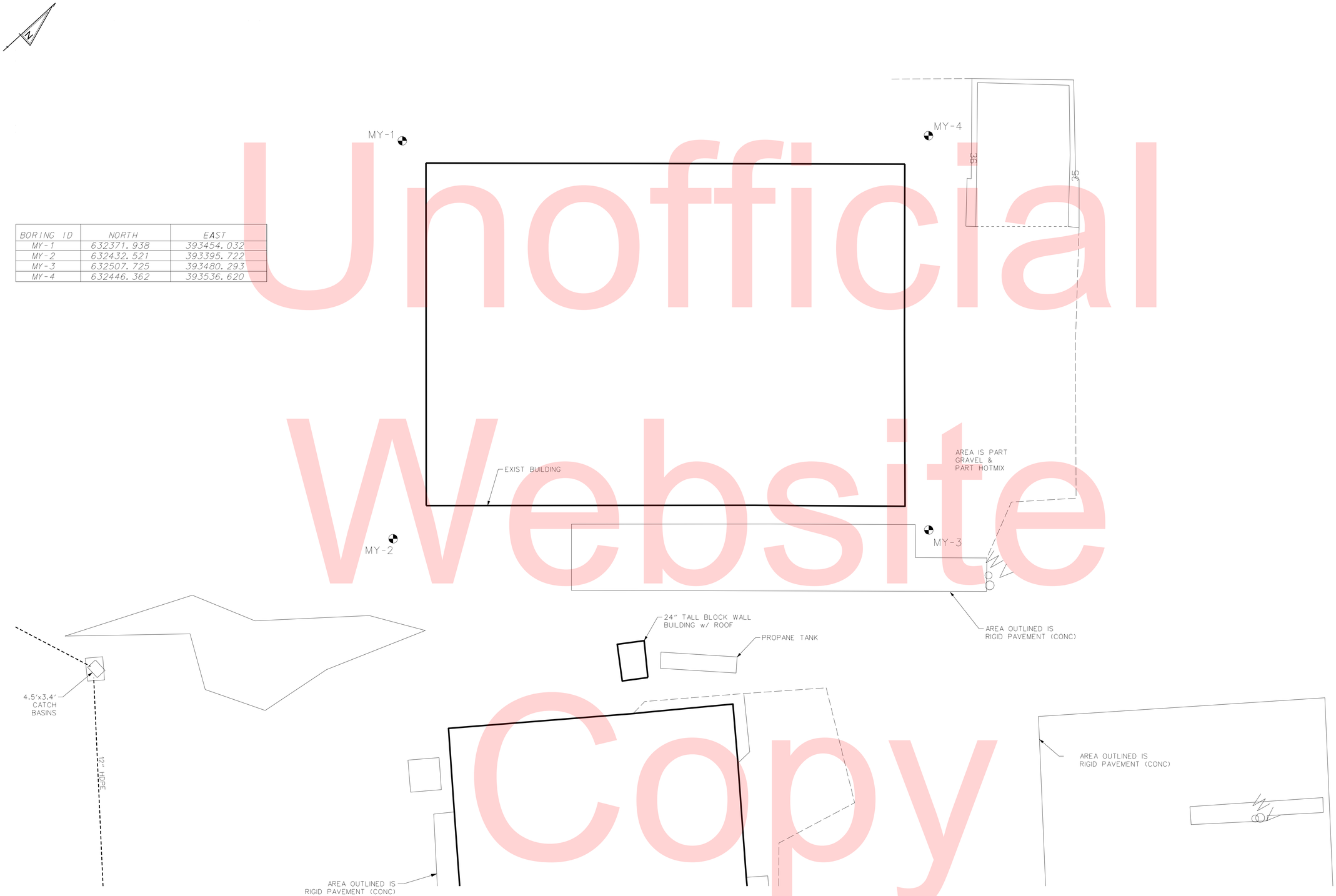
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	SITE DETAILS	SHEET NO. 3
				COUNTY KENT	DESIGNED BY: WES		TOTAL SHTS. 39
					CHECKED BY: RJM		

BORING ID	NORTH	EAST
MY-1	632371.938	393454.032
MY-2	632432.521	393395.722
MY-3	632507.725	393480.293
MY-4	632446.362	393536.620



C–101

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5/11/2016

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	SOIL BORING PLAN	SHEET NO. 4
				COUNTY KENT	DESIGNED BY: WES		TOTAL SHTS. C-101
					CHECKED BY: RJM		

LEGEND:

- SANITARY CLEANOUT COVER
- PROPOSED WATER LINE
- PROPOSED STORM DRAIN PIPE
- NEW CATCH BASIN

5 C-102 | C-002

EXIST BUILDING

AREA IS PART GRAVEL & PART HOTMIX

AREA OUTLINED IS RIGID PAVEMENT (CONC)

24" TALL BLOCK WALL BUILDING w/ ROOF (TO BE REMOVED)

PROPANE TANK (TO BE REMOVED)

PROP WATER TO FUTURE WELL

PROP BOLLARD (TYP)

4.5'x3.4' CATCH BASINS

PROP 6" PVC CONNECT TO ROOF DRAINS

18" HDPE

2.0%

1.5%

WASH BAY F.F. ELEV = 37.23

PROP 12" HDPE

AREA OUTLINED IS RIGID PAVEMENT (CONC)

EXIST BUILDING

AREA OUTLINED IS RIGID PAVEMENT (CONC)

PROP 6" PVC CONNECT TO ROOF DRAINS

PROP 12" HDPE

3.4'x1.8' CATCH BASIN

EXIST BUILDING

PROP 8" PVC

PROP 8" PVC

EXIST BUILDING

AREA OUTLINED IS FLEXIBLE PAVEMENT

4.5'x3.4' CATCH BASINS

AREA IS PART GRAVEL & PART HOTMIX

35" HDPE

EDGE OF FLEXIBLE PAVEMENT

12" HDPE

24" HDPE

36" HDPE

12" HDPE

4.5'x3.4' CATCH BASINS

C-102

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	SITE PLAN	SHEET NO. 5
				COUNTY KENT	DESIGNED BY: WES		TOTAL SHTS. 39
					CHECKED BY: RJM		

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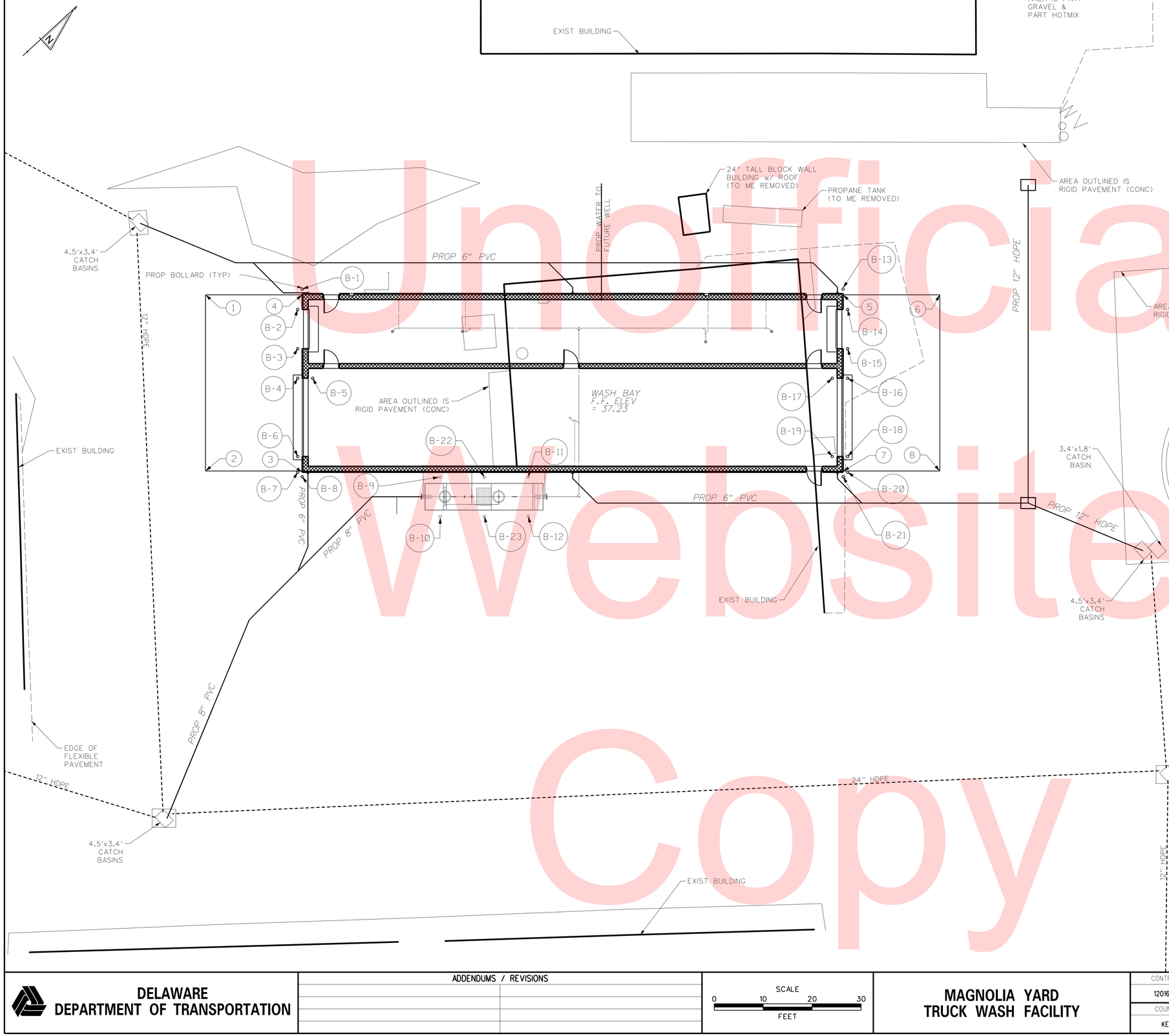


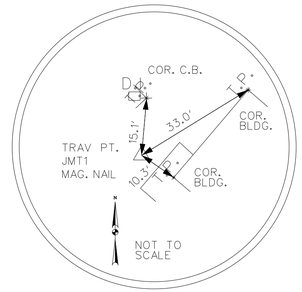
LEGEND:

PROPOSED WATER LINE

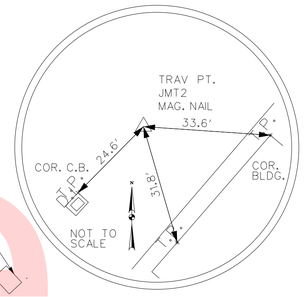
PROPOSED STORM DRAIN PIPE

BENCH MARKS

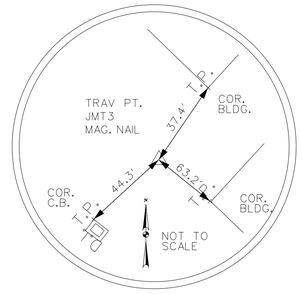
PT.	NORTH	EAST	ELEV.	DESCRIPTION
JMT1	393449.024	632692.388	38.345	NAIL
JMT2	393272.818	632520.828	37.935	NAIL
JMT3	393377.993	632406.811	35.604	NAIL



TRAVERSE POINT JMT1



TRAVERSE POINT JMT2



TRAVERSE POINT JMT3

POINT NO	NORTH	EAST	DESCRIPTION	ELEV.
1	632430.272	393330.908	APPROACH	36.83
2	632456.778	393306.548	APPROACH	36.83
3	632470.327	393320.921	APPROACH	37.23
4	632443.452	393345.629	APPROACH	37.23
5	632518.407	393426.810	APPROACH	37.23
6	632531.771	393441.352	APPROACH	36.93
7	632544.913	393402.450	APPROACH	37.23
8	632588.277	393416.992	APPROACH	36.93

BOLLARD NO	NORTH	EAST
B-1	632442.777	393346.239
B-2	632445.225	393342.745
B-3	632451.115	393337.331
B-4	632455.556	393333.250
B-5	632457.621	393335.497
B-6	632467.336	393322.424
B-7	632469.706	393320.246
B-8	632471.001	393320.300
B-9	632490.149	393341.012
B-10	632496.039	393335.598
B-11	632502.311	393354.246
B-12	632508.202	393348.833
B-13	632517.548	393427.599
B-14	632521.236	393425.455
B-15	632527.126	393420.042
B-16	632531.567	393415.961
B-17	632529.445	393413.652
B-18	632543.348	393405.134
B-19	632541.244	393402.826
B-20	632545.718	393402.956
B-21	632545.772	393401.661
B-22	632496.238	393347.638
B-23	632502.128	393342.225

C–103

5/12/2016

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 10 20 30 FEET

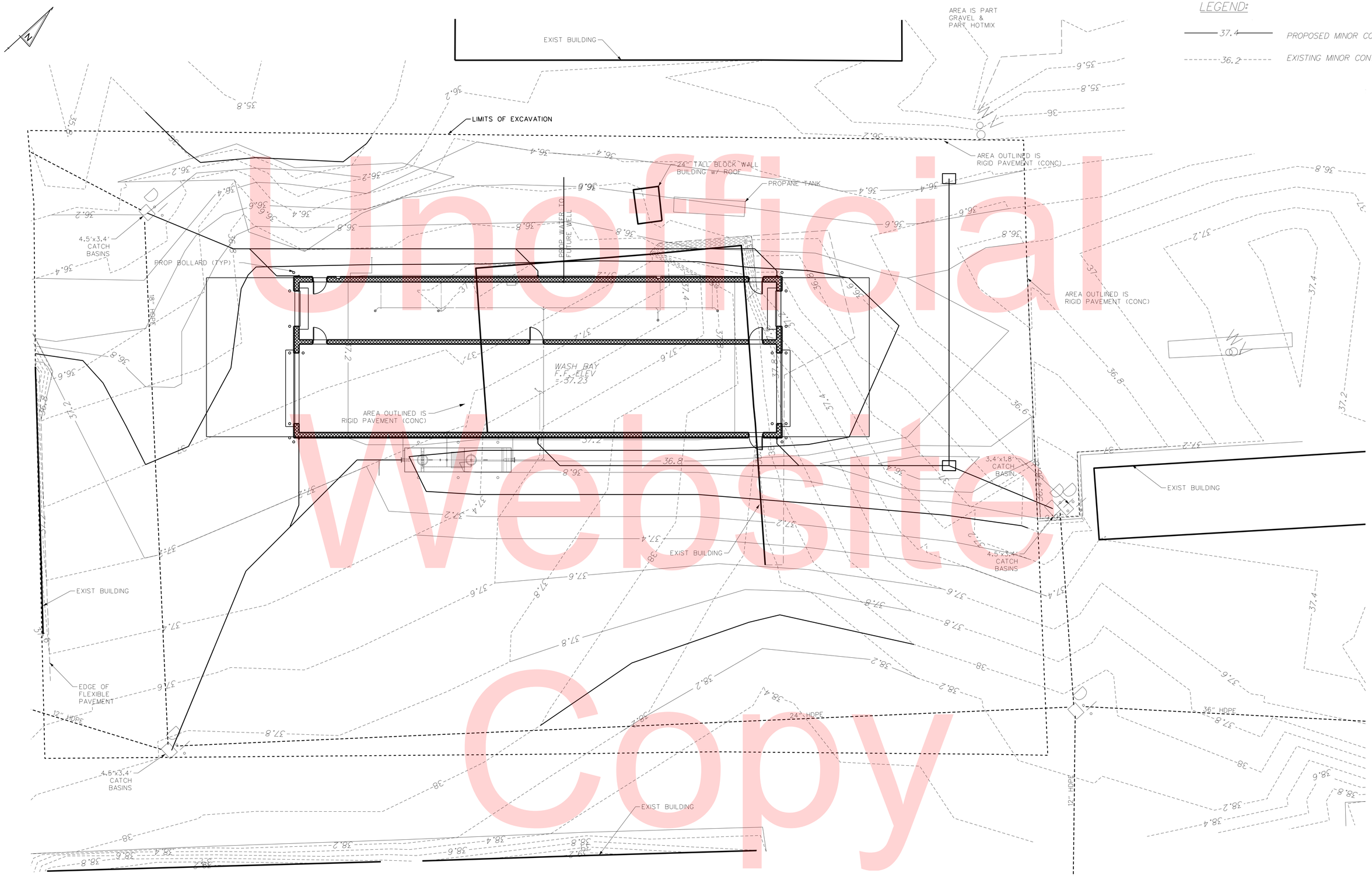
MAGNOLIA YARD TRUCK WASH FACILITY

CONTRACT	BRIDGE NO.	N/A
1201680102	DESIGNED BY: WES	
COUNTY	CHECKED BY: RJM	
KENT		

SITE STAKEOUT PLAN

SHEET NO. 6

TOTAL SHTS. 39



C-104

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5/11/2016

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	GRADING PLAN	SHEET NO. 7
				COUNTY KENT	DESIGNED BY: WES		TOTAL SHTS. 39
					CHECKED BY: RJM		

LEGEND:

PROPOSED WATER LINE

PROPOSED STORM DRAIN PIPE

EXIST BUILDING

AREA IS PART GRAVEL & PART HOTMIX

PROPOSED WATER LINE TO NEW WELL INSTALLED ON SITE. WELL TO BE INSTALLED AS PART OF A SEPARATE CONTRACT. CONTRACTOR PRICING AND SCOPE SHALL INCLUDE 100' OF 4" HDPE PIPING AS PART OF THIS CONTRACT.

AREA OUTLINED IS RIGID PAVEMENT (CONC)

24" TALL BLOCK WALL BUILDING w/ ROOF (TO BE REMOVED)

PROPANE TANK (TO BE REMOVED)

24"x34" INLET

POT Sta. 35+00.00

PROP BOLLARD (TYP)

PROP GAS SERVICE PROVIDED BY CHESAPEAKE UTILITIES

POT Sta. 11+47.39

PI Sta. 11+26.30

POT Sta. 11+22.65

S 65° 05' 00" W

4.5'x3.4' CATCH BASINS

P-6

R-1

P-4

POT Sta. 10+62.40

PROP WATER TO FUTURE WATER WELL

P-2

P-1

R-3

PI Sta. 10+08.32

S 42° 55' 00" W

PI Sta. 10+01.25

P-7

POT Sta. 40+13.54

P-5

PROP 6" PVC S 42° 35' 00" W

PI Sta. 40+04.88

18" HDPE

P-3

PI Sta. 50+01.25

R-2

2.0%

1.5%

WASH BAY F.F. ELEV = 37.23

P-10

AREA OUTLINED IS RIGID PAVEMENT (CONC)

20'

R-6

P-14

PROP 12" HDPE

S 47° 25' 00" E

PI Sta. 20+01.25

80+00

R-4

P-8

PROP 6" PVC S 47° 25' 00" E

PROP 8" PVC S 42° 35' 00" E

PROP 6" PVC N 42° 35' 00" E

S 42° 55' 00" E

POT Sta. 80+10.19

POT Sta. 80+00.00

PI Sta. 20+08.32

R-5

P-11

P-12

P-13

POT Sta. 20+62.40

POT Sta. 35+64.97

24"x34" INLET

N65° 05' 00" E

PROP 12" HDPE

PI Sta. 20+96.37

3.4'x1.8' CATCH BASIN

EXIST BUILDING

AREA IS PART GRAVEL & PART HOTMIX

PI Sta. 30+15.18

P-9

POT Sta. 30+20.41

PI Sta. 80+45.75

EXIST BUILDING

EXIST BUILDING

AREA OUTLINED IS FLEXIBLE PAVEMENT

POT Sta. 21+21.80

12" HDPE

4.5'x3.4' CATCH BASINS

EDGE OF FLEXIBLE PAVEMENT

PROP 8" PVC S 24° 55' 00" E

12" HDPE

24" HDPE

POT Sta. 80+88.89

4.5'x3.4' CATCH BASINS

EXIST BUILDING

ROOF DRAIN INLETS

DRAIN NO.	NORTH	EAST
R-1	632444.119	393346.590
R-2	632480.715	393386.412
R-3	632517.311	393426.233
R-4	632471.239	393321.667
R-5	632507.835	393361.488
R-6	632544.431	391893.809

STATION	NORTH	EAST	DESCRIPTION
80+00	632497.484	393343.082	CONNECT TO OWS
80+10	632490.717	393335.719	6° 45° HORIZ BEND
80+46	632492.239	393299.648	6° 45° LATERAL
80+71	632493.273	393275.163	6° 22.5° HORIZ BEND
80+95	632503.371	393253.425	CONNECT TO EX C.B.

ROOF DRAIN PIPE

POINT NO.	NORTH	EAST
P-1	632516.482	393426.994
P-2	632509.418	393426.696
P-3	632479.886	393387.173
P-4	632472.821	393386.875
P-5	632440.707	393342.878
P-6	632432.053	393342.513
P-7	632429.588	393339.831
P-8	632482.320	393311.483
P-9	632484.525	393306.738
P-10	632508.663	393360.727
P-11	632515.728	393361.025
P-12	632545.259	393400.548
P-13	632552.324	393400.846
P-14	632575.307	393425.855
P-15	632527.470	393469.818

C-105

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 10 20 30 FEET

MAGNOLIA YARD TRUCK WASH FACILITY

CONTRACT 1201680102

COUNTY KENT

BRIDGE NO. N/A

DESIGNED BY: WES

CHECKED BY: RJM

COMPOSITE UTILITY PLAN

SHEET NO. 8

TOTAL SHTS. 39

5/12/2016

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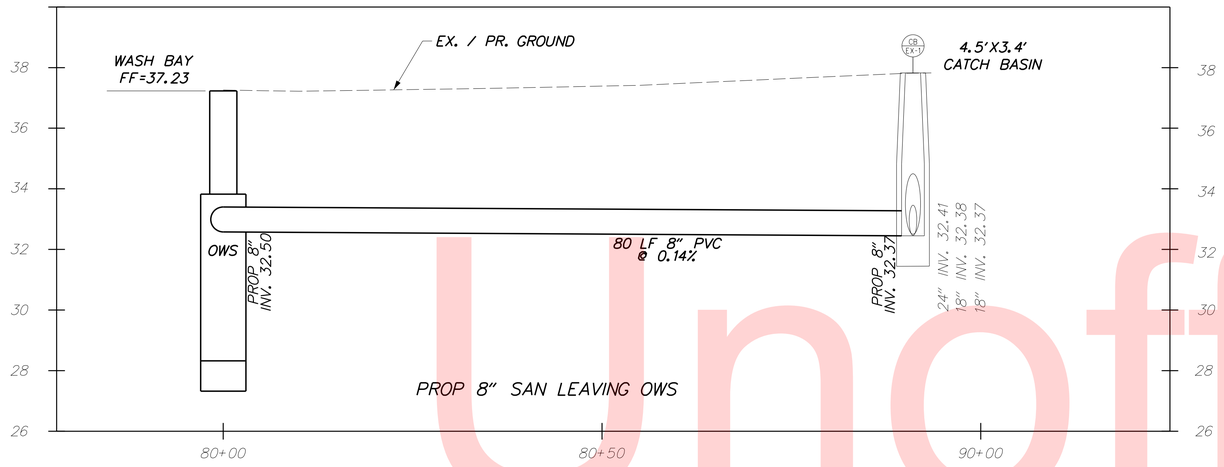

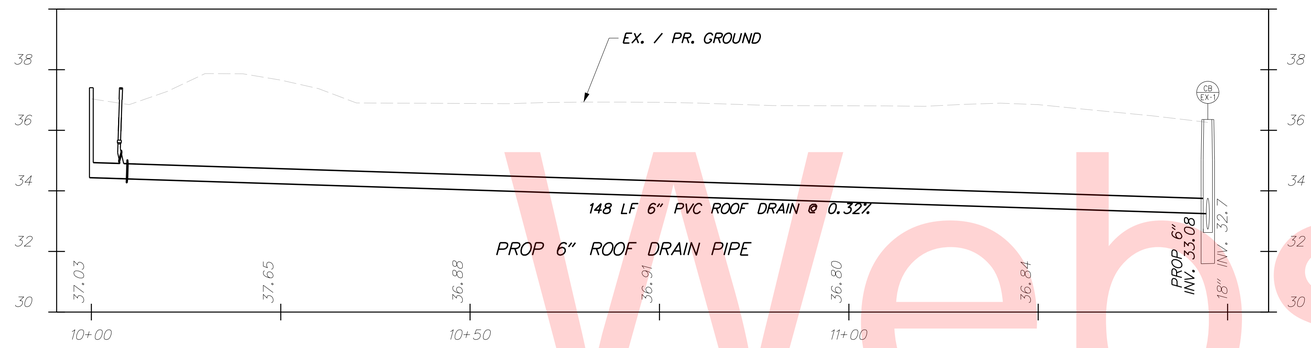

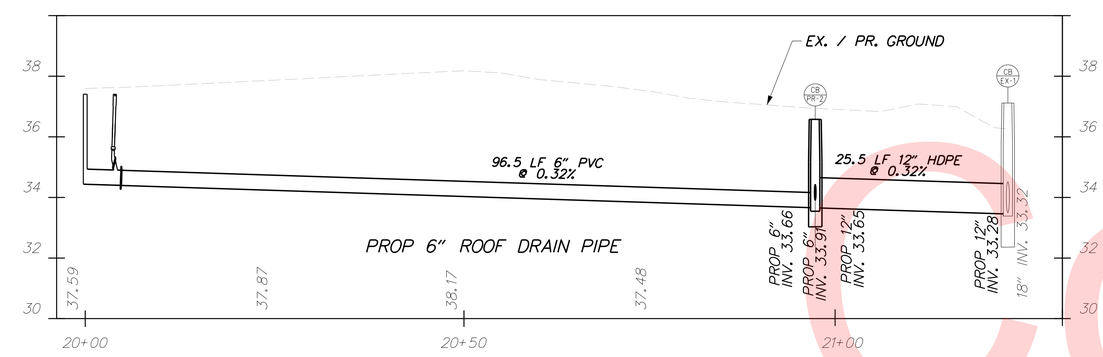

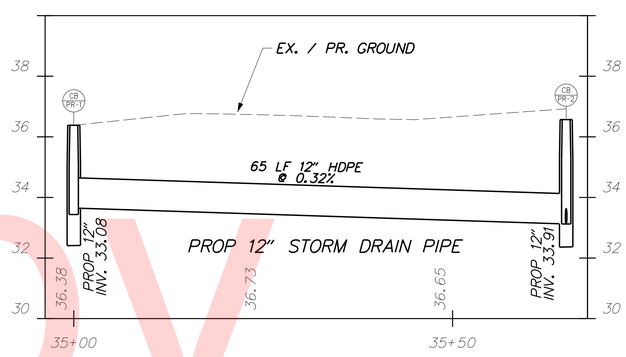

C–106

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	UTILITY PROFILES
				COUNTY KENT	DESIGNED BY: WES	SHEET NO. 9
					CHECKED BY: RJM	TOTAL SHTS. 39

5/12/2016

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2W-4" DUCTBANK FOR DELMARVA SERVICE FROM EXIST DELMARVA POLE. (APPROX 400') SEE E-102

EXIST BUILDING

2W-4" DUCTBANK FOR SECURITY SYSTEM

AREA IS PART GRAVEL & PART HOTMIX

LEGEND:

- PROPOSED WATER LINE
- PROPOSED STORM DRAIN PIPE
- SF — SILT FENCE
- TEMPORARY ORANGE CONSTRUTION FENCE
- INLET SEDEMENT CONTROL E-4 (2014)

SF LOC SF SF LOC SF SF LOC

1

2

AREA OUTLINED IS RIGID PAVEMENT (CONC)

24" TALL BLOCK WALL BUILDING w/ ROOF (TO BE REMOVED)

PROPANE TANK (TO BE REMOVED)

PROP WATER TO FUTURE WELL

4.5'x3.4' CATCH BASINS

PROP BOLLARD (TYP)

18" HDPE

2.0%

1.5%

WASH BAY
F.F. ELEV
= 37.23

AREA OUTLINED IS RIGID PAVEMENT (CONC)

AREA OUTLINED IS RIGID PAVEMENT (CONC)

LOC

3.4'x1.8' CATCH BASIN

EXIST BUILDING

EXIST BUILDING

AREA OUTLINED IS FLEXIBLE PAVEMENT

4.5'x3.4' CATCH BASINS

30" HDPE

AREA IS PART GRAVEL & PART HOTMIX

LOC

EDGE OF FLEXIBLE PAVEMENT

12" HDPE

24" HDPE

36" HDPE

SF LOC SF LOC SF

3

4

4.5'x3.4' CATCH BASINS

12" HDPE

EXIST BUILDING

LIMITS OF CONTRUCTION DISTURBANCE AND TEMPORARY ORANGE CONST FENCE

NO	NORTH	EAST
1	632378.356	393323.668
2	632532.486	393488.102
3	632485.629	393230.366
4	632639.020	393397.275

C-107

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5/11/2016

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	EROSIN SEDIMENT CONTROL PLAN
				COUNTY KENT	DESIGNED BY: WES	SHEET NO. 10
					CHECKED BY: RJM	TOTAL SHTS. 39

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL VERIFY AS SOON AS POSSIBLE AFTER WALK-THRU, THE ACCURACY OF ALL EXISTING DIMENSIONS AND ELEVATIONS WHICH ARE REFERENCED ON THESE DOCUMENTS. REPORT ANY DISCREPANCIES TO THE ARCHITECT.

2. CONTRACTOR TO PROVIDE BLOCKING AS NECESSARY IN WALLS TO SUPPORT ALL CASEWORK, WALL MOUNTED DEVICES, AND EQUIPMENT. WOOD BLOCKING REQUIRED TO BE FIRE RETARDANT TREATED.

3. ALL DIMENSIONS ARE TO FACE OF DRYWALL, UNLESS NOTED OTHERWISE.

4. CONTRACTOR TO PROVIDE ALL EQUIPMENT, CASEWORK, ETC INDICATED ON THE PLANS UNLESS SPECIFICALLY STATED NOT IN CONTRACT (NIC). CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS RESULTING FROM DIMENSIONAL CHANGES IN EQUIPMENT, CASEWORK, ETC AND ANY ELECTRICAL/MECHANICAL/PLUMBING CHANGES.

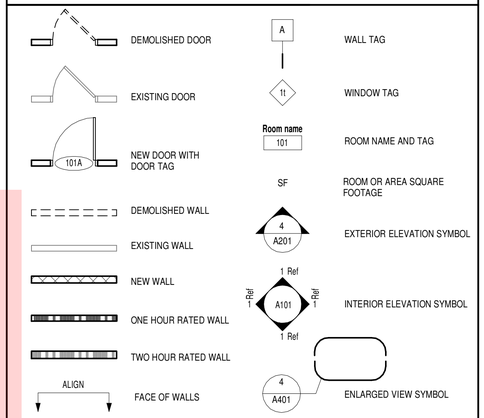
5. ALL CONTRACTORS SHALL COORDINATE LOCATIONS, CLEARANCES, AND ELEVATIONS OF BUILDING STRUCTURE, HVAC WORK, ELECTRICAL WORK, LIGHT FIXTURES, MECHANICAL WORK, CEILINGS AND THE LIKE WITH THEIR RESPECTIVE WORK PRIOR TO FABRICATION AND INSTALLATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS BEFORE PROCEEDING WITH THE WORK.

6. ALL WORK SHALL CONFORM TO LOCAL BUILDING CODES AND REGULATIONS AND SHALL BE INSTALLED ACCORDING TO THE JOINT REQUIREMENTS AND DECISIONS OF ALL LOCAL AUTHORITIES. IF ANY CONTRACTOR OR SUBCONTRACTOR PERFORMS ANY WORK CONTRARY TO THE LOCAL BUILDING CODE AND ORDINANCES, RULES AND REGULATIONS, WITHOUT PRIOR WRITTEN NOTICE TO THE OWNER, HE SHALL BEAR ALL COSTS ARISING THEREFROM.

7. WHERE DISCREPANCIES EXIST BETWEEN VARIOUS DRAWINGS, THE CONTRACTOR WILL OBTAIN THE ARCHITECT'S INTERPRETATION BEFORE PROCEEDING. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ANY REASONABLE INTERPRETATION AT NO ADDITIONAL COST TO THE OWNER.

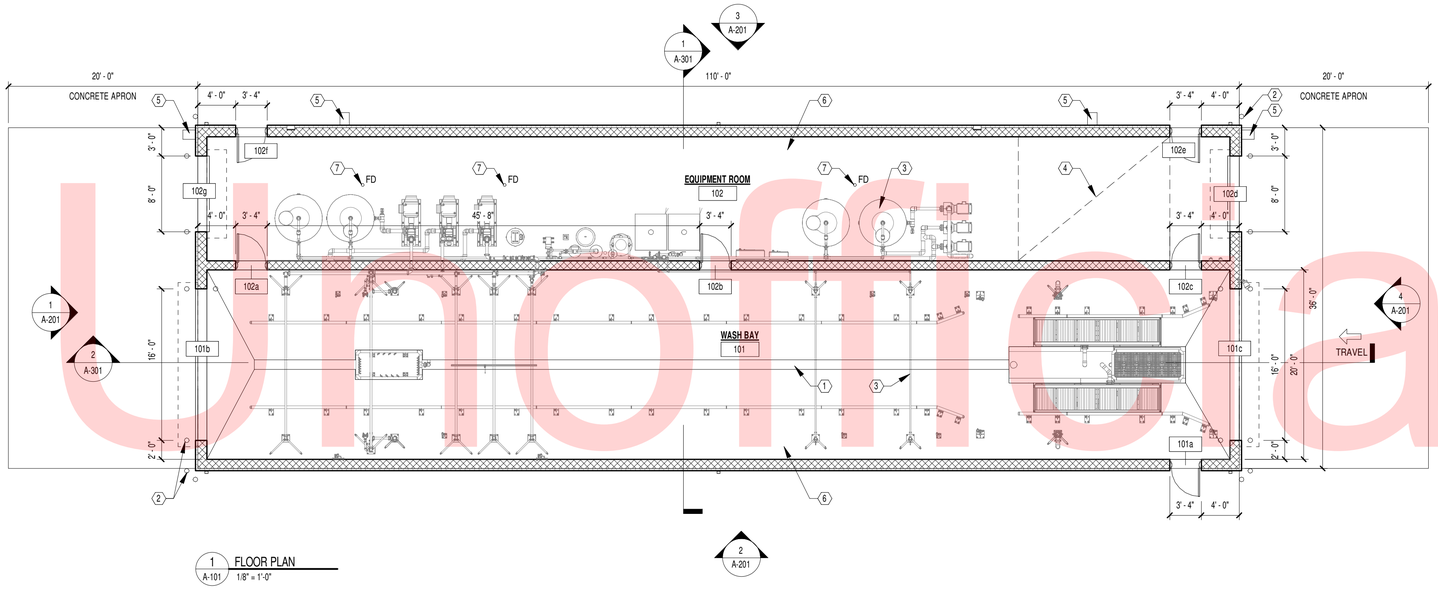
8. COORDINATE AND SCHEDULE WORK WITH THE OWNER TO ACCOMMODATE THE OWNER'S NORMAL ACTIVITIES AND TO MAINTAIN THE SAFETY OF THE OWNER'S PROPERTY, STAFF AND OTHERS USING THE SITE.

DRAWING LEGEND



A–001

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO.	ARCHITECTURAL SYMBOLS AND NOTES	SHEET NO. 11
				COUNTY KENT	DESIGNED BY: DCH		TOTAL SHTS. 39
					CHECKED BY: BAM		



1 A-101 FLOOR PLAN
1/8" = 1'-0"

SHEET KEYNOTES:

1. 12" TRENCH DRAIN. REFER TO STRUCTURAL.
2. CONCRETE FILLED PIPE BOLLARD, REFER TO CIVIL.
3. AUTOMATED WASH EQUIPMENT AND CONTROLS, BY OTHERS.
4. 16' x 13' CLEAR SPACE FOR BRINE OPERATIONS.
5. BRINE FILL STATION, TYP OF 4.
6. EPOXY COATING OVER CONCRETE SLAB. TURN COATING UP WALL 8" MIN.
7. FLOOR DRAIN, REF PLUMBING.

SCALE 1/8"=1'-0"

A–101

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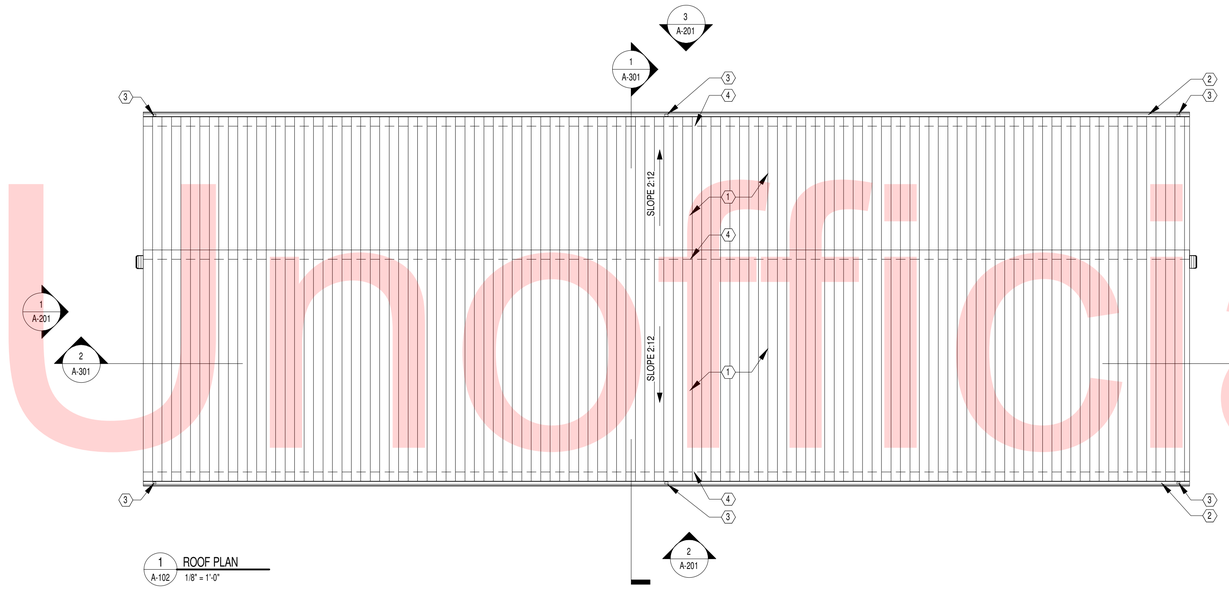
$DATE_USER$

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO.	FLOOR PLAN	SHEET NO. 12
				COUNTY KENT	DESIGNED BY: DCH		TOTAL SHTS. 39
					CHECKED BY: BAM		



1 A-102 ROOF PLAN
1/8" = 1'-0"

SHEET KEYNOTES:

1. NEW STANDING SEAM METAL ROOF OVER POLYISOCYANURATE INSULATION.
2. NEW 5"x5" PREFINISHED METAL GUTTER.
3. NEW 3"x4" PREFINISHED METAL DOWNPSOUT.
4. LINE OF WALL BELOW.

A–102

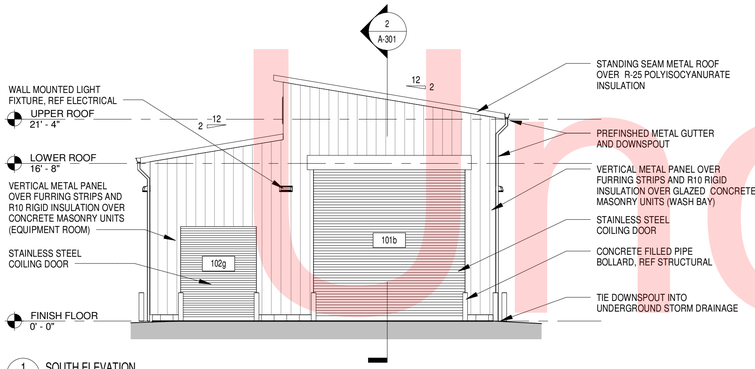
DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

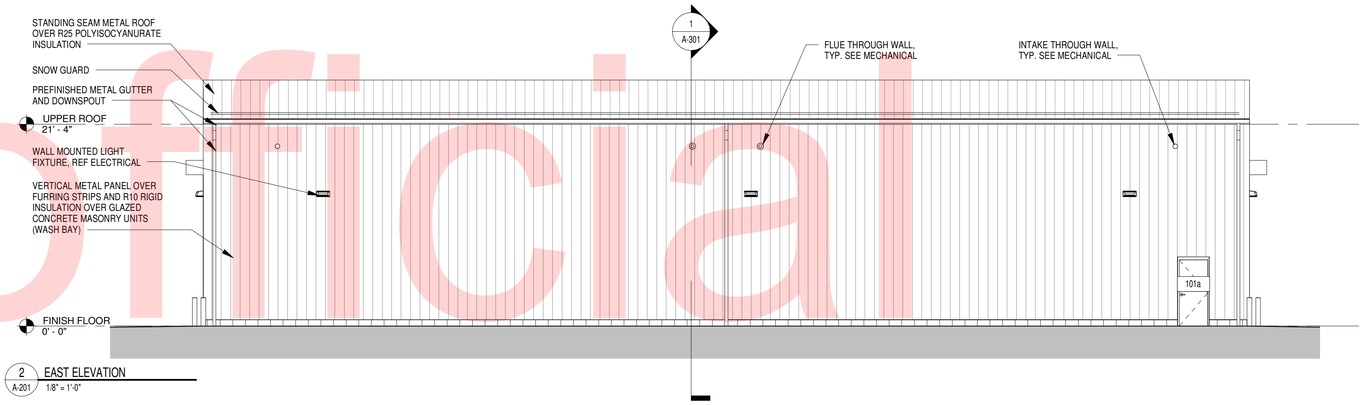
MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	SHEET NO.
T201680102		13
COUNTY	DESIGNED BY: DCH	TOTAL SHTS.
KENT	CHECKED BY: BAM	39

ROOF PLAN



1 SOUTH ELEVATION
A-201 1/8" = 1'-0"



2 EAST ELEVATION
A-201 1/8" = 1'-0"

4 NORTH ELEVATION
A-201 1/8" = 1'-0"

3 WEST ELEVATION
A-201 1/8" = 1'-0"

A-201

DELAWARE
DEPARTMENT OF TRANSPORTATION

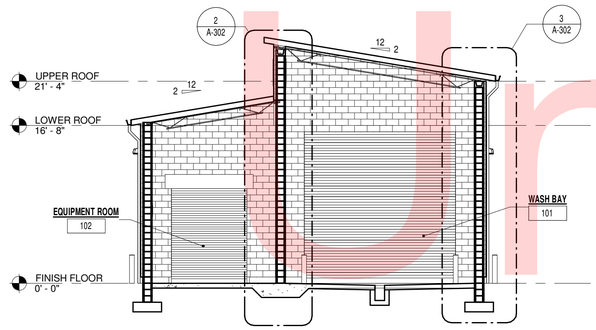
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

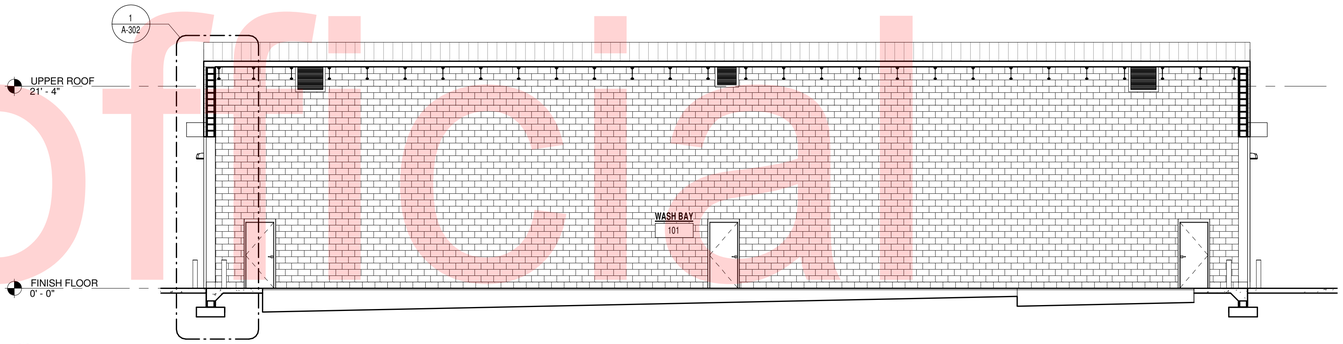
CONTRACT	BRIDGE NO.	
T201680102	DESIGNED BY:	DCH
COUNTY	CHECKED BY:	BAM
KENT		

EXTERIOR ELEVATIONS

SHEET NO.
14
TOTAL SHTS.
39



1 A-301 TRANSVERSE SECTION
1/8" = 1'-0"



2 A-301 LONGITUDINAL SECTION
1/8" = 1'-0"

A-301

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$DATE_USER$

DELAWARE
DEPARTMENT OF TRANSPORTATION

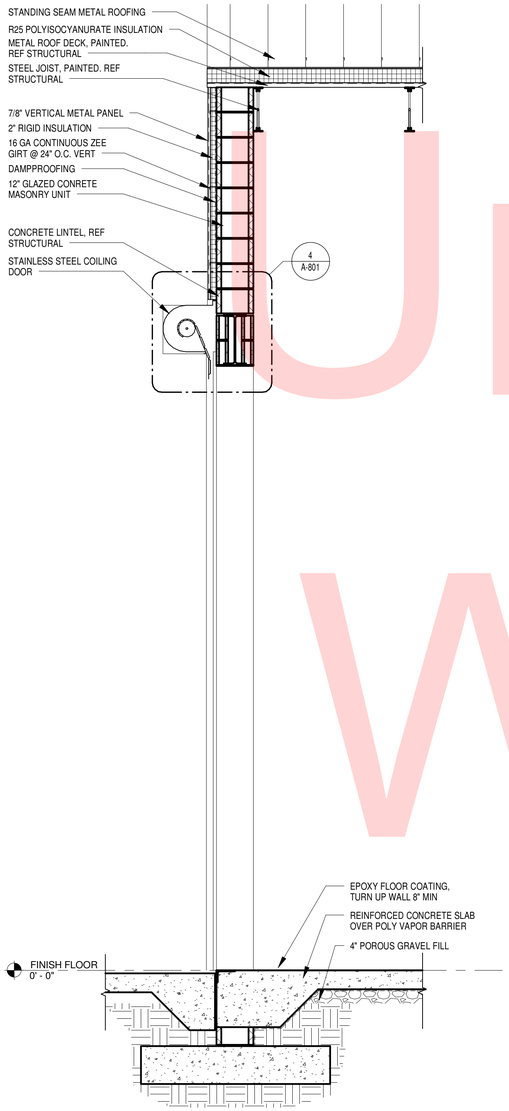
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

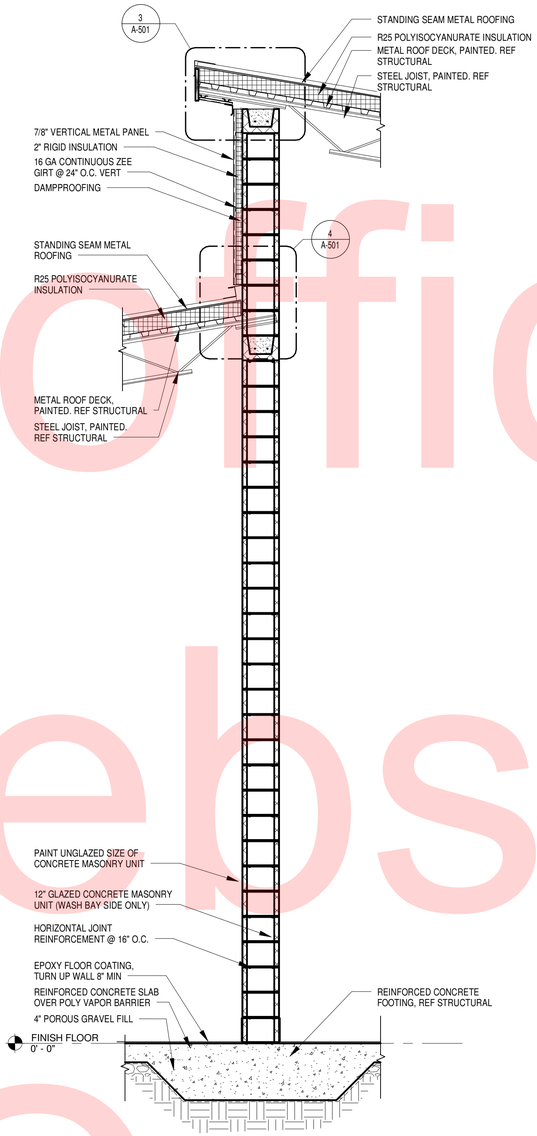
CONTRACT	BRIDGE NO.	
T201680102	DESIGNED BY:	DCH
COUNTY	CHECKED BY:	BAM
KENT		

BUILDING SECTIONS

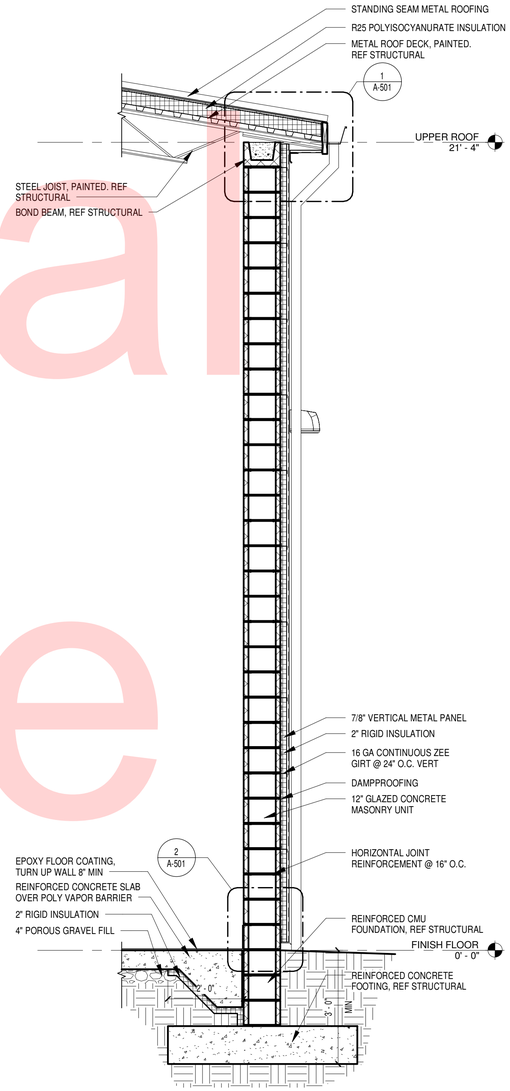
SHEET NO.
15
TOTAL SHTS.
39



1 WALL SECTION
A-302 1/2" = 1'-0"



2 WALL SECTION
A-302 1/2" = 1'-0"



3 WALL SECTION
A-302 1/2" = 1'-0"

A–302

DELAWARE
DEPARTMENT OF TRANSPORTATION

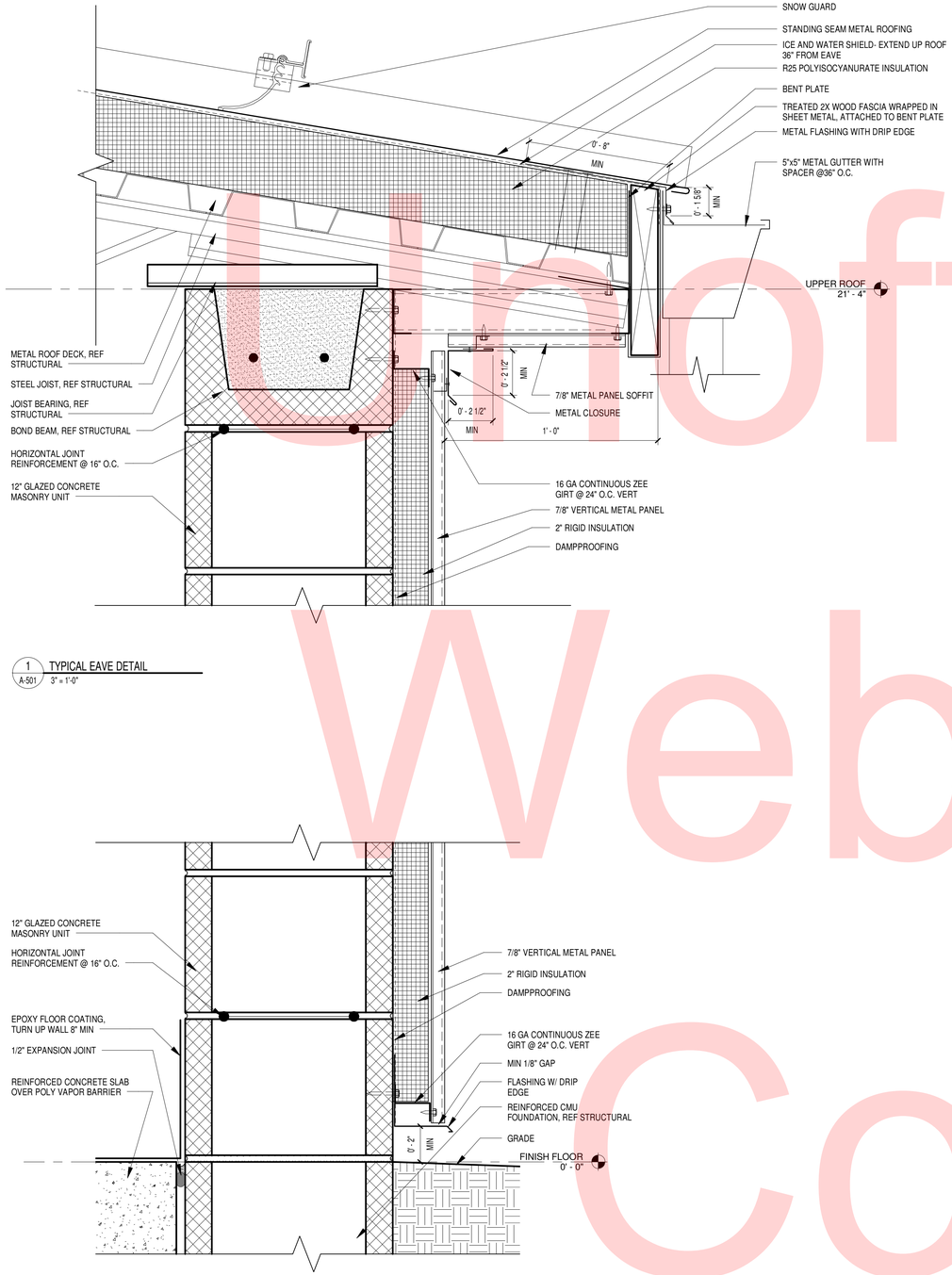
ADDENDUMS / REVISIONS			

MAGNOLIA TRUCK WASH

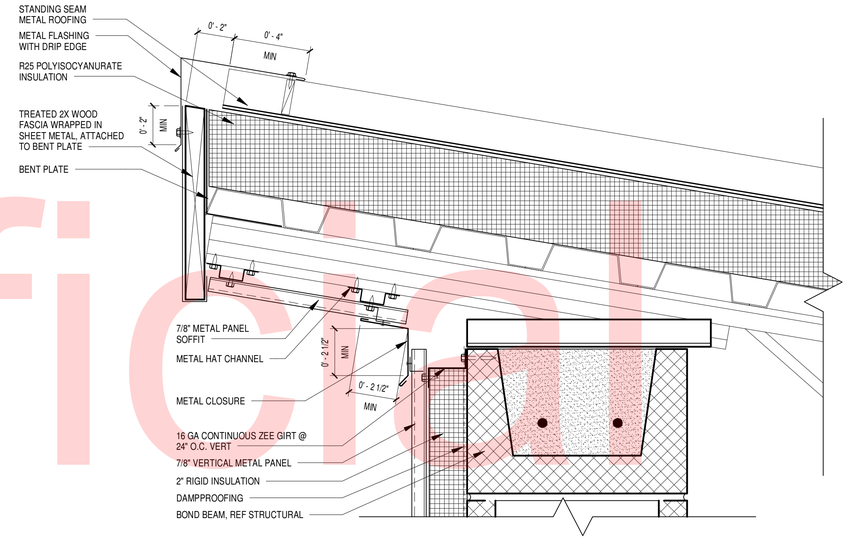
CONTRACT	BRIDGE NO.	
T201680102	DESIGNED BY:	DCH
COUNTY	CHECKED BY:	BAM
KENT		

WALL SECTIONS

SHEET NO.
16
TOTAL SHTS.
39

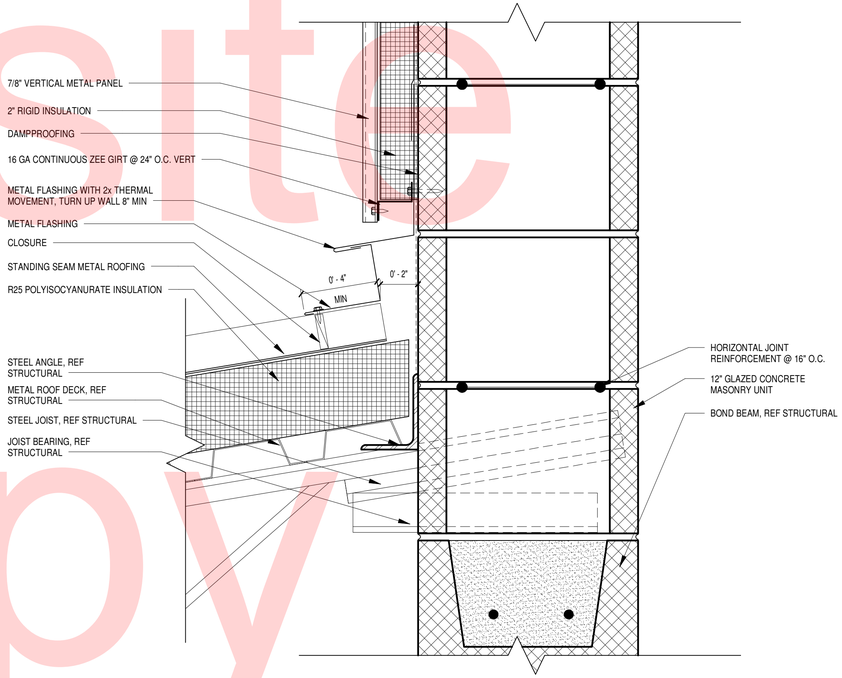


1 A-501 TYPICAL EAVE DETAIL
3" = 1'-0"



3 A-501 ROOF DETAIL
3" = 1'-0"

2 A-501 TYPICAL BASE DETAIL
3" = 1'-0"



4 A-501 ROOF/WALL TRANSITION
3" = 1'-0"

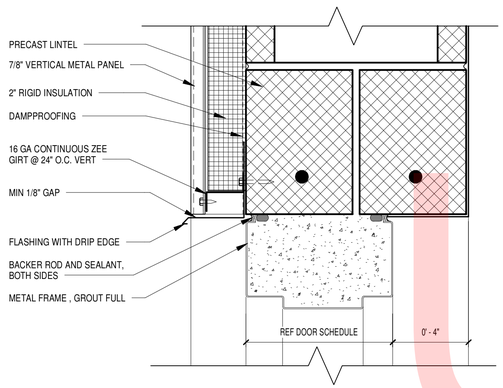
A-501

DELAWARE
DEPARTMENT OF TRANSPORTATION

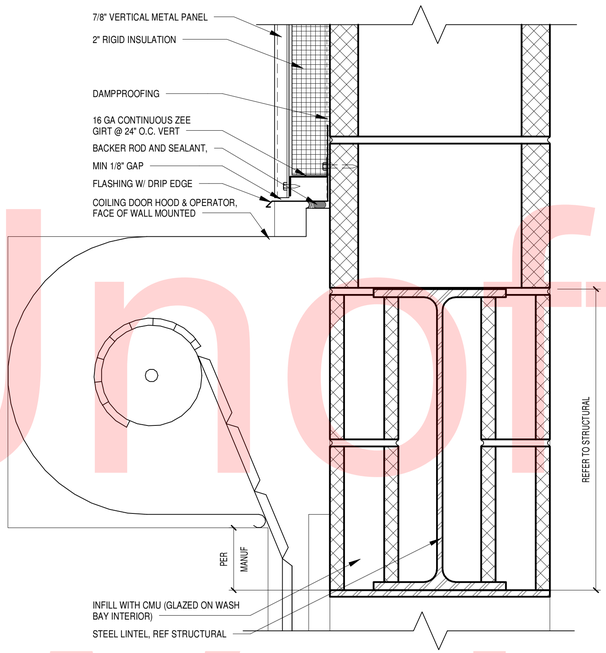
ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

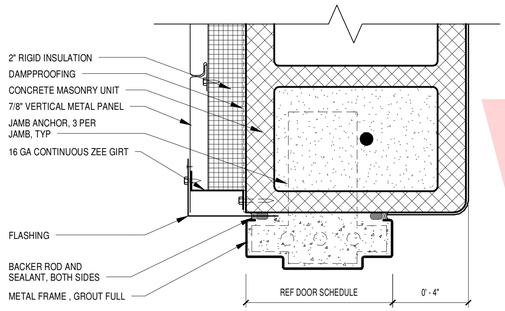
CONTRACT	BRIDGE NO.		SHEET NO.
T201680102	DESIGNED BY: DCH	DETAILS	17
COUNTY			TOTAL SHTS.
KENT	CHECKED BY: BAM		39



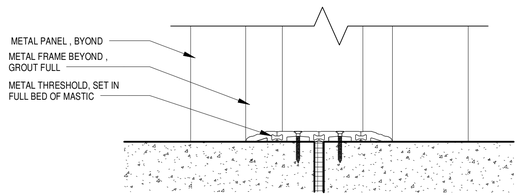
1 A-801 HOLLOW METAL DOOR HEAD 3" = 1'-0"



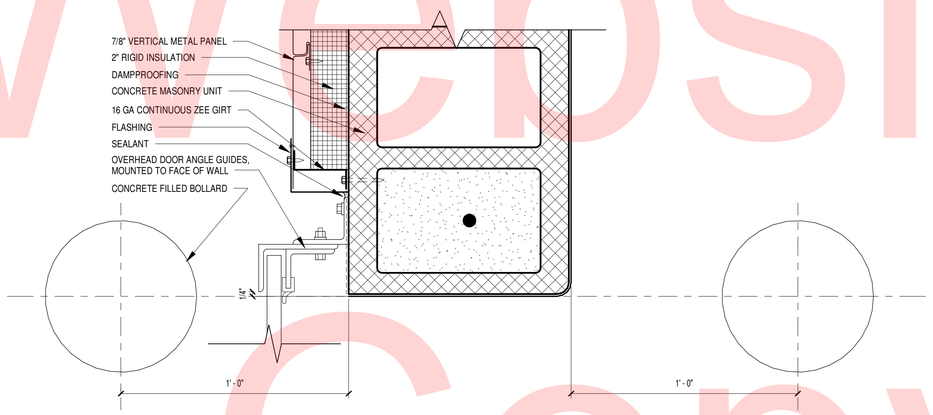
4 A-801 COILING DOOR HEAD 3" = 1'-0"



2 A-801 HOLLOW METAL DOOR JAMB 3" = 1'-0"



3 A-801 HOLLOW METAL DOOR SILL 3" = 1'-0"



5 A-801 COILING DOOR JAMB 3" = 1'-0"

DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THK	DOOR TYPE	DOOR MATL	LOUVER WIDTH	LOUVER HEIGHT	FRAME ELEV	FRAME MATL	FRAME DEPTH	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FRAME DETAIL SILL	FIRE RATING	HARDWARE SET	NOTES
FINISH FLOOR																
101a	3' - 0"	7' - 0"	1 3/4"	F	SS	--	--	1	SS	7 3/4"	1/A-801	2/A-801	3/A-801	--		
101b	16' - 0"	16' - 0"	3/4"	OH	SS	--	--	--	SS	--	4/A-801	5/A-801	--	--		
101c	16' - 0"	16' - 0"	3/4"	OH	SS	--	--	--	SS	--	4/A-801	5/A-801	--	--		
102a	3' - 0"	7' - 0"	1 3/4"	F	SS	--	--	1	SS	7 3/4"	1/A-801	2/A-801	3/A-801	--		
102b	3' - 0"	7' - 0"	1 3/4"	F	SS	--	--	1	SS	7 3/4"	1/A-801	2/A-801	3/A-801	--		
102c	3' - 0"	7' - 0"	1 3/4"	F	SS	--	--	1	SS	7 3/4"	1/A-801	2/A-801	3/A-801	--		
102d	8' - 0"	10' - 0"	3/4"	OH	SS	--	--	--	SS	--	4/A-801	5/A-801	--	--		
102e	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	7 3/4"	1/A-801	2/A-801	3/A-801	--		
102f	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	7 3/4"	1/A-801	2/A-801	3/A-801	--		
102g	8' - 0"	10' - 0"	3/4"	OH	SS	--	--	--	SS	--	4/A-801	5/A-801	--	--		

1. LOCATE DOOR/FRAME MARKS ON SCHEDULES; READ UP FOR CONSTRUCTION, READ ACROSS FOR ADDITIONAL INFORMATION ON TYPE, RATING, ETC.

2. ALL/FRAME MARKS SHOWN ON SCHEDULES MAY NOT HABE BEEN USED.

3. SEE DOOR SIZE SCHEDULE FOR SIZE OF DOORS & OPENINGS FOR FRAMES. ALL DOORS SHALL BE 7'-0" HIGH AND 1 3/4" THICK UNLESS NOTED OTHERWISE.

4. SEE DOOR & FRAME TYPES FOR ELEVATIONS OF EACH TYPE INDICATED.

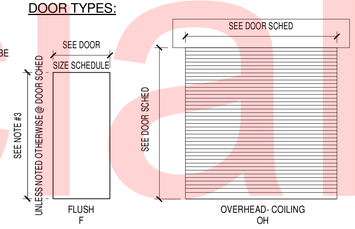
5. ALL DOOR FRAMES SHALL BE FLUSH W/ MASONRY WALL CONSTRUCTION UNLESS MASONRY WALL CONSTRUCTION EXCEEDS 8" (IF WALL EXCEEDS 8" USE 7 3/4" FRAME DEPTH UNLESS NOTED OTHERWISE.)

6. GROUT ALL HOLLOW METAL FRAMES SOLID WHEN IN CONTACT W/ MASONRY CONSTRUCTION.

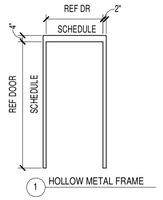
7. ALL EXTERIOR HOLLOW METAL FRAMES AND ALL EXTERIOR HOLLOW METAL DOORS SHALL BE GALVANIZED.

8. REFERNCE SPECIFICATION SECTION "087100 -DOOR HARDWARE" FOR DOOR HARDWARE SETS.

DOOR TYPES:



DOOR FRAME TYPES:



1 HOLLOW METAL FRAME

LOUVER SCHEDULE

MARK	WIDTH	HEIGHT	SILL ELEV ABOVE FF
L1	32"	30"	21'-0"
L2	24"	24"	22'-0"
L3	10"	10"	7'-4"

PROVIDE GREENHECK ESD-403 DRAINABLE BLADE LOUVER OR EQUIVALENT

A-801

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	
T201680102	DESIGNED BY:	DCH
COUNTY	CHECKED BY:	BAM
KENT		

DOOR AND WINDOW DETAILS

SHEET NO.
18
TOTAL SHTS.
39

GENERAL NOTES

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING WORK. IF ANY DISCREPANCIES ARE NOTED, CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER IMMEDIATELY.

2. CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL. CONTRACTOR SHALL REVIEW SHOP DRAWINGS BEFORE SUBMITTING THEM TO ENGINEER NOTING ANY DISCREPANCIES FOUND. FAILURE TO SUBMIT THE SHOP DRAWINGS TO THE ENGINEER IS AT THE CONTRACTOR'S OWN RISK.

3. STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ARCHITECTURAL AND/OR ANY OTHER TRADE RELATED DRAWINGS.

4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND ERECTION OF ANY TEMPORARY SHORING OR BRACING NECESSARY TO PROVIDE FOR THE SAFE CONSTRUCTION OF THE STRUCTURE.

DESIGN NOTES

DESIGN BASIS:
INTERNATIONAL BUILDING CODE, 2012 EDITION
ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
ACI 318-11 MANUAL FOR CONCRETE CONSTRUCTION
ACI 530-11 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES

PROJECT LOADS:

ROOF LIVE LOAD	20 PSF
FLOOR LIVE LOAD	HS-20

WIND LOAD PER ASCE 7-10

WIND BORN DEBRIS:	APPLICABLE
BUILDING RISK CATEGORY:	II
BASIC WIND SPEED:	115MPH
DIRECTIONALITY FACTOR: Kd	0.85
EXPOSURE CATEGORY:	B
TOPOGRAPHIC FACTOR: Kzt	1.0
GUST EFFECT FACTOR: Gf	0.85
ENCLOSURE CLASSIFICATION:	ENCLOSED
INTERNAL PRESSURE COEFF:	±0.18
MWFRS DESIGN PROCEDURE:	DIRECTIONAL/ENVELOPE

MWFRS

	MAX /	MIN
WALL PRESSURE		
WINDWARD:	15.8 /	14.8 PSF
LEEWARD:	-0.29 /	-6.9 PSF
SIDEWALL:	-7.9 /	-14.6 PSF
ROOF PRESSURE:	-11.1 /	-17.8 PSF

COMPONENTS AND CLADDING:

ROOF SURFACE PRESSURE (PSF)

AREA	20SF	50SF	100SF	200SF	500SF
NEG. ZONE 1	-21	-20	-20	-20	-20
NEG. ZONE 2	-35	-31	-28	-28	-28
NEG. ZONE 3	-52	-48	-44	-44	-44
POS. ALL ZONES	13	11	10	10	10

WALL SURFACE PRESSURE (PSF)

AREA	20SF	50SF	100SF	200SF	500SF
NEG. ZONE 4	-25	-23	-22	-22	-20
NEG. ZONE 5	-30	-27	-25	-24	-20
POS. ALL ZONES	23	21	20	20	18

** REFER TO ASCE 7-10, CHAPTER 30 FOR ZONE DEFINITIONS **

SEISMIC LOAD PER ASCE 7-10

RISK CATEGORY	II
IMPORTANCE FACTOR:	1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS,	Ss=0.12g, S1=0.05g
SITE CLASS =	D
SPECTRAL RESPONSE COEFFICIENTS,	Sds=0.13G, Sd1=0.08G
SEISMIC DESIGN CATEGORY :	B

SEISMIC DESIGN FACTORS

BASIC FORCE RESISTING SYSTEM:	ORDINARY REINF. MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR:	4.0
SEISMIC RESPONSE COEFFICIENT:	Cs=0.065
BASE SHEAR:	5.63 KIPS

SNOW LOADS

GROUND SNOW LOAD:	25.0 PSF
BALANCED SNOW LOAD:	19.4 PSF

GEOTECHNICAL

1. SEE GEOTECHNICAL REPORT BY THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION, DATED MARCH 11, 2011 FOR SITE PREPARATION. DESIGN SOIL BEARING PRESSURE IS 3000 PSF.

2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY AND ALL EXCAVATION SLOPES FROM CAVE-IN.

3. MAINTAIN POSITIVE SURFACE DRAINAGE TO PREVENT THE ACCUMULATION OF WATER IN EXCAVATED AREAS.

4. MATERIAL TO BE USED AS FILL SHALL BE TESTED BY AN DELDOT LABORATORY TO DETERMINE SUITABILITY PRIOR TO BEING PLACED.

5. SURFACE AREAS AT GRADE AND AREAS TO RECEIVE FILL SOILS SHALL BE DETERMINED WITHIN ±2 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT DETERMINED FROM THE MODIFIED PROCTOR TEST.

6. IMMEDIATELY PRIOR TO CONSTRUCTION, SUB GRADE SOILS SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM-AXLE DUMP TRUCK OR SIMILAR EQUIPMENT TO DETECT ANY UNSTABLE AREAS. THE PROOF ROLLING EQUIPMENT SHALL MAKE A MINIMUM OF FOUR PASSES OVER EACH SECTION, WITH THE LAST TWO PASSES PERPENDICULAR TO THE FIRST TWO. ANY AREAS WHICH PUMP OR RUT SHALL BE UNDERCUT OR SCARIFIED AND DENSIFIED IN PLACE AND PROOF ROLLED AGAIN. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO COMMENCEMENT OF PROOF ROLLING OPERATIONS.

7. FILL SOILS SHALL HAVE A MAXIMUM OF 20% FINES AND A MAXIMUM DRY DENSITY OF AT LEAST 100 PCF PER ASTM D-1557.

8. FILL SHALL BE PLACED IN UNIFORM DEPTHS NOT TO EXCEED 8 INCHES THICK AND COMPACTED TO AT LEAST 95% MODIFIED PROCTOR PER ASTM-1557.

CONCRETE

1. ALL REINFORCED CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318, LATEST EDITION.

2. UNLESS NOTED OTHERWISE CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF NO LESS THAN 4000 PSI.

3. CONCRETE IS TO BE CURED FOR A MINIMUM OF 7 DAYS BEFORE IMPOSING LOADS

4. FOLLOW DELDOT RECOMMENDATIONS FOR PLACING CONCRETE IN COLD OR HOT WEATHER .SEE DELDOT SPECIFICATION 602.

5. CONTRACTOR IS TO INSURE THAT ALL CONCRETE REINFORCEMENT IS INSTALLED PROPERLY AND PER THE PLANS BEFORE PLACING CONCRETE.

6. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL FORMWORK.

7. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775.

8. EPOXY COATED WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 884.

9. MINIMUM COVER REQUIREMENT FOR ALL REINFORCING STEEL IS 3".

10. THE CONCRETE MIX DESIGN SHALL BE SUBMITTED AND APPROVED BEFORE CONSTRUCTION BEGINS.

SLAB NOTES

1. CONSTRUCTION JOINT AND CONTROL JOINT MAY BE INTERCHANGED TO SUIT CONCRETE POUR SCHEDULE.

2. EXACT LOCATION OF CONTROL JOINTS SHALL BE ESTABLISHED PRIOR TO CUTTING OF REINFORCING AND PLACING OF CONCRETE. FIELD CONTROL SHALL ASSURE THAT THE JOINTS OCCUR OVER THE CUT REINFORCING.

3. SAWING OF JOINTS:
   a. THE PREFERRED METHOD FOR SAWING CONTROL JOINTS IS WITH THE "SOFF-CUT" SAW WITHIN ONE HOUR OF FINISHED CONCRETE.
   b. THE CONVENTIONAL CONCRETE SAW CUTTING A 3/16" (5MM) WIDE GROOVE IS ALSO ACCEPTABLE. SAWING SHALL BEGIN AS SOON AS THE CONCRETE SURFACE HAS SUFFICIENTLY HARDENED TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE SHRINKAGE CRACKS OCCUR. SAWING SHALL BEGIN WITHIN 10 HOURS OF THE FINAL FINISHING OPERATION.
   c. WHERE THE SAW IS OBSTRUCTED, TOOLED OR FORMED JOINTS SHALL BE PROVIDED TO JOIN THE SAW CUT JOINT AND COMPLETE THE CONTROL JOINT
   d. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO ENSURE THAT SAWED JOINTS ARE MADE IN THE PROPER INTERVAL INCLUDING, BUT NOT LIMITED TO LIGHTING, TWO SHIFTS, OVERTIME, ETC.

4. ALL DOWELS SHALL BE SAW CUT, NOT SHEARED, CONFORMING TO ASTM A615 PLAIN, GRADE 60, AND SHALL BE LOCATED AT MID-DEPTH OF THE SLAB. DOWELS SHALL BE CAREFULLY AND FIRMLY SUPPORTED DURING CONSTRUCTION. DOWELS SHALL BE COATED WITH A BOND BREAKER PRIOR TO PLACING CONCRETE IN THE SECOND POUR.

5. INSTALL VAPOR BARRIER CONFORMING TO ASTM E1745 AND 10 MIL THICK UNDER SLAB. OVERLAP SPLICES 6" MINIMUM OR PER MANUFACTURER'S RECOMMENDATION.

6. SLAB CONTROL JOINTS SHALL BE PLACED SUCH THAT SPACING DOES NOT EXCEED 36xSLAB THICKNESS UP TO A MAXIMUM 18 FEET BETWEEN JOINTS PER ACI 302. JOINTS SHALL BE CUT INTO THE SLAB AT A DEPTH OF 1/3 TIMES THE THICKNESS OF THE SLAB WITHIN 12 HOURS OF PLACEMENT.

7. ALL FILL UNDER SLAB(S) IS TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D1557.

8. ALL SLAB JOINTS SHALL HAVE INCLUDE A WATERSTOP. WATERSTOPS SHALL BE POLYVINYL CHLORIDE (PVC) AND CONFORM TO US ARMY CORPS OF ENGINEERS SPECIFICATION CDR-C572. SEE DELDOT SPECIFICATION 602.07.

CONCRETE MASONRY

1. ALL MASONRY WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 530, LATEST EDITION.

2. PRISM STRENGTH= 1500 PSI MIN.

3. CMU TO COMPLY WITH ASTM C90, GRADE N, TYPE I MOISTURE CONTROLLED 8" HOLLOW UNITS.

4. MORTAR - USE ASTM C 270, TYPE S OR M, CEMENT/LIME OR MASONRY CEMENT.

5. GROUT - ASTMC476, COARSE GROUT.

6. REINFORCING BARS - ASTM A775, GRADE 60 EPOXY COATED.

7. PROVIDE FULLY GROUTED BOND BEAMS W/(2) #5 BARS. SEE PLAN FOR SIZES

8. HORIZONTAL BARS ARE TO BE ATTACHED TO VERTICAL REINFORCEMENT AT END OF WALLS WITH A STANDARD 180° HOOK.

9. PROVIDE 3/16" LADDER TYPE, HORIZONTAL REINFORCEMENT SPACED @ 16" O.C. IN ALL MASONRY WALLS.

10. ALL DOWELS AT STEM WALL TO BE ATTACHED DIRECTLY TO THE HORIZONTAL STEEL IN THE FOOTING.

11. AT VERTICAL CONTROL JOINTS, PROVIDE ROUND SMOOTH BARS WITH ONE END GREASED TO ALLOW FOR LATERAL MOVEMENT.

STRUCTURAL STEEL

1. ALL DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION (NINTH EDITION).

2. MATERIAL:

A.	W-SHAPE	ASTM A992, FY=50KS
B.	CHANNELS, ANGLES, & PLATE	ASTM A36, FY=36KSI
C.	RECTANGULAR HSS	ASTM A1085 I
D.	ROUND HSS	ASTM A500 GRADE B, FY=42KSI
E.	STEEL PIPE	ASTM A53 GRADE B, FY=35KSI
F.	HIGH-STRENGTH BOLT	ASTM A325 N
G.	ANCHOR ROD	ASTM F1554
H.	THREADED ROD	ASTM A36

-NO SECOND HAND MATERIAL PERMITTED

3. MAKE ALL FIELD MEASUREMENTS REQUIRED TO VERIFY DIMENSIONS.

4. CONNECTIONS:
   a. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARD D1.1, LATEST EDITION.
   b. UNLESS SHOWN OTHERWISE, PROVIDE STANDARD FRAMED OR SEATED BEAM CONNECTIONS AS SHOWN IN PART 4 OF THE AISC"MANUAL OF STEEL CONSTRUCTION".
   c. UNLESS GREATER REACTIONS ARE INDICATED ON THE PLANS, PROVIDE CONNECTIONS DEVELOPING AT LEAST ONE HALF OF THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE TABLES OF THE AISC MANUAL FOR THE GIVEN SECTION AND SPAN OF THE BEAM. IN NO CASE SHALL THE LENGTH OF THE FRAMED CONNECTIONS BE LESS THAN ONE HALF THE "T" DIMENSION OF THE BEAM.

5. ERECTION: PROVIDE ADEQUATE EQUIPMENT TO PERFORM THE WORK WITHOUT DAMAGE TO PROPERTY AND PROVIDE COMPLETE SAFETY TO PUBLIC, WORKMEN AND PROPERTY.

6. SHOP PAINT: STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF RUST INHIBITIVE PRIMER (SSPC PAINT 15, RED OXIDE).

7. FIELD PAINT: TOUCH UP ALL BOLTS AND WELDS WITH SHOP PAINT.

8. CONTRACTOR SHALL SUBMIT 3 PRINTS OF ERECTION PLANS AND DETAIL SHOP DRAWINGS FOR REVIEW BY ENGINEER BEFORE FABRICATION.

9. THE CONTRACTOR SHALL NOT CUT OR ALTER IN ANY WAY THE STRUCTURAL MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER.

10. GROUT UNDER ALL BASE PLATES AND BEARING PLATES WITH NON-SHRINK TYPE GROUT, MINIMUM COMPRESSIVE STRENGTH OF 7000 PSI AT 28 DAYS.

11. UNLESS NOTED OTHERWISE, BEAMS ON MASONRY WALLS SHALL BEAR A LENGTH EQUAL TO THE BEAM DEPTH, 8 INCHES MINIMUM.

STEEL JOISTS

1. JOISTS TO BE FABRICATED AND ERECTED IN COMPLIANCE WITH THE STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR "K" SERIES JOISTS.

2. PROVIDE EXTENDED ENDS WHERE INDICATED, COMPLYING WITH MANUFACTURERS STANDARDS.

3. PROVIDE CEILING EXTENSIONS IN AREA HAVING CEILINGS ATTACHED DIRECTLY TO JOIST BOTTOM CHORDS.

4. PROVIDE GALVANIZED JOIST. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE JOISTS WILL ALSO RECEIVE A PROTECTIVE COATING, TNEMEC SERIES 115 UNIBOND DF OR EQUAL.

5. K-SERIES STEEL JOIST SHALL BE CONNECTED TO STEEL BY 1/8" FILLET WELD, 1" LONG, EACH SIDE (MIN).

6. UNLESS NOTED, K-SERIES STEEL JOIST SHALL HAVE A 2-1/2" DEEP BEARING. WHERE STEEL JOIST OR GIRDER SLOPE EXCEEDS 1/4" PER FT. PROVIDE SLOPED BEARINGS.

7. CROSS BRIDGING SHALL BE AN ANGLE DESIGNED FOR L/R=200 OR LESS. HORIZONTAL BRIDGING SHALL BE AND ANGLE AT THE TOP AND BOTTOM CORDS OF THE JOIST DESIGNED FOR L/R=300 OR LESS. THE ENDS OF ALL BRIDGING LINES TERMINATING AR WALLS OR BEAMS SHALL BE ANCHORED TO THE WALLS OR BEAMS.

8. CONTRACTOR SHALL SUBMIT ERECTION PLANS AND DETAIL SHOP DRAWINGS FOR REVIEW BY ENGINEER BEFORE FABRICATION.

METAL ROOF DECK

1. ROOF DECK SHALL CONFORM TO STEEL DECK INSTITUTE DESIGN MANUEL, L.E.

2. ROOF DECK TO BE 1-1/2", 22 GA TYPE B, GALV. ROOF DECK. DECKING TO CONFORM TO ASTM A653, GRADE 33, MINIMUM FY = 33 KSI.

3. DECKING IS TO BE GALVANIZED PER ASTM A653, G60. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

4. ROOF DECKING SHALL BE FASTENED AS FOLLOWS:
   A. SUPPORTS: 5/8" PUDDLE WELD IN 36/ PATTERN
   B. SIDE LAPS: (3) #10 TEKS PER SPAN

5. THE ROOF INTERIOR SHALL ALSO RECEIVE A PROTECTIVE COATING OF TNEMEC SERIES 115 UNIBOND DF OR EQUAL, AFTER INSTALLATION.

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
BG	BELOW GRADE
C	CENTER LINE
COL	COLUMN
CJ	CONTROL JOINT
CONC.	CONCRETE
CONT.	CONTINUOUS
DOD	DEPARTMENT OF DEFENSE
DWG	DRAWING
Ø	DIAMETER
EA	EACH WAY
ED	EDUCATION
EJ	EXPANSION JOINT
EW	EACH WAY
FS	FOOTING STEP
L	ANGLE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LW	LONG WAY
MP	MULTIPURPOSE
PAF	POWDER ACTUATED FASTENER
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RW	RETAINING WALL
SW	SHORT WAY
SSPC	STEEL STRUCTURES PAINTING COUNCIL
TG	TRUSS GIRDER
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WWM	WELDED WIRE MESH

LEGEND

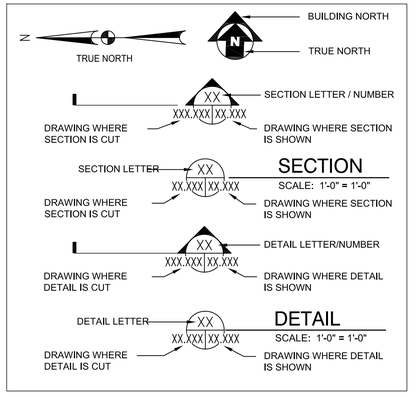
CONCRETE SLAB

CONTINUOUS FOOTING

8" CMU WALL

SLAB STEP DOWN

SLAB CONTROL JOINT



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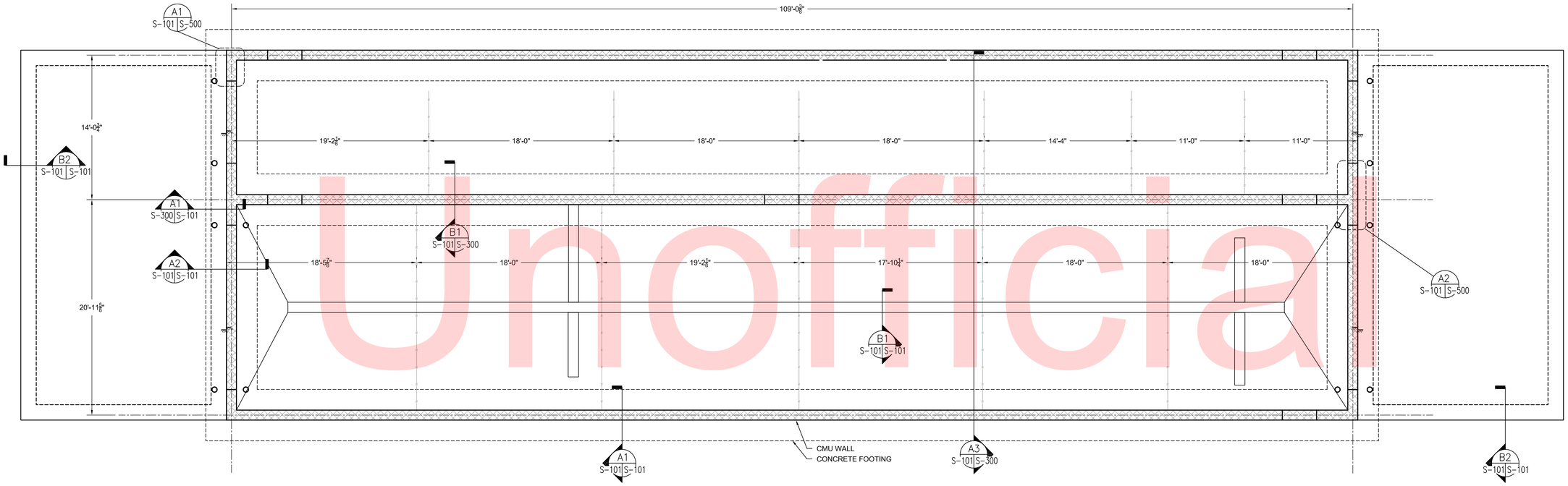
S-001

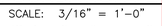
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A
				COUNTY KENT	DESIGNED BY: AA
					CHECKED BY: DJO
				STRUCTURAL GENERAL NOTES	SHEET NO. 19
					TOTAL SHTS. 39

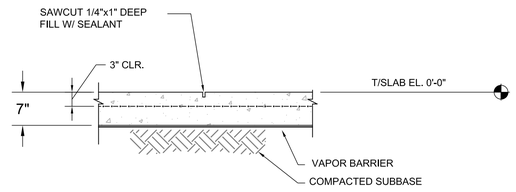


DRAWING NOTES:

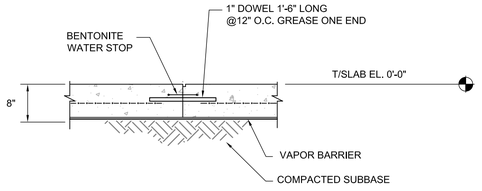
1. COORDINATE WITH ARCH. MEP/ AND EQUIPMENT MANUFACTURER FOR SLAB PENETRATION LOCATIONS.
2. FLOOR SURFACE SHALL BE COATED WITH ECONOSURF ES-2565 BROADCAST/RESURFACER COMPOSITE SYSTEM OR APPROVED EQUAL.
3. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775.
4. EPOXY COATED WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 884.
5. DECKING IS TO BE GALVANIZED PER ASTM A653, G60. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.
6. THE ROOF INTERIOR SHALL ALSO RECEIVE A PROTECTIVE COATING OF TNEMEC SERIES 115 UNIBOND DF OR EQUAL, AFTER INSTALLATION.

C4 S-101 S-101 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"

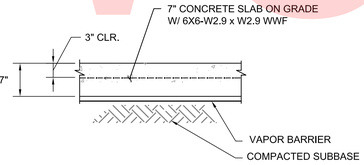




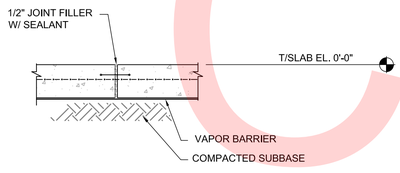
B4 S-101 S-101 CONTROL JOINT DETAIL
SCALE: 3/4" = 1'-0"



A4 S-101 S-101 CONSTRUCTON JOINT
SCALE: 3/4" = 1'-0"

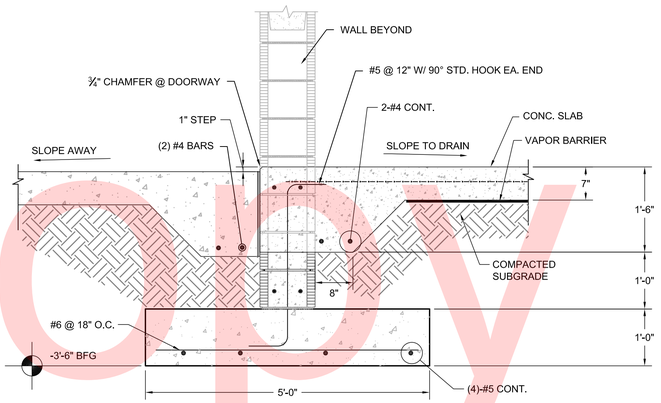


B3 S-101 S-101 TYPICAL SLAB
SCALE: 3/4" = 1'-0"

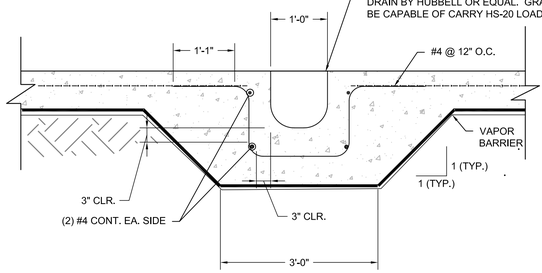


A3 S-101 S-101 EXPANSION JOINT
SCALE: 3/4" = 1'-0"

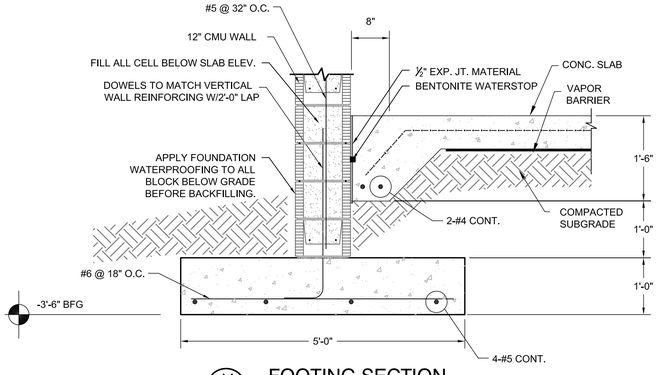
B2 S-101 S-101 EXT SLAB TURN DOWN
SCALE: 3/4" = 1'-0"



A2 S-101 S-101 DOORWAY DETAIL
SCALE: 3/4" = 1'-0"



B1 S-101 S-101 TRENCH DRAIN
SCALE: 3/4" = 1'-0"



A1 S-101 S-101 FOOTING SECTION
SCALE: 3/4" = 1'-0"

S-101

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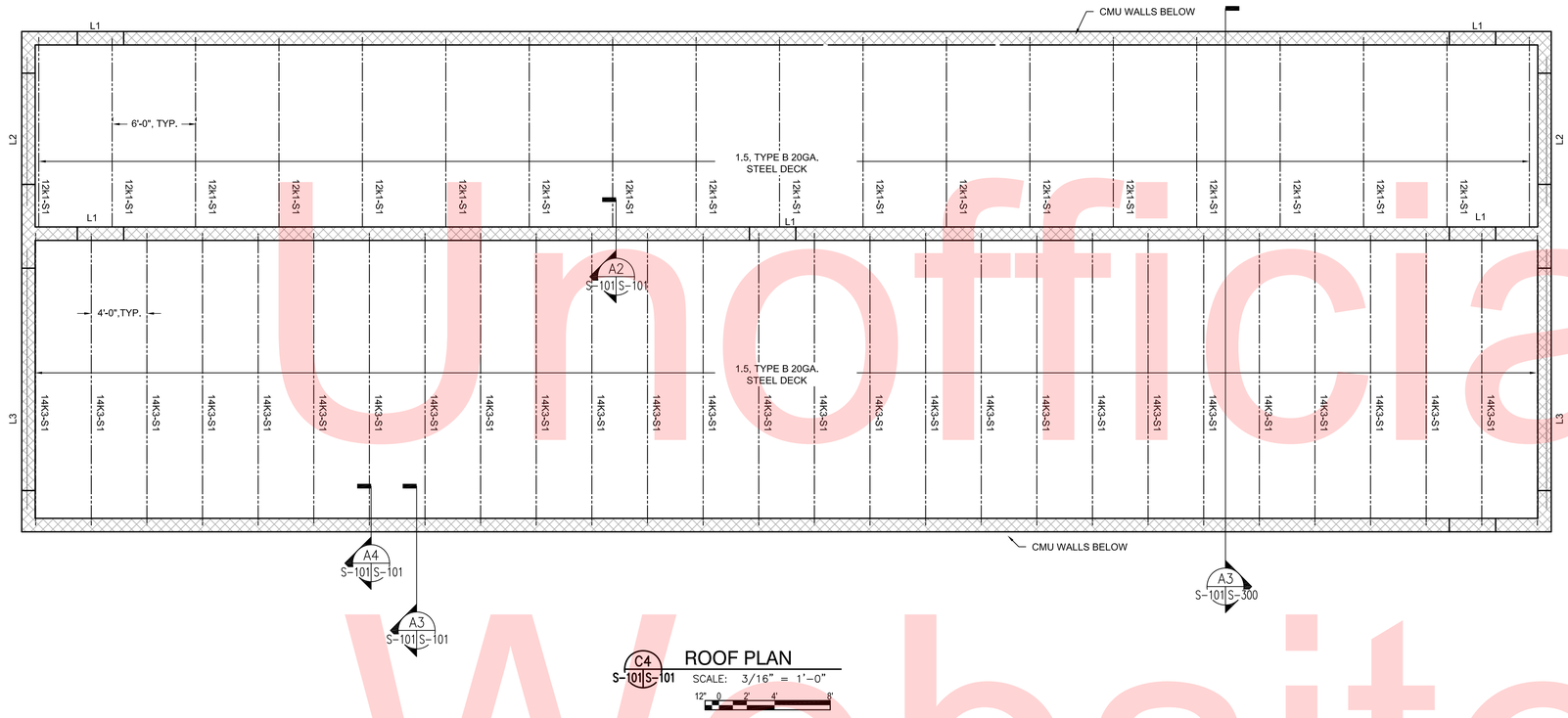
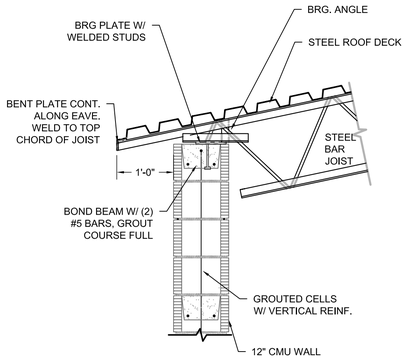
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102 / COUNTY KENT	BRIDGE NO. N/A / DESIGNED BY: AA / CHECKED BY: DJO
					STRUCTURAL FLOOR PLAN
					SHEET NO. 20 / TOTAL SHTS. 39



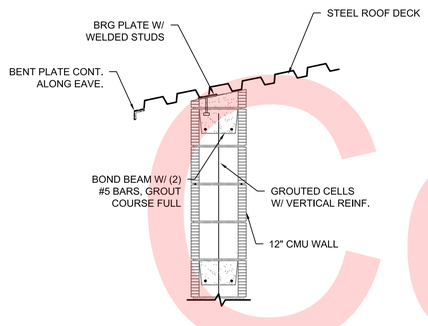
C4 S-101 S-101 **ROOF PLAN**
SCALE: 3/16" = 1'-0"
12" 0 2' 4' 8'

DRAWING NOTES:

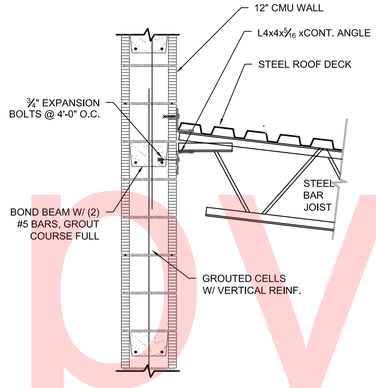
1. ALL STEEL ELEMENTS SHALL BE GALVANIZED AND RECEIVE A SPRAY APPLIED PROTECTIVE COATING.
2. SEE SHEET S-500 FOR LINTEL SCHEDULE.
3. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775.
4. EPOXY COATED WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 884.
5. DECKING IS TO BE GALVANIZED PER ASTM A653, G60. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.
6. THE ROOF INTERIOR SHALL ALSO RECEIVE A PROTECTIVE COATING OF TNEMEC SERIES 115 UNIBOND DF OR EQUAL, AFTER INSTALLATION.



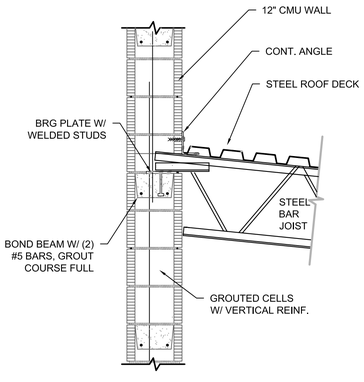
A4 S-101 S-101 **BAR JOIST WALL CONNECTION**
SCALE: 3/4" = 1'-0"
12" 0 1' 2'



A3 S-101 S-101 **ROOF CONNECTION BETWEEN JOIST**
SCALE: 3/4" = 1'-0"
12" 0 1' 2'



A2 S-101 S-101 **JOIST BRG. DETAIL**
SCALE: 3/4" = 1'-0"
12" 0 1' 2'



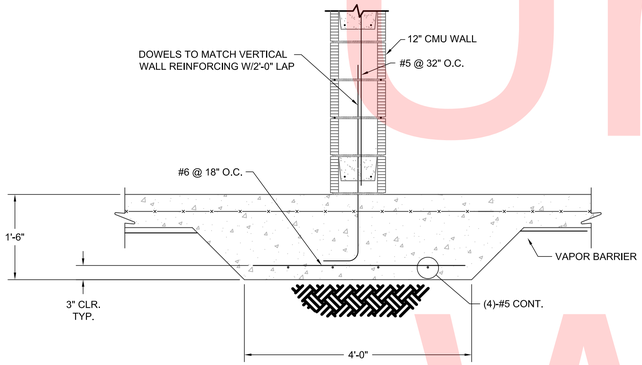
A1 S-101 S-101 **ALT. JOIST BRG. DETAIL**
SCALE: 3/4" = 1'-0"
12" 0 1' 2'

S-102

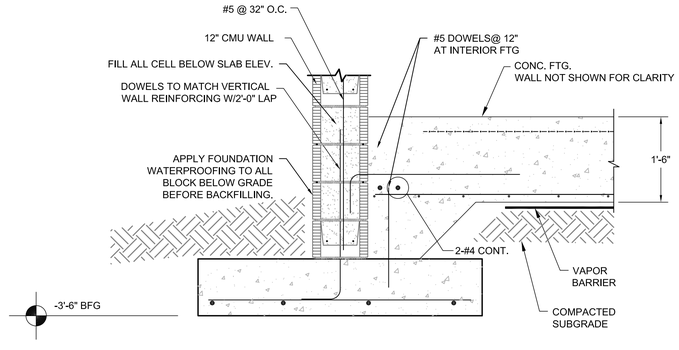
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	STRUCTURAL ROOF PLAN	SHEET NO. 21
			COUNTY KENT	DESIGNED BY: AA		TOTAL SHTS. 39
				CHECKED BY: DJO		

DRAWING NOTES:

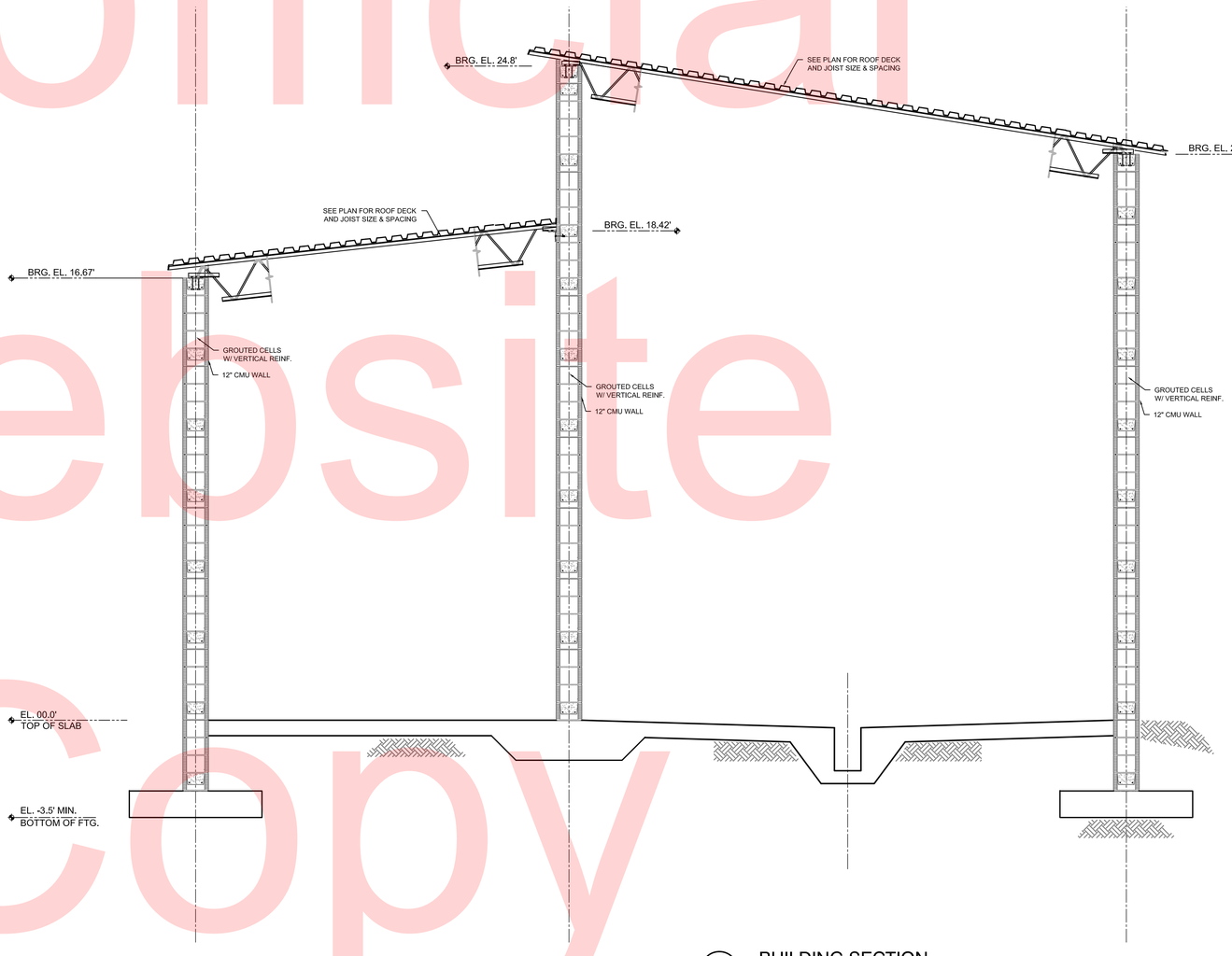
1. ALL STEEL ELEMENTS SHALL BE GALVANIZED AND RECEIVE A SPRAY APPLIED PROTECTIVE COATING.
2. SEE SHEET S-500 FOR LINTEL SCHEDULE.
3. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775.
4. EPOXY COATED WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 884.
5. DECKING IS TO BE GALVANIZED PER ASTM A653, G60. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.
6. THE ROOF INTERIOR SHALL ALSO RECEIVE A PROTECTIVE COATING OF TNEMEC SERIES 115 UNIBOND DF OR EQUAL, AFTER INSTALLATION.



B1 S-101 | S-300 FOOTING SECTION
SCALE: 3/4" = 1'-0"
12" 0 1' 2'



A1 S-101 | S-300 FOOTING SECTION
SCALE: 3/4" = 1'-0"
12" 0 1' 2'



A3 S-100 | S-300 | S-101 BUILDING SECTION
SCALE: 3/8" = 1'-0"
12" 0 1' 2' 4'

S-300

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	SECTION	SHEET NO. 22
				COUNTY KENT	DESIGNED BY: AA		TOTAL SHTS. 39
					CHECKED BY: DJO		

CMU LINTEL SCHEDULE

OPENING WIDTH	CMU THICKNESS	LINTEL DEPTH	HORIZONTAL REINFORCING	END BEARING	STIRRUPS
4'-0" OR LESS	12"	8"	2-#5 BOTTOM	8"	
4'-1" TO 6'-0"	12"	8"	1-#4 TOP 2-#5 BOTTOM	16"	#3 @ 16"
6'-1" TO 8'-0"	12"	16"	2-#4 TOP 2-#6 BOTTOM	16"	#3 @ 16"

OVER 8'-0" (OR 6'-6")-SEE STEEL LINTEL SCHEDULE UNLESS OTHERWISE NOTED ON DRAWING

Fy=60KSI
F'm=1900PSI

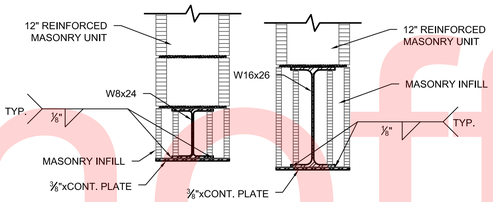
CMU LAP SPLICE SCHEDULE

BAR SIZE	MIN. LENGTH 8" BLOCK (IN)	MIN. LENGTH 12" BLOCK (IN)
3	12	12
4	12	12
5	19	12.5
6	36	23.5
7	50	32
8	77	48
9	NP	63

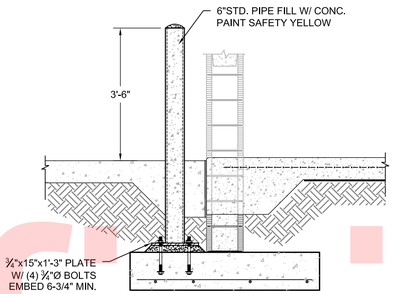
STEEL LINTEL SCHEDULE

MARK	SHAPE	MATERIALS	END BEARING	BEARING	LOCATION
L2		W8x24	8"	OPEN'S-6'-6" TO 10'-0" USE 7½" x7½"x ⅜" BRG. PLATE W/ SLOT HOLES FOR 2-¾"Øx8" +3" HOOK ANCHOR BOLTS	EXT. WALLS
L3		W16x36	12"	OPEN'S-OVER 10'-0" USE 7½" x15"x ⅜" BRG. PLATE W/ SLOT HOLES FOR 2-¾"Øx8" +3" HOOK ANCHOR BOLTS	EXT. WALLS

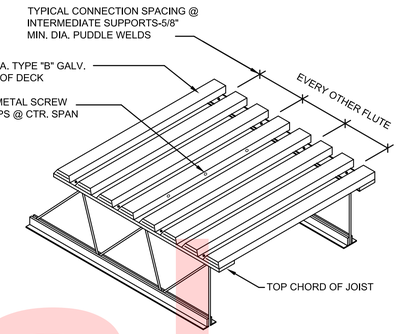
NOTE: ALSO SEE ARCH. SHEETS FOR ADDITIONAL DOOR AND WINDOW HEAD DETAILS. ALL STEEL ELEMENTS IN EXTERIOR WALL SHALL BE HOT DIPPED GALVANIZED. SEE DETAIL D3 ON THIS SHEET FOR LINTEL SUPPORT PLATE DETAIL.



D3 TYP. S-500 LINTEL SUPPORT PLATE DETAIL
SCALE: NO SCALE



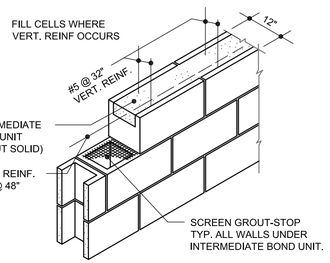
D2 TYP. S-500 BOLLARD DETAIL
SCALE: 1/2" = 1'-0"



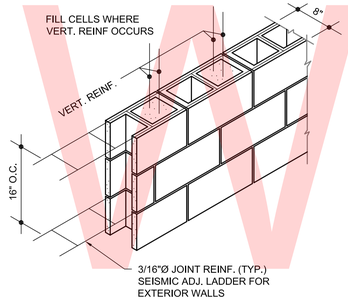
D1 TYP. S-500 STEEL DECK DETAIL
SCALE: NO SCALE

DRAWING NOTES:

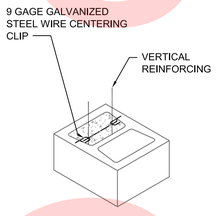
1. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM A775.
2. EPOXY COATED WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM 884.
3. DECKING IS TO BE GALVANIZED PER ASTM A653, G60. TOUCH UP GALVANIZED SURFACES WITH GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.
4. THE ROOF INTERIOR SHALL ALSO RECEIVE A PROTECTIVE COATING OF TNEMEC SERIES 115 UNIBOND DF OR EQUAL, AFTER INSTALLATION.



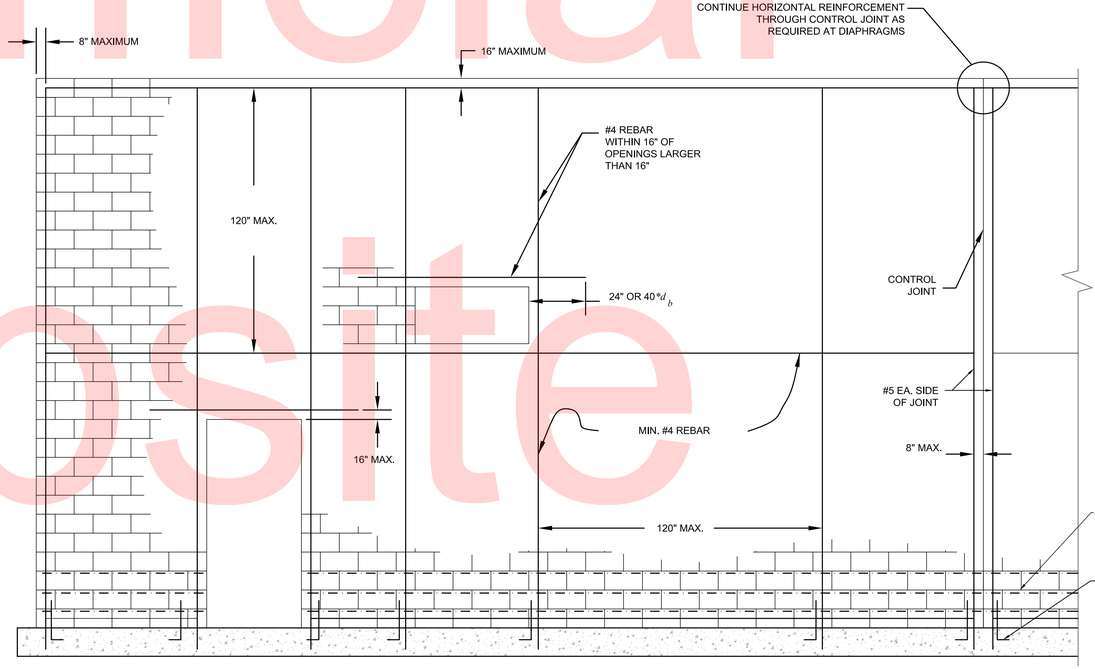
B6 TYP. S-500 TYP. WALL REINF.
SCALE: 3/4" = 1'-0"



B5 TYP. S-500 JOINT REINFORCING
SCALE: 3/4" = 1'-0"

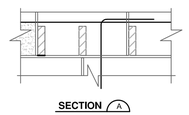


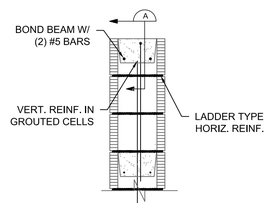
C5 TYP. S-500 VERT. BAR POSITIONERS
SCALE: NO SCALE



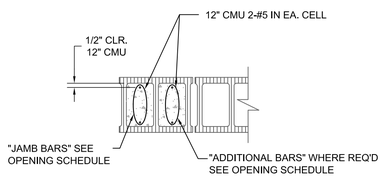
NOTES:
1. ALL VERT. BARS ARE TO BE CONTINUOUS FROM FLOOR TO FLOOR.
2. FILL ALL CORES w/REINFORCING BARS w/3000 PSI GROUT.
3. THIS IS MIN. REINF. REQUIRED. SEE WALL SECTIONS FOR ADDITIONAL REINFORCING.

B3 TYP. S-500 MINIMUM REINFORCING
SCALE: NO SCALE

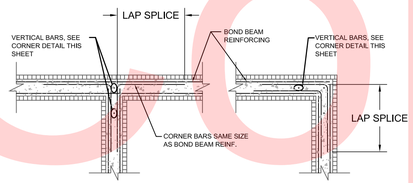




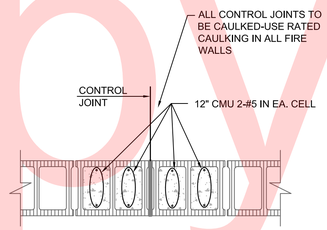
A6 TYP. S-500 SECTION @ TOP OF WALL
SCALE: NO SCALE



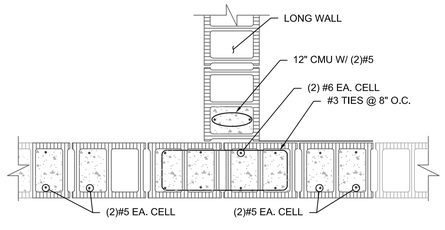
A5 TYP. S-500 JAMB REINFORCING
SCALE: 3/4" = 1'-0"



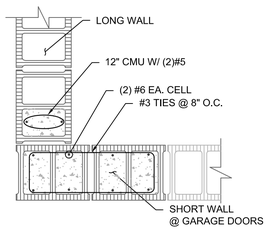
A4 TYP. S-500 BOND BEAM INTERSECTIONS
SCALE: 1/2" = 1'-0"



A3 TYP. S-500 CONTROL JOINT
SCALE: 3/4" = 1'-0"



A2 TYP. S-500 VERT. REINF. @ CORNERS
SCALE: 3/4" = 1'-0"



A1 TYP. S-500 VERT. REINF. @ CORNERS
SCALE: 3/4" = 1'-0"

S-500

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A
T201680102	DESIGNED BY:	AA
COUNTY	CHECKED BY:	DJO
KENT		

STRUCTURAL DETAILS

SHEET NO.
23
TOTAL SHTS.
39

MECHANICAL & PLUMBING LEGEND

SYMBOL	DESCRIPTION
	SOIL, WASTE, OR SANITARY PIPE
GI	GREASE INTERCEPTOR SANITARY PIPE
	STORM WATER PIPE
OI	OIL INTERCEPTOR STORM WATER PIPE
	VENT PIPE
	DOMESTIC COLD WATER PIPE
	DOMESTIC HOT WATER PIPE
	DOMESTIC HOT WATER RETURN PIPE
S	SPRINKLER SUPPLY PIPE
F	FIRE LINE PIPE
G	NATURAL GAS PIPE
CO CO	CLEANOUT (WALL/FLOOR)
T	THERMOSTAT OR TEMPERATURE SENSOR
	PIPE CAP
	BRANCH TAKE OFF
	PIPE DROP TEE
	PIPE RISE TEE
	SHUT-OFF VALVE
	UNION
	STRAINER W/BLOWDOWN VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BALANCING VALVE (W/MEMORY STOP)
	BACKWATER VALVE
	BUTTERFLY VALVE
	HOSE END DRAIN VALVE
	BACKFLOW PREVENTER
	CHECK VALVE; (ARROW INDICATES DIRECTION OF FLOW)
	FLOOR DRAIN
	HOSE BIBB

SYMBOL	DESCRIPTION
	GAUGE COCK
	FLANGED PIPE CONNECTION
	FLOW DIRECTION ARROW
	VALVE IN VERTICAL PIPE
	WATER HAMMER ARRESTER
	AIR FLOW
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	PRESSURE GAUGE w/GAUGE COCK
	THERMOMETER
18"x12"	DUCT (FIRST FIGURE SIDE SHOWN)
D	DROP IN DIRECTION OF ARROW
R	RISE IN DIRECTION OF ARROW
SD	SMOKE DETECTOR
	EXHAUST AIR GRILLE
	MANUAL VOLUME DAMPER
	SQUARE TO ROUND DUCT TRANSITION
	FLEXIBLE CONNECTION
	ACCESS DOOR
	MOTOR OPERATED DAMPER
	DUCT TRANSITION
	RECTANGULAR BRANCH TAKE-OFF
	EXHAUST/RELIEF AIR DUCT RISER
	ELBOW WITH DOUBLE THICKNESS TURNING VANES
E	EMERGENCY FAN DISCONNECT SWITCH
ø	DIAMETER
	POINT OF CONNECTION, NEW TO EXISTING
	POINT OF DISCONNECTION FROM EXISTING
1	SYMBOL FOR SPECIFIC NOTE. NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.
NO2	NITROGEN DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR

ABBREVIATIONS

@	AT
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
APPROX	APPROXIMATELY
BDD	BACKDRAFT DAMPER
BFP	BACKFLOW PREVENTOR
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BTU/HR	BRITISH THERMAL UNITS PER HOUR
C	COMMON
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT, CONNECTION
CONT'N	CONTINUATION
CV	CHECK VALVE
CW	DOMESTIC COLD WATER
D	DEEP, DEPTH
DB	DECIBEL OR DRY BULB
DDC	DIRECT DIGITAL CONTROL
DIA, ø	DIAMETER
DIFF	DIFFERENTIAL
DL	DOOR LOUVER
DN	DOWN
DPR	DAMPER
DWG	DRAWING
EA	EXHAUST AIR
EFF	EFFICIENCY
EF	EXHAUST FAN
ELEC	ELECTRIC
ESP	EXTERNAL STATIC PRESSURE
EX	EXISTING
EXH	EXHAUST
°F	DEGREES FAHRENHEIT
F&T	FLEXIBLE CONNECTION
FD	FIRE DAMPER OR FOUNDATION DRAINAGE
FDC	FIRE DEPARTMENT CONNECTION
FDR	FLOOR DRAIN
FDV	FIRE DEPARTMENT VALVE
FL	FLOOR
FLA	FULL LOAD AMPERES
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT, '	FOOT, FEET OR FLASH TANK
FT HD	FEET OF HEAD
G	NATURAL GAS PIPE OR EXHAUST GRILLE
GAL	GALLON, GALLONS
GPM	GALLONS PER MINUTE
H	HIGH, HEIGHT
H2O	WATER
HB	HOSE BIBB
HED	HOSE END DRAIN VALVE
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HWC	DOMESTIC HOT WATER CIRCULATING
IN, "	INCH, INCHES
INV	INVERT
ISOL	ISOLATION
KW	KILOWATTS
L	LONG, LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPERES
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
MTD	MOUNTED
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA OR NORMALLY CLOSED
NIC	NOT IN CONTRACT
NOM	NOMINAL
NO	NORMALLY OPEN
No	NUMBER
OA	OUTDOOR AIR
OAI	OUTDOOR AIR INTAKE
OAT	OUTDOOR AIR TEMPERATURE
OED	OPEN END DUCT WITH 1/2" FRAMED WIRE MESH SCREEN
OI	OIL INTERCEPTOR
OS&Y	OUTSIDE STEM & YOKE VALVE
%	PERCENT
PD	PRESSURE DROP OR PUMP DISCHARGE
PH	PHASE
POD	POINT OF DISCONNECTION
PR	PRESSURE
PRESS, P	PRESSURE REDUCING VALVE
PS	PRESSURE SENSOR
PSI	POUNDS PER SQUARE INCH POUNDS
PSIG	PER SQUARE INCH GAUGE
PUH	PROPELLER UNIT HEATER
R	EXHAUST AIR REGISTER
REQ'D	REQUIRED
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPERES
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RX	REMOVE EXISTING
S	SPRINKLER SUPPLY PIPE
SAN	SANITARY, SOIL, WASTE
SD	SMOKE DAMPER
SF	SQUARE FEET
S/M	SHEET METAL
SP	STATIC PRESSURE
SPD	STATIC PRESSURE DROP
SPEC	SPECIFICATION
SQ	SQUARE
SQ FT	SQUARE FOOT
SPR	SPRINKLER LINE
S/S	START/STOP
SS	STAINLESS STEEL
STL	STEEL
SW	STORM WATER
TEMP, T	TEMPERATURE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VD	VOLUME DAMPER
VEL	VELOCITY
VENT	VENTILATION
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
ISOL VLV	ISOLATION VALVE
VP	SANITARY VENT PIPE
VTR	VENT THROUGH ROOF
W	WIDTH
W/	WITH
WC	WATER COLUMN
WH	WALL HYDRANT
ZN	ZONE
W/O	WITHOUT

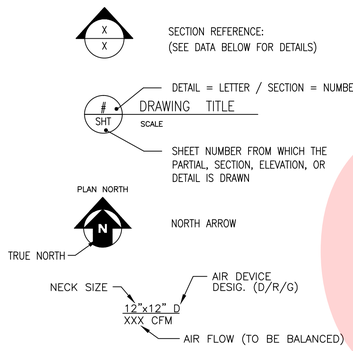
GENERAL NOTES

1. WORK SHALL CONFORM TO THE CONTRACT DRAWINGS, SPECIFICATIONS AND THE LATEST APPLICABLE INTERNATIONAL MECHANICAL AND PLUMBING CODE AND THE NATIONAL ELECTRIC CODE. WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 70, THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE, OSHA AND NATIONAL SAFETY CODE REQUIREMENTS.
2. THE SCOPE OF WORK INDICATED IN THESE DOCUMENTS SHALL INCLUDE MECHANICAL AND ELECTRICAL SYSTEMS, FULLY ADJUSTED, TESTED AND READY TO USE. PROVIDE ITEMS NECESSARY TO COMPLETE THE SYSTEMS. EXAMINE WORK INDICATED FOR TRADES IN ORDER TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO BE COMPLETED.
3. IT IS THE INTENTION OF THESE DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE, TESTED AND READY FOR USE."
4. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY COMPONENT AND/OR ACCESSORY REQUIRED FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL PROVIDE ITEMS NECESSARY FOR A PROPERLY WORKING SYSTEM IN COMPLIANCE WITH ACCEPTED INDUSTRY STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
5. PRIOR TO BID, THE CONTRACTOR SHALL VISIT THE SITE AND IDENTIFY ITEMS THAT MAY AFFECT THEIR BID. PRIOR TO THE INSTALLATION, FABRICATION, REMOVAL, OR RELOCATION OF ANY WORK, THE CONTRACTORS SHALL REVIEW THE ACTUAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND SHALL COORDINATE WORK WITH THE PLANS, EXISTING EQUIPMENT AND SYSTEMS, BUILDING STRUCTURE AND WORK OF OTHER TRADES. WHERE CONFLICTS OCCUR, OR IF CONNECTIONS THERETO CAN NOT BE MADE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO MATERIAL FABRICATION OR INSTALLATION.
6. WHERE THE WORK OF VARIOUS TRADES WILL BE INSTALLED IN CLOSE PROXIMITY TO ONE ANOTHER OR WHERE THERE IS EVIDENCE THAT THE WORK OF ONE TRADE WILL INTERFERE WITH WORK OF ANOTHER, THE CONTRACTOR SHALL WORK OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF THE CONTRACTOR ALLOWS ONE TRADE TO INSTALL HIS WORK BEFORE COORDINATING WITH WORK OF OTHER TRADES THE CONTRACTOR SHALL MAKE NECESSARY CHANGES TO CORRECT THE CONDITIONS IN A MANNER ACCEPTABLE TO THE OWNER AND THE CONTRACTOR SHALL BEAR THE COST OF SUCH CORRECTIONS.
7. THE CONTRACTOR SHALL LOCATE EQUIPMENT WHICH MUST BE SERVICED, OPERATED, OR MAINTAINED IN FULLY ACCESSIBLE POSITION. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO, VALVES, MOTORS, CONTROLLERS, DRAIN PANS, ETC. IF REQUIRED FOR ACCESSIBILITY, FURNISH ACCESS DOORS FOR THE PURPOSE. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR BETTER ACCESSIBILITY.
8. WORK IN OCCUPIED SPACE SHALL BE COORDINATED WITH THE OWNER. SHOULD ANY OUTAGES BE REQUIRED IN THE COURSE OF THIS PROJECT, THE CONTRACTOR SHALL COORDINATE SUCH OUTAGES WITH THE OWNER'S DESIGNATED REPRESENTATIVE, SCHEDULING ANY OUTAGES DURING THE NON WORKING HOURS, SO AS NOT TO EFFECT FACILITY OPERATIONS, 72 HOURS NOTICE WILL BE REQUIRED PRIOR TO ANY OUTAGE. NO OUTAGE MAY BE EXECUTED PRIOR TO APPROVAL OF THE OWNER'S DESIGNATED REPRESENTATIVE AND THE FACILITY MANAGER.
9. THE CONTRACTOR SHALL LEAVE THE ENTIRE MECHANICAL SYSTEM INSTALLED UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL, WITHOUT CHARGE, REPLACE ANY WORK OR MATERIALS WHICH DEVELOP DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
10. THE CONTRACTOR SHALL, DURING THE ONE YEAR WARRANTEE PERIOD, BE RESPONSIBLE FOR PROPER REPAIR AND ADJUSTMENTS OF MECHANICAL SYSTEMS AND EQUIPMENT, APPARATUS, DEVICES ETC. INSTALLED BY HIM, AND DO WORK NECESSARY TO ENSURE EFFICIENT AND PROPER FUNCTIONING.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL INCUR FINANCIAL RESPONSIBILITIES FOR, ANY DAMAGES CAUSED BY OR RESULTING FROM DEFECTS IN HIS WORK.
12. WHEREVER PIPES, CONDUITS, OR OTHER ITEMS PASS THROUGH FIRE RATED WALLS AND FLOORS, THE SPACE BETWEEN THE ITEM AND THE MASONRY OR THE SPACE BETWEEN THE ITEM AND THE SLEEVE SHALL BE ADEQUATELY FIRE STOPPED WITH A NON COMBUSTIBLE, NON MELTING MATERIAL IN ACCORDANCE WITH NFPA STANDARDS.
13. WALL OPENINGS RESULTING FROM DEMOLITION SHALL BE CLOSED AND FINISHED TO MATCH EXISTING.
14. FINISHES DAMAGED DURING THE PROJECTS SHALL BE REPAIRED TO MATCH EXISTING.

DESIGNATIONS

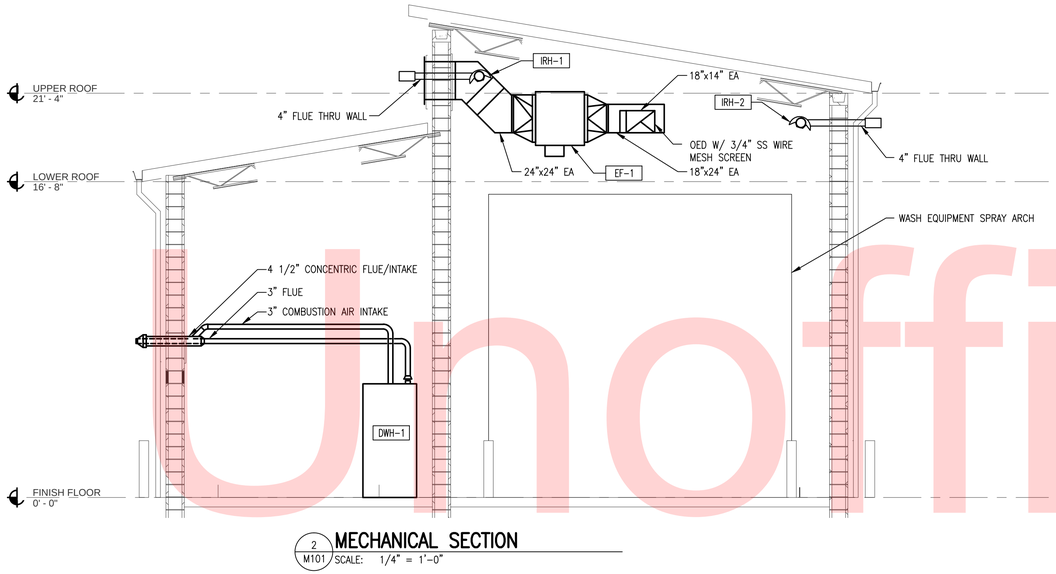
EQUIPMENT DESIGNATIONS

OAI-	OUTDOOR AIR INTAKE
IRH-	INFRARED HEATER
EF-	EXHAUST FAN
WH-	DOMESTIC WATER HEATER
UH-	UNIT HEATER



MP-001

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	MECHANICAL & PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
				COUNTY KENT	DESIGNED BY: SSP	SHEET NO. 24
					CHECKED BY: WWR	TOTAL SHTS. 39



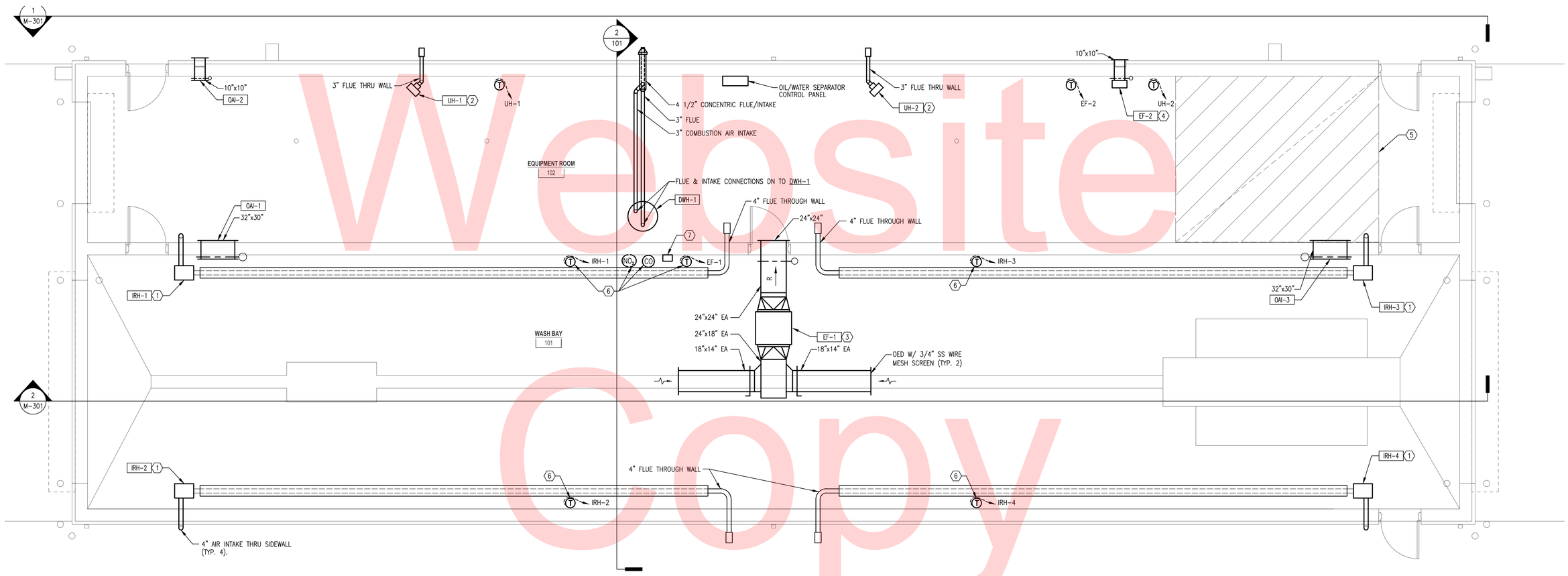
2 M101 **MECHANICAL SECTION**
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY SOLID (———) SHALL BE NEW WORK AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (———) SHALL BE EXISTING.
3. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
4. ALL EXHAUST, VENT, AND COMBUSTION AIR DUCTWORK IN WASHBAY TO BE ALUMINIZED OR STAINLESS STEEL PER SPECIFICATIONS.
5. ALL CONTROL DAMPERS IN WASH BAY TO BE RATED FOR SALT WATER RESISTANCE. ACTUATORS TO BE PROVIDED WITH NEMA 4X ENCLOSURES.

SHEET KEYNOTES:

1. PROVIDE NEW GAS-FIRED HARSH ENVIRONMENT INFRARED HEATER SUSPENDED FROM STRUCTURE ABOVE. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES. SEE DETAIL 1/M501 AND SEQUENCE 3/M701.
2. PROVIDE WALL MOUNTED INDIRECT GAS-FIRED PROPELLER UNIT HEATER. REFER TO DETAIL 6/M501, UNIT HEATER SCHEDULE ON M601, AND SEQUENCE 4/M701.
3. PROVIDE BELT-DRIVEN INLINE EXHAUST FAN. REFER TO DETAIL 2/M501 AND SEQUENCE 1/M701.
4. PROVIDE SIDEWALL EXHAUST FAN. REFER TO DETAIL 7/M501, FAN SCHEDULE ON SHEET M601, AND SEQUENCE 2/M701.
5. MAINTAIN FLOOR AREA CLEAR FOR FUTURE BRINE EQUIPMENT.
6. ALL SPACE SENSORS TO BE PROVIDED WITH WATER-TIGHT COVERS.
7. MANUAL OVERRIDE TIMER FOR EF-1. PROVIDE TIMER WITH WATER-TIGHT COVER.



1 M101 **MECHANICAL FIRST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

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

M-101

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JMT

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS		

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A
T201680102	DESIGNED BY:	SSP
COUNTY	CHECKED BY:	WWR
KENT		

MECHANICAL FIRST FLOOR PLAN

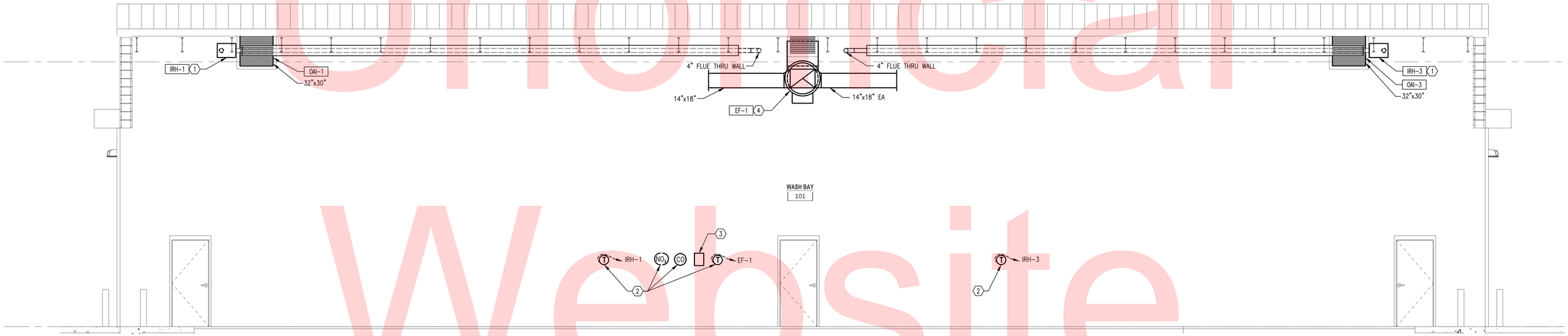
SHEET NO.
25
TOTAL SHTS.
39

SHEET KEYNOTES:

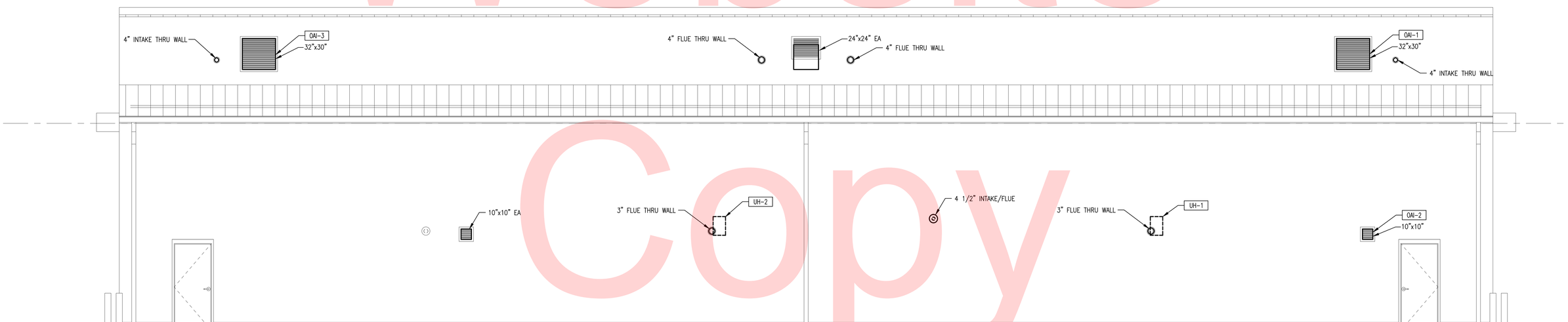
1. REFER TO DRAWING 2/M101 FOR MOUNTING HEIGHT AND ANGLE OF INFRARED HEATERS. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.
2. ALL SPACE SENSORS TO BE PROVIDED WITH WATER-TIGHT COVERS.
3. MANUAL OVERRIDE TIMER FOR EF-1. PROVIDE TIMER WITH WATER-TIGHT COVER.
4. MOUNT EF-1 18'-0" A.F.F. SUPPORTS AND HARDWARE SHALL BE CORROSION RESISTANT.

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY SOLID (———) SHALL BE NEW WORK AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (———) SHALL BE EXISTING.
3. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
4. ALL EXHAUST, VENT, AND COMBUSTION AIR DUCTWORK IN WASHBAY TO BE ALUMINIZED OR STAINLESS STEEL PER SPECIFICATIONS.
5. ALL CONTROL DAMPERS IN WASH BAY TO BE RATED FOR SALT WATER RESISTANCE. ACTUATORS TO BE PROVIDED WITH NEMA 4X ENCLOSURES.



1 M301 MECHANICAL SECTION – EAST
SCALE: 1/4" = 1'-0"



2 M301 MECHANICAL ELEVATION – WEST
SCALE: 1/4" = 1'-0"

M-301

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DELAWARE
DEPARTMENT OF TRANSPORTATION

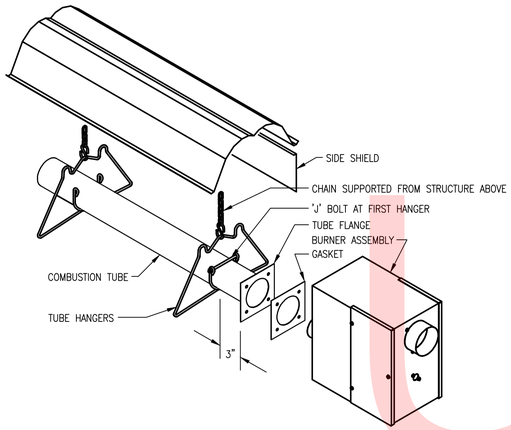
ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A
T201680102	DESIGNED BY:	SSP
COUNTY	CHECKED BY:	WWR
KENT		

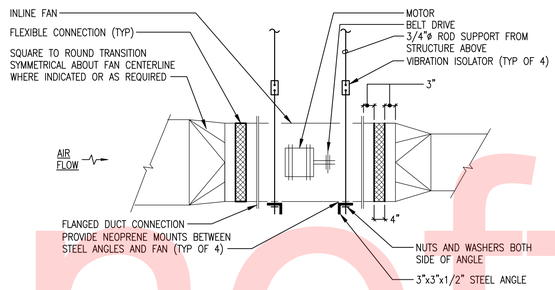
MECHANICAL ELEVATIONS

SHEET NO.
26
TOTAL SHTS.
39



1 M501 INFRARED RADIANT HEATER MOUNTING

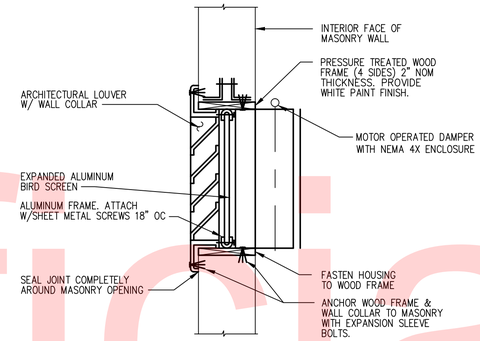
SCALE: NOT TO SCALE



NOTES:
1. INSTALL FAN WITH SUPPORTS AND HARDWARE SUITABLE FOR SALT WATER SPRAY.

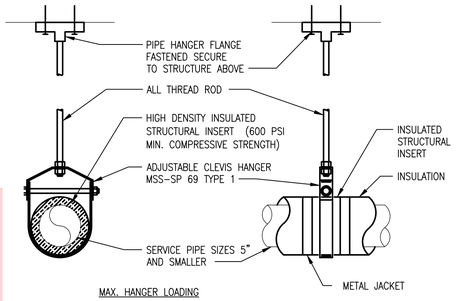
2 M501 INLINE FAN INSTALLATION

SCALE: NTS



3 M501 LOUVERED INTAKE WITH MOD

SCALE: NTS



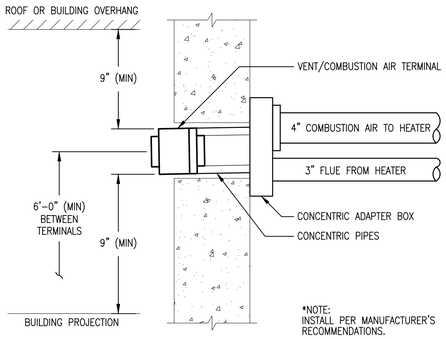
MAX. HANGER LOADING

PIPE SIZE	ROD DIA.	MAX. SPACING
1/2" THRU 2"	1/2"	8'
2 1/2" THRU 4"	5/8"	10'

NOTES:
1. THIS DETAIL SHALL BE USED AS A GUIDE. ALL HANGERS SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS SECTION 23-0529 'HANGERS AND SUPPORTS'.

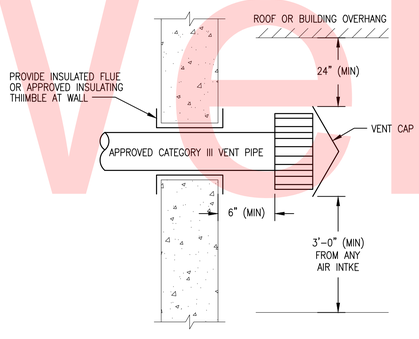
4 M501 HANGER SUPPORT

SCALE: NOT TO SCALE



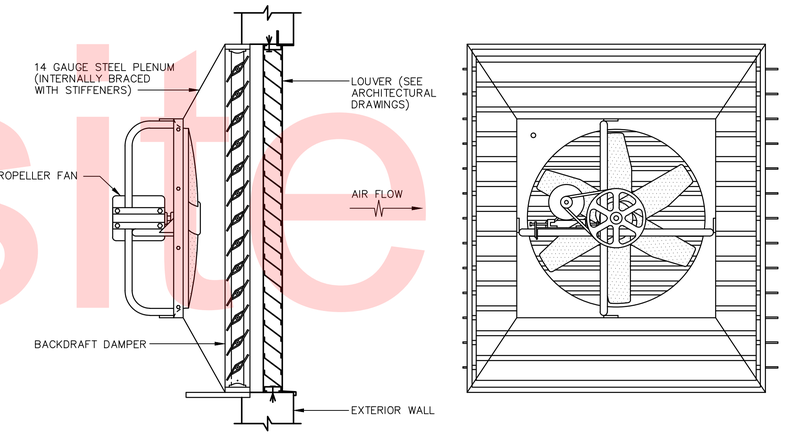
5 M501 VENT/COMBUSTION AIR TERMINAL INSTALLATION

SCALE: NOT TO SCALE



6 M501 FLUE THRU WALL INSTALLATION

SCALE: NOT TO SCALE



7 M501 PROPELLER EXHAUST FAN

SCALE: NOT TO SCALE

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M-501

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	MECHANICAL DETAILS
				COUNTY KENT	DESIGNED BY: SSP	SHEET NO. 27
					CHECKED BY: WWR	TOTAL SHTS. 39

INFRARED HEATER SYSTEM SCHEDULE

DESIG.	INFRARED HEATER: GAS FIRED BURNER HIGH FIRE MBH INPUT	HIGH FIRE MBH OUTPUT	LOW FIRE MBH INPUT	LOW FIRE MBH OUTPUT	ELECTRIC AMPS	ELECTRIC VOLTS	DIMENSIONS LENGTH	DIMENSIONS WIDTH	DIMENSIONS HEIGHT	WEIGHT LBS	BASIS	NOTES
IRH-1	80	64	60.0	48.0	1.8	120/1/60	40	13.5"	9.5"	96	REZNOR VCT	1
IRH-2	80	64	60.0	48.0	1.8	120/1/60	40	13.5"	9.5"	96	REZNOR VCT	1
IRH-3	80	64	60.0	48.0	1.8	120/1/60	40	13.5"	9.5"	96	REZNOR VCT	1
IRH-4	80	64	60.0	48.0	1.8	120/1/60	40	13.5"	9.5"	96	REZNOR VCT	1

NOTES:
1.) PROVIDE INFRARED HEATER, ASSOCIATED PIPING, VENTS, AND SUPPORTS SUITABLE FOR SALT SPRAY ENVIRONMENT.

FAN SCHEDULE

DESIG.	LOCATION	SERVES	CFM	SP IN. W.G.	FAN RPM	MOTOR HP (W)	DRIVE	ELEC VOLT/PH	APPROX WEIGHT (LBS)	BASIS	NOTES
EF-1	INLINE	WASH BAY	3,230	0.3	960	3/4	BELT	208/3	420	GREENHECK TCB	1, 2, 3, 4
EF-2	SIDEWALL	EQUIPMENT ROOM	150	0.15	1440	1/6	DIRECT	115/1	40	GREENHECK SE	1, 2, 3

NOTES:
1.) PROVIDE FANS WITH FACTORY INSTALLED SERVICE DISCONNECT.
2.) STARTER PROVIDED UNDER DIVISION 26.
3.) SEE SHEET M701 FOR SEQUENCE OF OPERATIONS.
4.) FAN SHALL HAVE ALUMINUM CONSTRUCTION WITH EPOXY COATING FOR CORROSION RESISTANCE. PROVIDE EASY MAINTENANCE ACCESS. SUPPORT FAN WITH MATERIALS SUITABLE FOR SALT SPRAY ENVIRONMENT.

UNIT HEATER SCHEDULE

DESIG.	SERVICE	FAN CFM	MAX FAN RPM	HEATING CAPACITY (NATURAL GAS) MBH INPUT	HEATING CAPACITY (NATURAL GAS) MBH OUTPUT	ELECTRICAL VOLTS/ PHASE	ELECTRICAL TOTAL AMPS	DIMENSIONS LENGTH (INCHES)	DIMENSIONS WIDTH (INCHES)	DIMENSIONS HEIGHT (INCHES)	OPERATING WEIGHT (LBS)	BASIS	NOTES
UH-1	EQUIPMENT ROOM	450	1550	30.0	24.6	115/1	1.9	26	26	12	55	REZNOR UDAP	1
UH-2	EQUIPMENT ROOM	450	1550	30.0	24.6	115/1	1.9	26	26	12	55	REZNOR UDAP	1

NOTES:
1). PROVIDE UNIT HEATER WITH FACTORY INSTALLED DISCONNECT.

M-601

DELAWARE
DEPARTMENT OF TRANSPORTATION

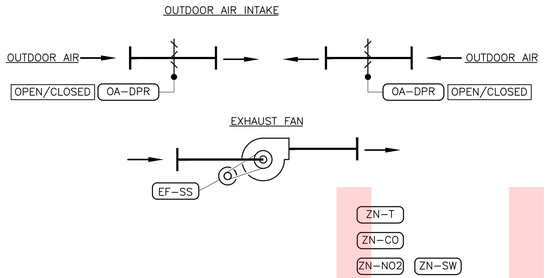
ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A
T201680102	DESIGNED BY:	SSP
COUNTY	CHECKED BY:	WWR
KENT		

MECHANICAL SCHEDULES

SHEET NO.
28
TOTAL SHTS.
39



1 M701 WASH BAY EXHAUST FAN (EF-1)

SCALE: NONE

A. GENERAL INFORMATION

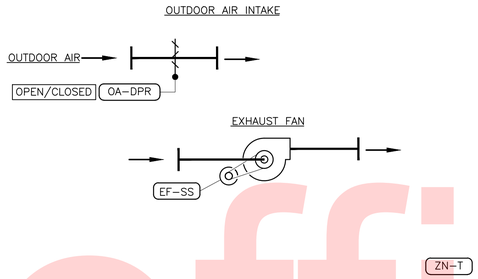
THE CONSTANT VOLUME EXHAUST FAN SERVES THE WASH BAY WITHIN THE BUILDING AND SHALL BE CALLED TO ENERGIZE THROUGH ANY OF THE FOLLOWING CONDITIONS:

1. WHEN THE SPACE TEMPERATURE EXCEEDS SETPOINT (85°F, ADJ.).
2. MANUAL OVERRIDE THROUGH A WALL MOUNTED SWITCH IN THE SPACE.
3. WHENEVER CARBON MONOXIDE (CO) LEVELS IN THE SPACE RISE ABOVE SETPOINT (25 PPM (ADJ.)) OR WHENEVER NITROGEN DIOXIDE (NO2) LEVELS RISE ABOVE SETPOINT (5 PPM (ADJ.)). ON A FALL IN SPACE CO LEVELS TO 5 PPM BELOW SETPOINT (ADJ.) AND SPACE NO2 LEVELS TO 2 PPM BELOW SETPOINT (ADJ.), THE FAN SHALL DE-ENERGIZE.

ON A CALL FOR THE EXHAUST FAN TO ENERGIZE, THE FOLLOWING START-UP SEQUENCE SHALL OCCUR:

- COMMAND OUTSIDE AIR DAMPERS TO OPEN AND PROVE THE DAMPERS ARE OPEN THROUGH AN END SWITCH.
- ENERGIZE ASSOCIATED EXHAUST FAN.

COORDINATE WITH FLOOR PLANS FOR DAMPERS, SENSOR, AND ASSOCIATED EXHAUST FAN LOCATIONS. WHEN EXHAUST FAN IS DE-ENERGIZED, THE OA DAMPERS SHALL BE CLOSED.



2 M701 EQUIPMENT ROOM EXHAUST FAN (EF-2)

SCALE: NONE

A. GENERAL INFORMATION

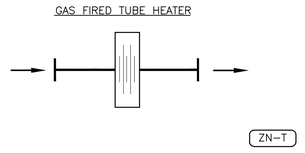
THE CONSTANT VOLUME EXHAUST FAN SERVES THE EQUIPMENT ROOM WITHIN THE BUILDING AND SHALL BE CONTROLLED TO RUN WHEN THE SPACE TEMPERATURE EXCEEDS SETPOINT (85°F, ADJ.).

ON A CALL FOR THE EXHAUST FAN TO ENERGIZE, THE FOLLOWING START-UP SEQUENCE SHALL OCCUR:

- COMMAND OUTSIDE AIR DAMPER TO OPEN AND PROVE THE DAMPER IS OPEN THROUGH AN END SWITCH.
- ENERGIZE ASSOCIATED EXHAUST FAN.

ON A DROP IN SPACE TEMPERATURE BELOW THERMOSTAT SETPOINT, THE EXHAUST MOTOR SHALL STOP AND THE MOD SHALL CLOSE. PROVIDE MINIMUM RUN TIMEOUTS (ADJ.) INITIALLY SET FOR 15 MINUTES RUN AND 15 MINUTES OFF.

COORDINATE WITH FLOOR PLANS FOR DAMPERS AND ASSOCIATED EXHAUST FAN LOCATIONS. WHEN EXHAUST FAN IS DE-ENERGIZED, THE OA DAMPER SHALL BE CLOSED.



3 M701 GAS-FIRED INFRARED HEATER

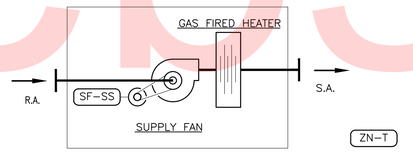
SCALE: NONE

A. GENERAL INFORMATION

THE INFRARED HEATERS (IRH-#) INCLUDE A RADIANT HEATING TUBE AND A TWO-STAGE NATURAL GAS FIRED BURNER. THE INFRARED HEATERS SHALL OPERATE AS FOLLOWS:

THE SPACE TEMPERATURE SHALL BE MONITORED BY A WALL MOUNTED ZONE TEMPERATURE THERMOSTAT.

1. UPON SENSING A DROP IN SPACE TEMPERATURE BELOW 55°F (ADJ.), THE ASSOCIATED IRH SHALL CYCLE STAGE 1 HEATING TO MAINTAIN SPACE TEMPERATURE SETPOINT 60°F (ADJ.).
2. UPON SENSING A SPACE TEMPERATURE BELOW 50°F (ADJ.), THE ASSOCIATED IRH SHALL CYCLE STAGE 2 HEATING. WHEN THE SPACE TEMPERATURE REACHES 55°F (ADJ.), THE IRH SHALL RETURN TO STAGE 1 HEATING.



4 M701 HORIZONTAL GAS-FIRED UNIT HEATER

SCALE: NONE

A. GENERAL INFORMATION

THE CONSTANT VOLUME WALL MOUNT UNIT HEATERS (UH-#) INCLUDE A CONSTANT VOLUME FAN AND A NATURAL GAS FIRED HEAT EXCHANGER. THE SPACE TEMPERATURE SHALL BE MONITORED BY A SPACE THERMOSTAT. WHEN THE ZONE THERMOSTAT INDICATES A SPACE TEMPERATURE BELOW 60°F (ADJ.), THE UNIT HEATER FAN SHALL RUN ONCE THE HEATING ELEMENT REACHES OPERATING TEMPERATURE. THE THERMOSTAT SHALL CYCLE THE UNIT HEATER AND UNIT HEATER FAN TO MAINTAIN A SPACE TEMPERATURE OF 60°F (ADJ.).

GENERAL CONTROL NOTES:

1. THESE CONTROL DRAWINGS INDICATE THE INTENDED SEQUENCES OF OPERATION FOR SYSTEMS TO BE CONTROLLED BY STANDALONE MEANS.
2. EQUIPMENT CONTROLS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND SHALL BE FIELD INSTALLED UNLESS OTHERWISE NOTED.
3. SENSORS AND MEASURING INSTRUMENTS SHOWN ON SEQUENCES THAT ARE NOT UTILIZED FOR THE SEQUENCE OF OPERATION ARE INTENDED TO PROVIDE OPERATOR INFORMATION AND ARE REQUIRED.
4. WHERE ADJUSTABLE TEMPERATURE SETPOINTS ARE NOT IDENTIFIED, A +/- 2°F DEADBAND (ADJUSTABLE) SHALL BE PROVIDED,
5. ALL SETPOINTS, RESET SCHEDULES AND DEADBANDS IDENTIFIED HEREIN SHALL BE ADJUSTABLE BY THE BUILDING OPERATOR THROUGH THE MANUFACTURER'S CONTROLLER.
6. SETPOINT SHALL BE DEFINED AS A PERFORMANCE STANDARD FOR A COMPONENT OR SYSTEM UNDER CONTROL, WHICH IS ESTABLISHED BY THE CONTROL SYSTEM USER. TYPICALLY, A SETPOINT IS DEFINED WITH AN ACCEPTABLE DEADBAND, TO ALLOW THE MECHANICAL OR ELECTRICAL SYSTEM THE OPPORTUNITY TO DAMPEN OR ELIMINATE EXCESSIVE START/STOP OR OSCILLATION OF THE EQUIPMENT.
7. DEADBAND IS THE ACCEPTABLE RANGE ASSOCIATED WITH THE SETPOINT, IN WHICH THE CONTROL SYSTEM IS SATISFIED WITH NO MECHANICAL OR ELECTRICAL SYSTEM MODULATION NECESSARY FROM THE CONTROL SYSTEM. TYPICALLY, A DEADBAND IS EXPRESSED AS A + AND – RANGE AROUND THE NUMERICAL VALUE OF THE SETPOINT.
8. ALL CONTROL WIRING, CONDUIT, DEVICES BY ELECTRICAL CONTRACTOR.

CONTROLS ABBREVIATIONS

"X"		"Y"	
DPR	DAMPER	DPR	DAMPER
EA	EXHAUST AIR	SS	START/STOP
OA	OUTSIDE AIR	T	TEMPERATURE
RA	RETURN AIR	CO	CARBON MONOXIDE
SF	SUPPLY FAN	NO2	NITROGEN DIOXIDE
EF	EXHAUST FAN		
ZN	ZONE		

CONTROLS DESIGNATIONS

"X"–"Y" POINT(S) INTEGRATED OR HARD WIRED TO EQUIPMENT CONTROLLER

M-701

DELAWARE DEPARTMENT OF TRANSPORTATION

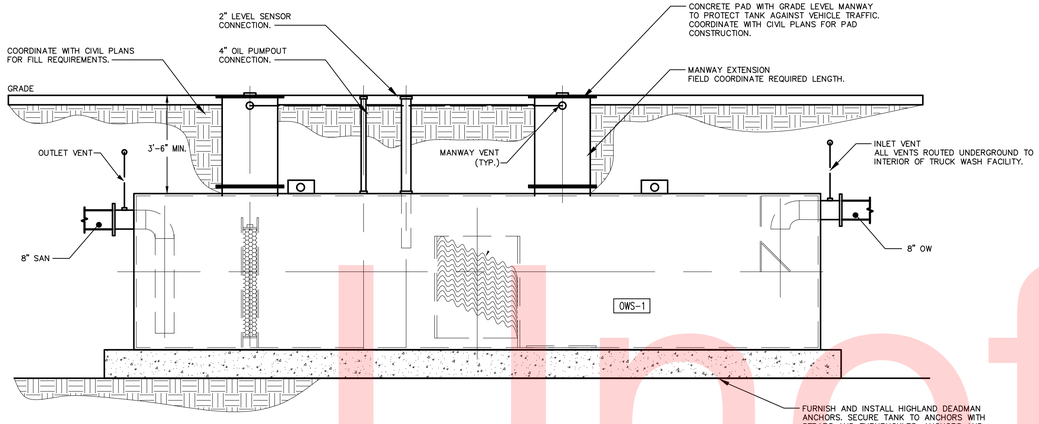
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

CONTRACT	T201680102	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY: SSP	
		CHECKED BY: WWR	

MECHANICAL CONTROLS

SHEET NO.
29
TOTAL SHTS.
39



2 P101 **OIL WATER SEPARATOR DETAIL**
SCALE: NTS

PLUMBING EQUIPMENT SCHEDULE

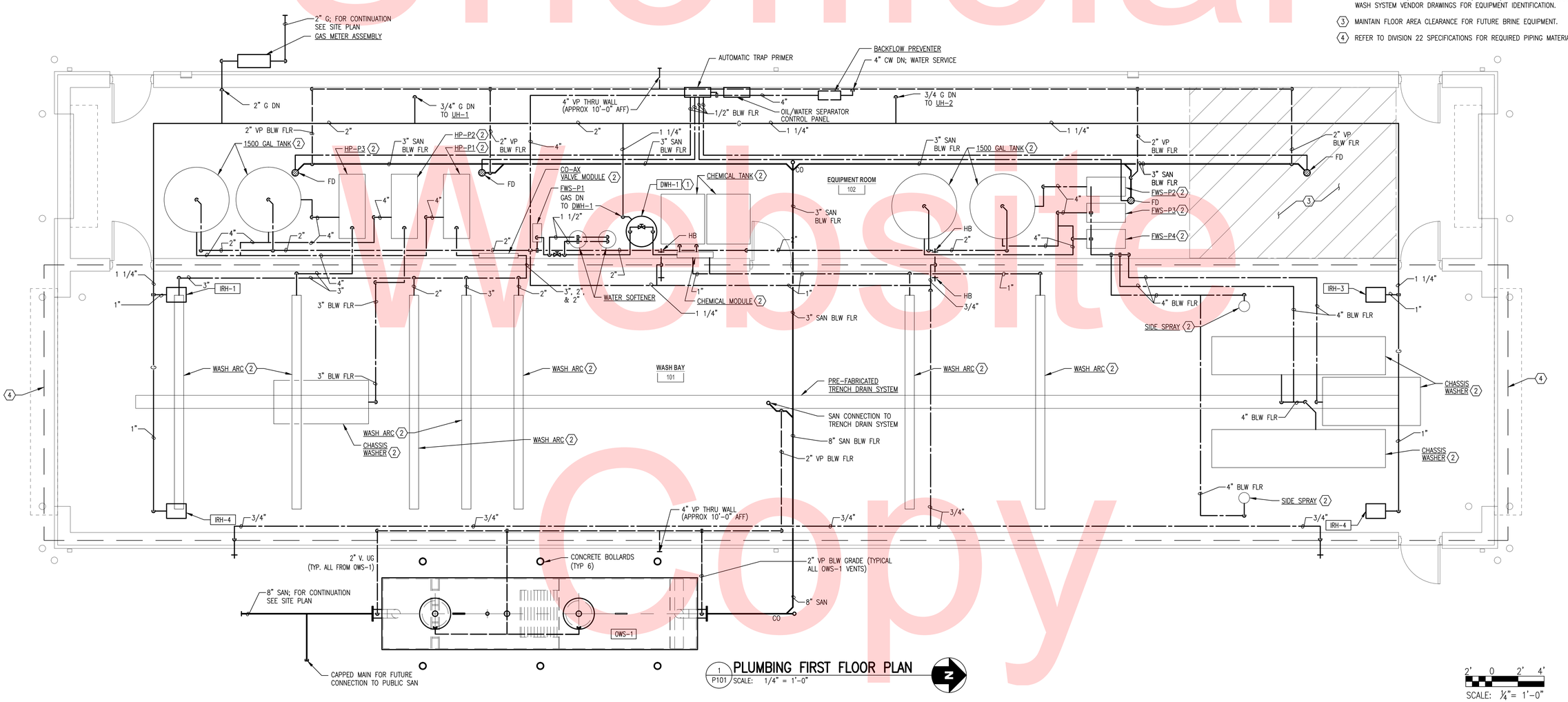
DESIG.	DESCRIPTION	BASIS
DOMESTIC WATER HEATER DWH-1	GAS-FIRED WATER HEATER, 150 GALLON NOMINAL STORAGE, UNLINED, DUPLEX ALLOY, 200 GPH RECOVERY AT 100°F TEMP RISE, INPUT: 199 MBH, MOTOR: 1/6 HP, 120V-1Ø. NOTE: DWH-1 SHALL BE FURNISHED BY WASH SYSTEM VENDOR AND INSTALLED BY PLUMBING CONTRACTOR.	LOCHINVAR SHIELD
OIL-WATER SEPARATOR OWS-1	OIL-WATER SEPARATOR, FLOWRATE: 400 GPM, GREASE COLLECTOR CAPACITY: 800 GALLONS OVERALL TANK CAPACITY: 4,000 GALLONS	HIGHLAND TANK SERIES G

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY SOLID (———) SHALL BE NEW WORK AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (———) SHALL BE EXISTING.
3. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
4. NATURAL GAS PIPING IN THE WASH BAY SHALL BE STAINLESS STEEL.
5. DOMESTIC WATER PIPING IN THE WASH BAY TO BE PVC COATED COPPER OR STAINLESS STEEL.
6. ALL HOSE BIBS SHALL BE RATED FOR OUTDOOR USE.
7. WASH SYSTEM MANUFACTURER WILL BE RESPONSIBLE FOR SYSTEM CALIBRATION, PROGRAMMING, AND OPERATIONAL TRAINING OF DELDOT EMPLOYEES. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE WASH SYSTEM MANUFACTURER.
8. REFER TO MP-001 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND
9. ALL PIPING WITHIN WASH BAY TO BE STAINLESS STEEL, UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

SHEET KEYNOTES:

1. DOMESTIC WATER HEATER TO BE FURNISHED BY WASH SYSTEM MANUFACTURER, AND INSTALLED BY PLUMBING CONTRACTOR. REFER TO MECHANICAL DRAWINGS FOR COMBUSTION AIR AND FLUE CONNECTIONS.
2. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERCONNECTING PIPING BETWEEN WASH EQUIPMENT, ASSOCIATED VALVES, GAUGES, AND PIPING ACCESSORIES. COORDINATE WITH WASH SYSTEM VENDOR DRAWINGS FOR EQUIPMENT IDENTIFICATION.
3. MAINTAIN FLOOR AREA CLEARANCE FOR FUTURE BRINE EQUIPMENT.
4. REFER TO DIVISION 22 SPECIFICATIONS FOR REQUIRED PIPING MATERIALS IN WASH BAY.



1 P101 **PLUMBING FIRST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

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

P-101

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING FIRST FLOOR PLAN
				COUNTY KENT	DESIGNED BY: SSP	SHEET NO. 30
					CHECKED BY: WWR	TOTAL SHTS. 39

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
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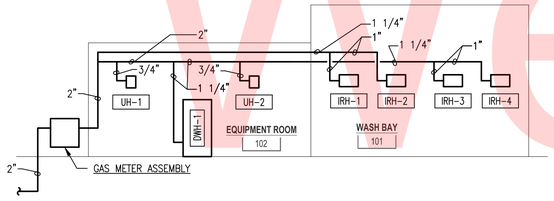
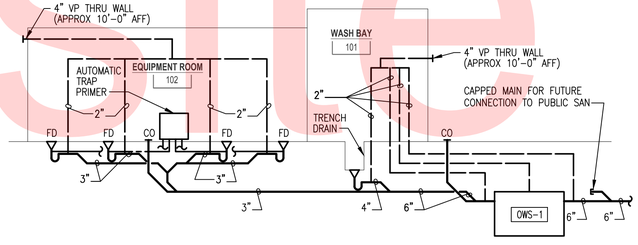
6. ALL HOSE BIBS TO BE RATED FOR OUTDOOR USE.
7. WASH SYSTEM MANUFACTURER WILL BE RESPONSIBLE FOR SYSTEM CALIBRATION, PROGRAMMING, AND OPERATIONAL TRAINING OF DELDOT EMPLOYEES.
8. REFER TO MP-001 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND



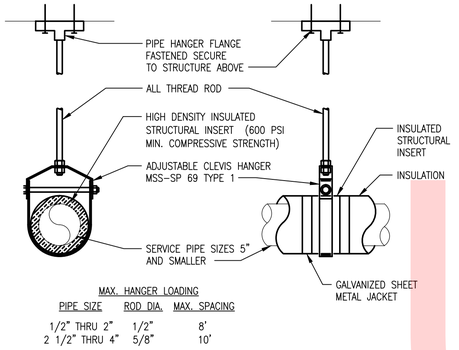
1 P201 GAS RISER DIAGRAM
SCALE: NONE



2 P201 SANITARY RISER DIAGRAM
SCALE: NONE

P-201

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING FIRST FLOOR PLAN	SHEET NO. 31
				COUNTY KENT	DESIGNED BY: SSP		TOTAL SHTS. 39
					CHECKED BY: WWR		

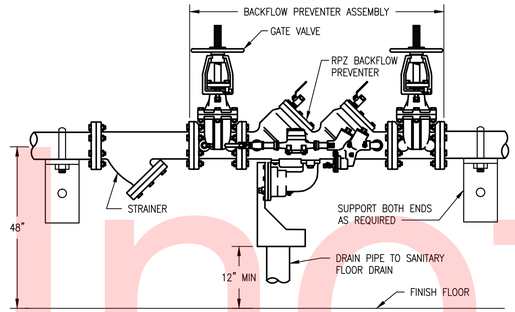


MAX. HANGER LOADING

PIPE SIZE	ROD DIA.	MAX. SPACING
1/2" THRU 2"	1/2"	8'
2 1/2" THRU 4"	5/8"	10'

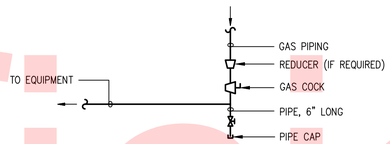
NOTES:
1. THIS DETAIL SHALL BE USED AS A GUIDE. ALL HANGERS SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS SECTION 23-0529 'HANGERS AND SUPPORTS'.

1 / M501 **HANGER SUPPORT**
SCALE: NOT TO SCALE

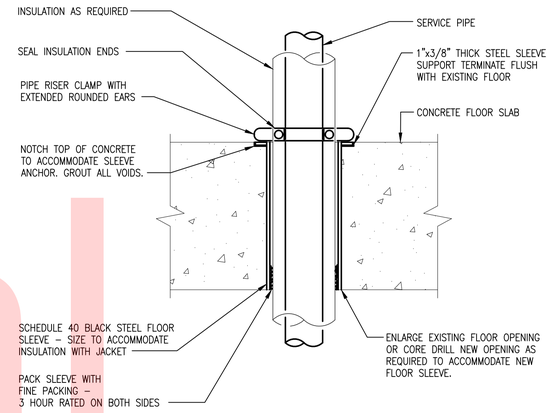


NOTES:
1. BACKFLOW PREVENTER SHALL BE 48" ABOVE FINISH FLOOR AND 12" CLEAR ON ALL SIDES.

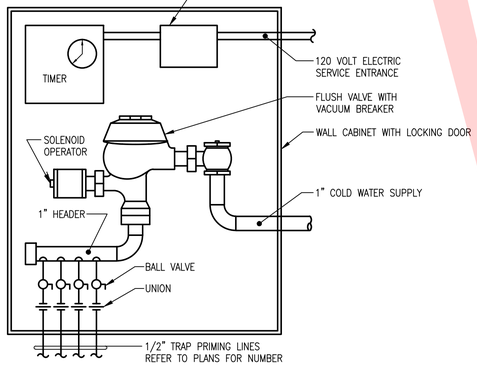
2 / M501 **TYPICAL WATER SERVICE ENTRANCE/ BACKFLOW PREVENTOR ASSEMBLY**
SCALE: NTS



3 / M501 **TYPICAL GAS PIPING CONNECTION**
SCALE: NONE



4 / M501 **PIPE FLOOR PENETRATIONS**
SCALE: NONE



5 / M01 **TRAP PRIMER PANEL**
SCALE: NONE

P-501

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING DETAILS
				COUNTY KENT	DESIGNED BY: SSP	SHEET NO. 32
					CHECKED BY: WWR	TOTAL SHTS. 39

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	480/277V PANELBOARD, SURFACE MOUNTED
	480/277V PANELBOARD, FLUSH MOUNTED
	208/120V PANELBOARD, SURFACE MOUNTED
	208/120V PANELBOARD, FLUSH MOUNTED
	CONTROL PANEL/CABINET, SURFACE MOUNTED
	CONTROL PANEL/CABINET, FLUSH MOUNTED
	2' X 4' SURFACE MOUNTED LIGHT FIXTURE
	1' X 4' SURFACE MOUNTED LIGHT FIXTURE
	2' X 2' SURFACE MOUNTED LIGHT FIXTURE
	4' INDUSTRIAL/STRIP FIXTURE, PENDANT MOUNT
	LED EXIT SIGN (NUMBER OF FACES AND ARROWS AS INDICATED ON DRAWINGS)
EBU	EMERGENCY BATTERY UNIT – TWO HEADS
OS	OCCUPANCY SENSOR, DUAL TECHNOLOGY, CEILING MOUNTED
PP	LIGHTING POWER PACK
DL	DAYLIGHT SENSOR
ER	EMERGENCY LIGHTING RELAY CONTROL DEVICE
φ^2	125 VOLT, 2 POLE, 3 WIRE, 20 AMP RECEPTACLE "2" DENOTES CIRCUIT NUMBER
	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DOUBLE DUPLEX RECEPTACLE
φ^{GFI}	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DUPLEX RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT INTERRUPTER
	125 VOLT, 2 POLE, 3 WIRE, 20 AMP, DUPLEX RECEPTACLE RECESSED CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE
φ	125 VOLT, 2 POLE, 3 WIRE, 20 AMP SIMPLEX RECEPTACLE
S^{b}_{3}	SWITCH, TOGGLE "b" DENOTES SWITCH CONTROL "k" DENOTES KEY OPERATED SWITCH "3" DENOTES THREE POLE SWITCH "4" DENOTES FOUR POLE SWITCH
S_{LV}	WALL SWITCH, LOW VOLTAGE
S_{OS}	WALL SWITCH, OCCUPANCY SENSOR
J	JUNCTION BOX – WALL MOUNTED
J	JUNCTION BOX
H	HAND HOLE
	EMERGENCY POWER SHUT-OFF PUSH-BUTTON
AF P OR AF/NF/P/3R	NON-FUSED DISCONNECT SWITCH, SIZE AS INDICATED WHERE: "AF" – INDICATES AMPERE SWITCH SIZE "NF" – DENOTES NON-FUSED "P" – DENOTES POLE "3R" – DENOTES NEMA TYPE ENCLOSURE
AF AT 3P L2 OR AF/AT/P/3R	FUSED DISCONNECT SWITCH, SIZE AS INDICATED WHERE: "AF" – INDICATES AMPERE SWITCH SIZE "AT" – INDICATES AMPERE FUSE SIZE "P" – DENOTES POLE "3R" – DENOTES NEMA TYPE ENCLOSURE

SYMBOL	DESCRIPTION
F	FIRE ALARM MANUAL PULL STATION
F 75cd	FIRE ALARM AUDIO/VISUAL SIGNALING DEVICE WALL MOUNTED 75cd – DENOTES CANDELA RATING (15cd UNLESS OTHERWISE NOTED)
	FIRE ALARM VISUAL SIGNALING DEVICE WALL MOUNTED (15cd UNLESS OTHERWISE NOTED)
F	FIRE ALARM AUDIO/VISUAL SIGNALING DEVICE FLUSH CEILING MOUNTED (15cd UNLESS OTHERWISE NOTED)
	FIRE ALARM VISUAL SIGNALING DEVICE FLUSH CEILING MOUNTED (15cd UNLESS OTHERWISE NOTED)
F	FIRE ALARM VOICE EVACUATION SPEAKER AND VISUAL SIGNALING DEVICE, WALL MOUNTED
H	FIRE ALARM VOICE EVACUATION SPEAKER WALL MOUNTED
SD E	SMOKE DETECTOR "E" – DENOTES ELEVATOR RECALL
HD F	HEAT DETECTOR "F" – DENOTES FIXED TEMPERATURE
S DS R	DUCT MOUNTED SMOKE DETECTOR "S" – DENOTES MOUNTED ON SUPPLY SIDE "R" – DENOTES MOUNTED ON RETURN SIDE
FS	FLOW SWITCH ON FIRE PROTECTION PIPING
TS	TAMPER SWITCH ON FIRE PROTECTION PIPING
D	FIRE ALARM MAGNETIC SMOKE DOOR HOLDER
RAI T	FIRE ALARM REMOTE ALARM INDICATOR WITH TEST SWITCH
FACP	FIRE ALARM SYSTEM CONTROL PANEL
FAAP	FIRE ALARM GRAPHIC ANNUNCIATOR PANEL
KB	FIREMAN'S KNOX BOX
NAC	FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT PANEL
C	MASTER CLOCK SYSTEM, SYNCHRONOUS PROGRAM CLOCK, WALL MOUNTED
S	INTERCOM SYSTEM SPEAKER, WALL MOUNTED
S	SOUND SYSTEM LOUD SPEAKER, WALL MOUNTED
S	INTERCOM SYSTEM SPEAKER, CEILING MOUNTED
DB	DOOR BUZZER
CCTV	CLOSED CIRCUIT SECURITY CAMERA
MD	MOTION DETECTOR, CEILING MOUNTED ARROWS INDICATED DIRECTION UNIT FACES
OR	COMBINATION MOTOR STARTER AND DISCONNECT SWITCH (SEE CMS SCHEDULE)
M	MOTOR TERMINATION
S_M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION
VFD	VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT

GENERAL ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
ATC	AUTOMATIC TEMPERATURE CONTROL
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISH GRADE
BLDG	BUILDING
C	CONDUIT
CAT	CATALOG
CB	CIRCUIT BREAKER
CBM	CERTIFIED BALLAST MANUFACTURERS
CKT	CIRCUIT
CL	CENTERLINE
CLF	CURRENT LIMITING FUSE
COL	COLUMN
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
F	FUSE
FA	FIRE ALARM
FLA	FULL LOAD AMPERES
FMC	FLEXIBLE METAL CONDUIT
FT	FEET
GND,G	GROUND OR GROUNDING
GRMC	GALVANIZED RIGID METALLIC CONDUIT
HOA	HAND, OFF, AUTOMATIC SWITCH
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IMC	INTERMEDIATE METAL CONDUIT
INT	INTERLOCK
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LTG	LIGHTING
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
MAU	MAKE-UP AIR UNIT
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
P	POLE
PB	PUSHBUTTON
PNL	PANEL
POS	PROVIDED UNDER OTHER SECTIONS
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
QTY	QUANTITY
REL	RELOCATE
REQ'D	REQUIRED
REX	REPLACE EXISTING
RMC	RIGID METAL CONDUIT
RMS	ROOT MEAN SQUARED
RNMC	RIGID NON-METALLIC CONDUIT
RTU	ROOF TOP UNIT
RX	REMOVE EXISTING
SP	SPARE
SW	SWITCH
SYM	SYMMETRICAL
TEL	TELEPHONE
TMCB	THERMAL MAGNETIC CIRCUIT BREAKER
UG	UNDERGROUND OR UNDERGRADE
UL	UNDERWRITERS LABORATORIES
V	VOLT
VT	VOLTAGE TRANSFORMER
W	WIRE
WH	WATER HEATER
WP	WEATHER PROOF
XFMR	TRANSFORMER
△	DELTA
Y	WYE
ø	PHASE

ELECTRICAL CONVENTIONS

PRESENTATION

ELECTRICAL EQUIPMENT DESIGNATED BY SOLID HEAVY LINE WEIGHT INDICATES NEW WORK TO BE PROVIDED.

ELECTRICAL EQUIPMENT DESIGNATED BY SOLID LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT TO REMAIN, UNLESS OTHERWISE INDICATED.

ELECTRICAL EQUIPMENT DESIGNATED BY DASHED HEAVY LINE WEIGHT REPRESENTS EXISTING EQUIPMENT TO BE REMOVED AND DISPOSED, UNLESS INDICATED TO BE REMOUNTED, RELOCATED, OR TURNED OVER TO OWNER.

WIRING

LP2A–1,3,5 — HOMERUN TO PANEL "LP2A", CIRCUITS #1,3,5 (VIA 20A–1P C/B'S). PROVIDE INSULATED GROUND CONDUCTOR IN ACCORDANCE WITH SPECIFICATIONS. NUMBER OF CIRCUITS INDICATED BY QUANTITY OF ARROW HEADS.

HASH MARKS INDICATE QUANTITY OF #12 AWG COPPER CONDUCTORS IN CONDUIT. WHEN NO HASH MARKS ARE INDICATED, CONDUIT SHALL CONTAIN (2) #12 WIRES AND (1) #12 GROUND WIRE. ASSUME 3/4" DIAMETER CONDUIT UNLESS NOTED OTHERWISE. EXAMPLE SHOWN AT LEFT INDICATES 2 HOT, 2 NEUTRAL (LONG LINES), AND 1 GROUND WIRES.

CONCEALED CONDUIT AND/OR WIRING.

BELOW GRADE CONDUIT AND/OR WIRING.

EXPOSED CONDUIT AND/OR WIRING.

CIRCUITRY TURNING DOWN

CIRCUITRY TURNING UP

ANNOTATION

DETAIL REFERENCE
"#" DENOTES DETAIL NUMBER
"SHT" DENOTES SHEET NUMBER

ELEVATION OR SECTION IDENTIFIER
"X" DENOTES ELEVATION OR SECTION NUMBER
"#" DENOTES SHEET NUMBER

SHEET KEYNOTE NUMBER

FEEDER TAG (REFER TO FEEDER SCHEDULE)

REVISION NUMBER

ELECTRICAL LEGEND (CONT'D)

SYMBOL	DESCRIPTION
DC	DOOR CONTACT
CM	CONTROL MODULE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE
GFP	GROUND FAULT PROTECTION
KI	KIRK KEY INTERLOCK
	TRANSFORMER
	ENCLOSED CIRCUIT BREAKER
	AUTOMATIC TRANSFER SWITCH
	GENERATOR

E-001

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	T201680102	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY:	AMS
		CHECKED BY:	JWL

ELECTRICAL
SYMBOLS AND ABBREVIATIONS

SHEET NO. 33
TOTAL SHTS. 39

GENERAL NOTES

1. CONDITIONS OF THE CONTRACT AND DIVISION 1, GENERAL REQUIREMENTS APPLY TO WORK OF THIS SECTION. EXAMINE DRAWINGS AND OTHER SPECIFICATIONS FOR REQUIREMENTS THAT AFFECT WORK OF THIS SECTION.

2. PROVIDE ITEMS REFERRED TO IN SINGULAR NUMBER IN CONTRACT DOCUMENTS IN QUANTITIES NECESSARY TO COMPLETE WORK.

3. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT AS SHOWN ON DRAWINGS. COORDINATE ELECTRICAL WORK WITH WORK OF OTHER SECTIONS.

4. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION.

5. MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM APPROVED FOR INTENDED SERVICE. MATERIAL AND INSTALLATION SHALL MEET REQUIREMENTS OF NATIONAL AND STATE ELECTRICAL CODE.

6. MAINTAIN RECORD DRAWINGS ON SITE. RECORD SET MUST BE COMPLETE AND CURRENT AND AVAILABLE FOR INSPECTION WHEN REQUISITIONS FOR PAYMENT ARE SUBMITTED OR UPON REQUEST.

7. GUARANTEE WORK IN WRITING FOR TWO YEARS FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER DURING THE GUARANTEE PERIOD. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO COST TO OWNER.

8. SUBMIT GUARANTEE TO CONTRACT OFFICER BEFORE FINAL PAYMENT.

9. STATEMENT OF GUARANTEE REQUIREMENTS SHALL NOT BE INTERPRETED TO LIMIT OWNER'S RIGHTS UNDER LAW AND THIS CONTRACT.

10. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS BUT NOT SHOWN ON PLANS, AND VICE VERSA, AS IF EXPRESSLY REQUIRED ON BOTH.

11. ADDRESS QUESTIONS REGARDING DRAWINGS TO ENGINEER IN WRITING BEFORE AWARD OF CONTRACT. OTHERWISE, ENGINEER INTERPRETATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.

12. SUBMIT SHOP DRAWINGS AND PRODUCT DATA WITHIN 21 DAYS AFTER AWARD OF CONTRACT. CHECK, STAMP AND MARK WITH PROJECT NAMES SUBMITTALS BEFORE TRANSMITTING TO ARCHITECT. INDICATE DEVIATIONS FROM CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL EQUIPMENT SHOWN ON THE DRAWINGS. SUBMITTALS SHALL BE APPROVED BY THE ENGINEER BEFORE PURCHASE OF MATERIALS.

13. DEVIATION FROM CONTRACT DOCUMENTS, OR PROPOSED SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED, SHALL BE REQUESTED IN SEPARATE LETTER, WHETHER DEVIATIONS ARE DUE TO FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE.

14. SCHEDULE AT LEAST TEN WORKING DAYS, EXCLUSIVE OF TRANSMITTAL TIME FOR SUBMITTAL REVIEW.

15. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING
16. STRUCTURE.

17. LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS.

18. ALL RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.

19. CONDUIT HOMERUNS SHOWN ON THE DRAWING WITH MORE THAN 3 CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATIC. THE CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS DONE SO STRICTLY TO COMPLY WITH THE NATIONAL ELECTRIC CODE REQUIREMENTS FOR APPLYING ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY.

20. CONTRACTOR SHALL REVIEW ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.

21. ALL WIRING SHALL BE TYPE THWN RATED 75° C., 600 VOLT. WET OR DRY LOCATIONS. MINIMUM BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG SOLID COPPER. BRANCH CIRCUITS LONGER THAN 75 FEET FOR 120 VOLT SHALL BE AT LEAST NO. 10 FROM PANEL TO LAST OUTLET.

    INTERRUPTIONS TO EXISTING ELECTRIC SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AND DURATION APPROVED BY THE OWNER. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH INTERRUPTIONS.

22. CONTRACTOR SHALL PROVIDE ALL FIREPROOFING FOR ELECTRICAL PENETRATIONS.

23. SYSTEMS FEEDERS AND BRANCH CIRCUITS WHICH PASS THROUGH ALTERED AREAS AND SERVE OTHER AREAS SHALL BE MAINTAINED AS REQUIRED.

24. FURNISH AND INSTALL NAMEPLATES ON ALL ELECTRICAL EQUIPMENT (SCREW ON TYPE).

25. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL AND STATE ELECTRICAL CODES.

26. PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, COORDINATION, ADDITIONAL DESIGN AND ALL INCIDENTALS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM AS DETAILED ON PLANS TO THE SATISFACTION OF THE ENGINEER AND THE OWNER. COORDINATE ALL WORK WITH THE ENGINEER BEFORE THE START OF WORK. ALL WORK SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR LICENSED IN THE STATE OF MARYLAND THAT HAS PREVIOUSLY PERFORMED WORK OF THIS SIZE AND TYPE.

27. PRIOR TO SUBMITTING BID, THE CONTRACTOR SHALL VISIT THE SITE AND BE THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL MATERIAL, LABOR AND ALL INCIDENTALS FOR A COMPLETE INSTALLATION WHETHER SPECIFICALLY CALLED FOR OR NOT. ALL ERROR, DISCREPANCIES AND MISSED ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER DURING THE BIDDING PROCESS BY THE CONTRACTOR. THESE ITEMS SHALL BE INCLUDED IN THE BID PRICE. NO EXTRA COST WILL BE ALLOWED FOR ANY DISCREPANCY WHICH COULD HAVE BEEN NOTICED AT THE SITE VISIT BY THE CONTRACTOR.

28. GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE REQUIRED NOTICES, PERMITS, LICENSES, FEES, BACK CHARGES AND APPROVALS REQUIRED FOR THIS PROJECT.

29. COORDINATE ALL ELECTRICAL ITEMS WITH EXISTING FIELD CONDITIONS. LOCATIONS SHOWN ARE APPROXIMATE AND MAY REQUIRE MINOR ADJUSTMENT IN THE FIELD TO SATISFY THE DESIGN INTENT.

30. DAMAGE TO EXISTING FACILITIES AND EQUIPMENT SHALL BE REPAIRED OR REPLACED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

31. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUITY OF ALL POWER, CONTROL, AND COMMUNICATION FUNCTIONS TO ALL AREAS AFFECTED BY DEMOLITION AND/OR NEW CONSTRUCTION.

32. THE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND REQUIRE COORDINATION WITH ALL OTHER TRADES AND VERIFICATION OF EXISTING CONDITIONS. ROUTING OF CONDUIT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO SHOW ALL REQUIRED OFFSETS AND DETAILS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING ASSOCIATED EQUIPMENT AND CONDITIONS. COORDINATE THE LOCATION OF ALL EQUIPMENT WITH THE ENGINEER AND THE OWNER. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL OTHER TRADES' DRAWINGS AND SPECIFICATIONS AND COORDINATING WITH OTHER TRADE DURING BIDDING AND CONSTRUCTION.

33. CONTRACTOR SHALL NOT CUT ANY ACTIVE ELECTRICAL OR COMMUNICATIONS LINES DURING CONSTRUCTION. IF THE CONTRACTOR ACCIDENTALLY CUTS A LINE, THEN THEY SHALL CONTACT THE ENGINEER IMMEDIATELY BEFORE PROCEEDING WITH FURTHER WORK.

34. REPAIR AND PATCH ANY DISTURBED AREA TO MATCH EXISTING CONDITIONS.

35. ALL ELECTRICAL WORK INDICATED TO REMAIN SHALL BE SUITABLY PROTECTED TO PREVENT ANY DAMAGE.

36. ALL ELECTRICAL CURRENT CARRYING PARTS SHALL BE COPPER FOR ALL EQUIPMENT.

37. PROVIDE TEMPORARY POWER AND LIGHTING FOR ALL TRADES AND REQUIRED TO COMPLETE THE PROJECT. ALL TEMPORARY AND INTERIM EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS INCLUDING. BUT NOT LIMITED TO, NFPA 70. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THIS REQUIREMENT WITH ALL OTHER TRADES AND INCLUDING ALL ASSOCIATED COST IN BID PRICE.

38. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION THAT IS NOT SHOWN ON THE DRAWINGS.

39. ENGAGE A QUALIFIED ELECTRICAL TESTING COMPANY TO LOCATE ALL UNDERGROUND UTILITIES IN PROPOSED CONSTRUCTION AREAS FOR ALL TRADES BEFORE DIGGING. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THIS ORGANIZATION AND INCLUDING ALL ASSOCIATED COSTS IN THE BID PRICE.

40. PROVIDE FIRE SEALANT FOR PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS TO MAINTAIN THE APPLICABLE FIRE RATING. ALL WALL PENETRATIONS SHALL BE A MINIMUM OF ONE HOUR FIRE RATED. ALL FIREPROOFING FOR ELECTRICAL PENETRATIONS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.

41. PROVIDE CONCRETE FOUNDATION HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT.

42. EXISTING FIRE ALARM SYSTEM SHALL BE KEPT OPERATIONAL DURING THE CONSTRUCTION PERIOD. DETECTION DEVICES IN THE AREA UNDER RENOVATION CONTRACTOR IS WORKING. DEVICES MUST BE COVERED OR OTHERWISE PROTECTED FROM DUST AND DEBRIS DURING CONSTRUCTION.

43. THE EXISTING ELECTRICAL EQUIPMENT AND DEVICES WITHIN DEMOLITION AREA SHALL BE DEMOLISHED ALONG WITH ALL FEEDERS AND CONDUITS BACK TO SOURCE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL DISCONNECT, MAKE SAFE, AND REMOVE ALL LIGHT FIXTURES, CORD DROP RECEPTACLES, AND OTHER ASSOCIATED ELECTRICAL EQUIPMENT AND ALL ASSOCIATED CIRCUITRY WITHIN THIS AREA, EXCEPT AS SHOWN OTHERWISE. UPON REMOVAL, INVENTORY MAJOR ELECTRICAL ITEMS THAT ARE REMOVED AND PROVIDE A LIST TO THE OWNER FOR THEIR SELECTION OF ITEMS TO BE RETAINED. ALL ITEMS REJECTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

44. THIS DOCUMENT INCLUDES INFORMATION AND DEPICTIONS OF BALTIMORE GAS AND ELECTRIC COMPANY'S ("BGE") ELECTRIC AND/OR GAS UTILITIES LOCATED WITHIN THE PROJECT AREA (THE "BGE UTILITY INFORMATION"), LOCATIONS, DIMENSIONS, DEPTHS, AND OTHER DETAILS OF ANY SUCH UTILITIES MAY NOT BE AS-BUILT, AND THE INFORMATION SHALL NOT BE RELIED UPON WITHOUT FIELD VERIFICATION, EXCAVATORS MUST EMPLOY SAFE DIGGING BEST PRACTICES WHEN APPROACHING BGE ELECTRIC AND GAS UTILITIES AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, INCLUDING, BUT NOT LIMITED TO, THE "MISS UTILITY LAW". NO REPRESENTATION, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, ARE MADE BY BGE AS TO THE QUALITY, COMPLETENESS, OR ACCURACY OF THE BGE UTILITY INFORMATION, AND IN ACCEPTING THIS DOCUMENT, THE RECIPIENT EXPRESSLY ACKNOWLEDGES AND AGREES THAT IT IS NOT RELYING ON THE ACCURACY OF THE SAME.

45. PROVIDE COMPUTER POWER DISTRIBUTION SYSTEM (TIMS) INCLUDING DEDICATED RECEPTACLES IN CLASSROOMS, COMPUTER ROOMS, AND OFFICES. PANELBOARDS SHALL HAVE 200% NEUTRALS AND EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. THE NEW COMPUTER POWER DISTRIBUTION SYSTEM (TIMS) SHALL MEET THE MSDE STANDARD FOR TELECOMMUNICATION DISTRIBUTION SYSTEM AND BCPS REQUIREMENTS.

E-002

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

CONTRACT	T201680102	BRIDGE NO.	N/A
COUNTY	KENT	DESIGNED BY: AMS	
		CHECKED BY: JWL	

ELECTRICAL
GENERAL NOTES

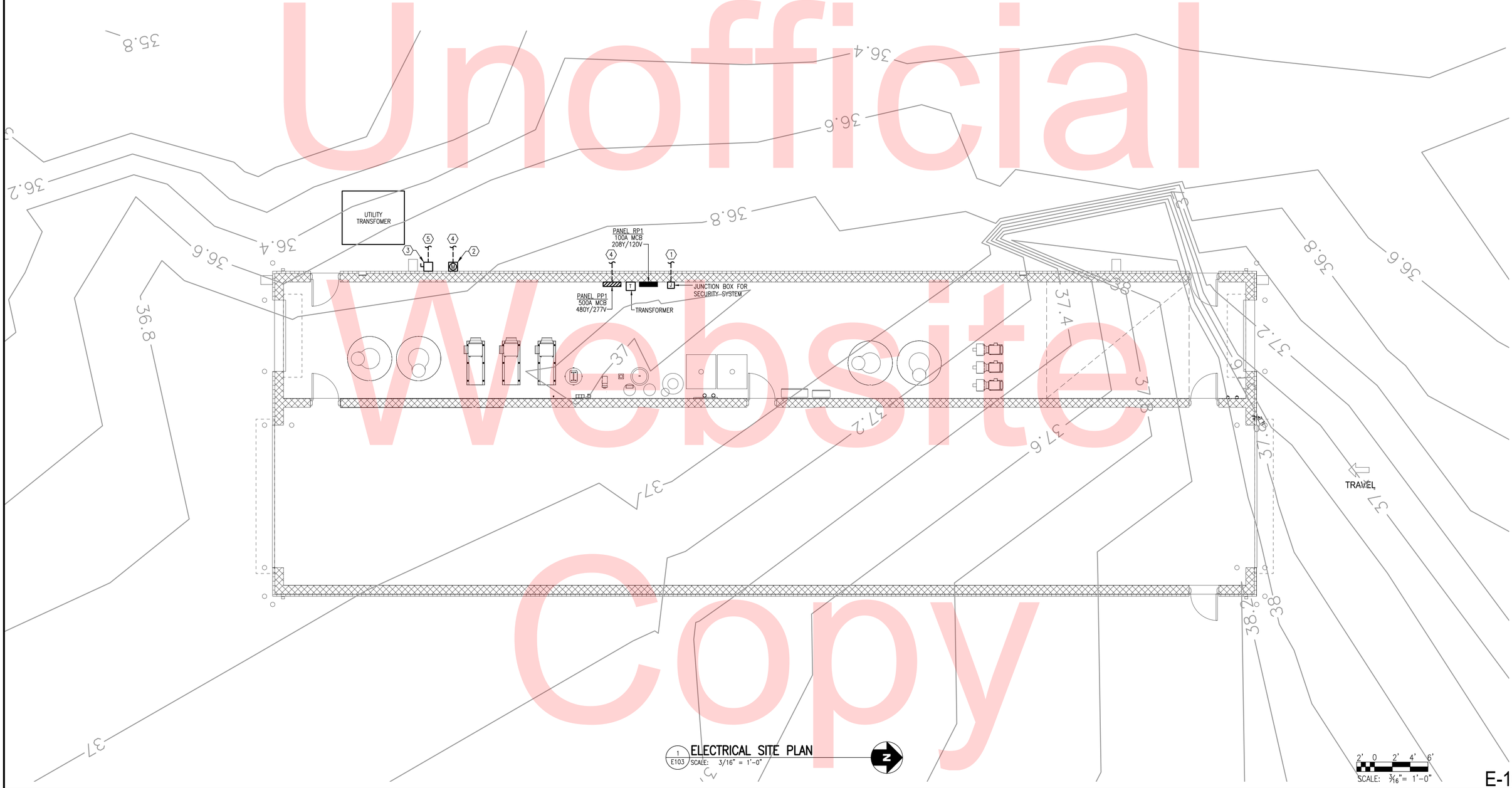
SHEET NO.
34
TOTAL SHTS.
39

SHEET KEYNOTES:

1. UNDERGROUND DIRECT BURIED DUCTBANK FOR SECURITY SYSTEM CONDUIT.
2. UTILITY METER PROVIDED BY DELMARVA.
3. 480V, 600A, NON-FUSED DISCONNECT SWITCH.
4. UNDERGROUND DIRECT BURIED DUCTBANK BETWEEN UTILITY METER AND PANEL PP1.
5. UNDERGROUND DIRECT BURIED DUCTBANK TO UTILITY TRANSFORMER.

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNIT VENTILATORS, FAN COIL UNITS, AND CABINET UNIT HEATERS PROVIDED WITH FACTORY INSTALLED DISCONNECTS UNDER DIVISION 23.



1 E103 ELECTRICAL SITE PLAN
SCALE: 3/16" = 1'-0"

E-101

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	ELECTRICAL SITE PLAN	SHEET NO. 35
				COUNTY KENT	DESIGNED BY: AMS		TOTAL SHTS. 39
					CHECKED BY: JWL		

SHEET KEYNOTES:

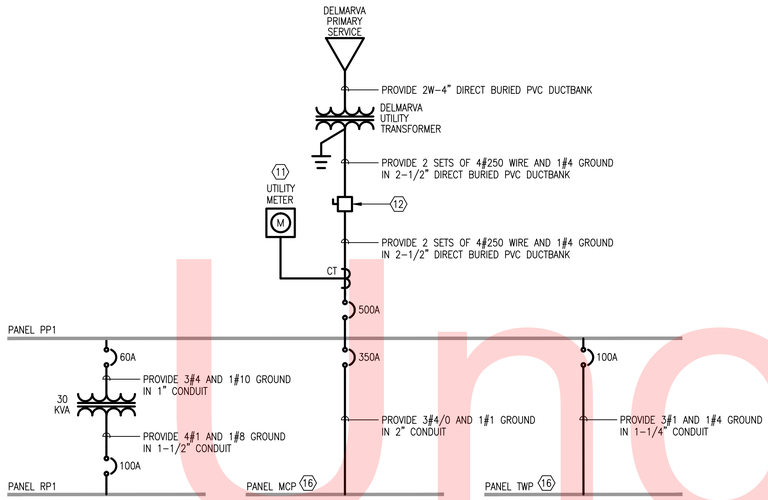
1. 2-4" DIRECT BURIED SCHEDULE 40 PVC CONDUITS FROM EXISTING DELMARVA POLE TO NEW TRANSFORMER PAD. CONDUITS SHALL BE PROVIDED WITH PULL STRINGS FOR INSTALLATION OF SERVICE CONDUCTORS BY DELMARVA. (APPROXIMATELY 400 FEET)
2. TRANSFORMER PAD FOR NEW DELMARVA TRANSFORMER. SEE DETAIL 1 ON SHEET E-301. COORDINATE INSTALLATION OF PAD WITH DELMARVA.
3. PROVIDE 480V, 600A, NON-FUSED DISCONNECT SWITCH IN NEMA 4X STAINLESS STEEL ENCLOSURE.

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY SOLID (———) SHALL BE NEW, AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (———) SHALL BE EXISTING TO REMAIN.
3. UNIT VENTILATORS, FAN COIL UNITS, AND CABINET UNIT HEATERS PROVIDED WITH FACTORY INSTALLED DISCONNECTS UNDER DIVISION 23.

E-102

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT	BRIDGE NO.	N/A	ELECTRICAL SCHEMATIC SITE PLAN	SHEET NO.
				T201680102	DESIGNED BY: AMS			36
				COUNTY				TOTAL SHTS.
				KENT	CHECKED BY: JWL			39



SHEET KEYNOTES:

1. 480V, 3 POLE, 200A FUSED DISCONNECT SWITCH FUSED AT 150A IN NEMA 1 ENCLOSURE.
2. PROVIDE 2-4" CONDUIT STUBBED UP THROUGH FLOOR AND CAPPED 5' FROM BUILDING FOR FUTURE BRINE SYSTEM. MAINTAIN PROPER CLEARANCE FROM PIPING TRENCH DETAIL ON P-101.
3. PROVIDE 3#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
4. PROVIDE 3#8 AND 1#10 GROUND IN 1" CONDUIT BACK TO TIRE WASH PANEL, TWP.
5. PROVIDE 2#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
6. PROVIDE 3#1/0 AND 1#6 GROUND IN 1-1/2" CONDUIT BACK TO MASTER CONTROL PANEL.
7. PROVIDE 4#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
8. PROVIDE 3#12 AND 1#12 GROUND IN 3/4" CONDUIT BACK TO MASTER CONTROL PANEL, MCP.
9. JUNCTION BOX FOR FUTURE CCTV CAMERAS. COORDINATE FINAL LOCATIONS WITH DELDOT. ROUTE 1" CONDUIT BACK TO SECURITY SYSTEM JUNCTION BOX.
10. PROVIDE 1-ETHERNET CAT5E CABLE WITH RJ-45 CONNECTORS IN 3/4" CONDUIT.
11. UTILITY METER PROVIDED BY DELMARVA.
12. 480V, 600A, NON-FUSED DISCONNECT SWITCH.
13. PROVIDE 2#12 AND 1#12 GROUND IN 3/4" CONDUIT.
14. PROVIDE 15A, 125V, STRAIGHT BLADE RECEPTACLE FOR AIR COMPRESSOR.
15. PROVIDE 15A, 125V, STRAIGHT BLADE RECEPTACLE FOR WATER SOFTENER.
16. PANEL PROVIDED BY TRUCK WASH VENDOR.
17. DISCONNECT SWITCH PROVIDED WITH UNIT.
18. PROVIDE 3#12 AND 1#12 GROUND IN 3/4" CONDUIT.
19. ROUTE THROUGH STARTER FOR EF-1.
20. FULL VOLTAGE, NON-REVERSING NEMA SIZE 0 STARTER FOR EF-1.
21. ROUTE THROUGH STARTER FOR EF-2.
22. FULL VOLTAGE, NON-REVERSING NEMA SIZE 0 STARTER FOR EF-2.
23. 480V, 3 POLE, 100A FUSED DISCONNECT SWITCH FUSED AT 40A IN NEMA 1 ENCLOSURE.

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
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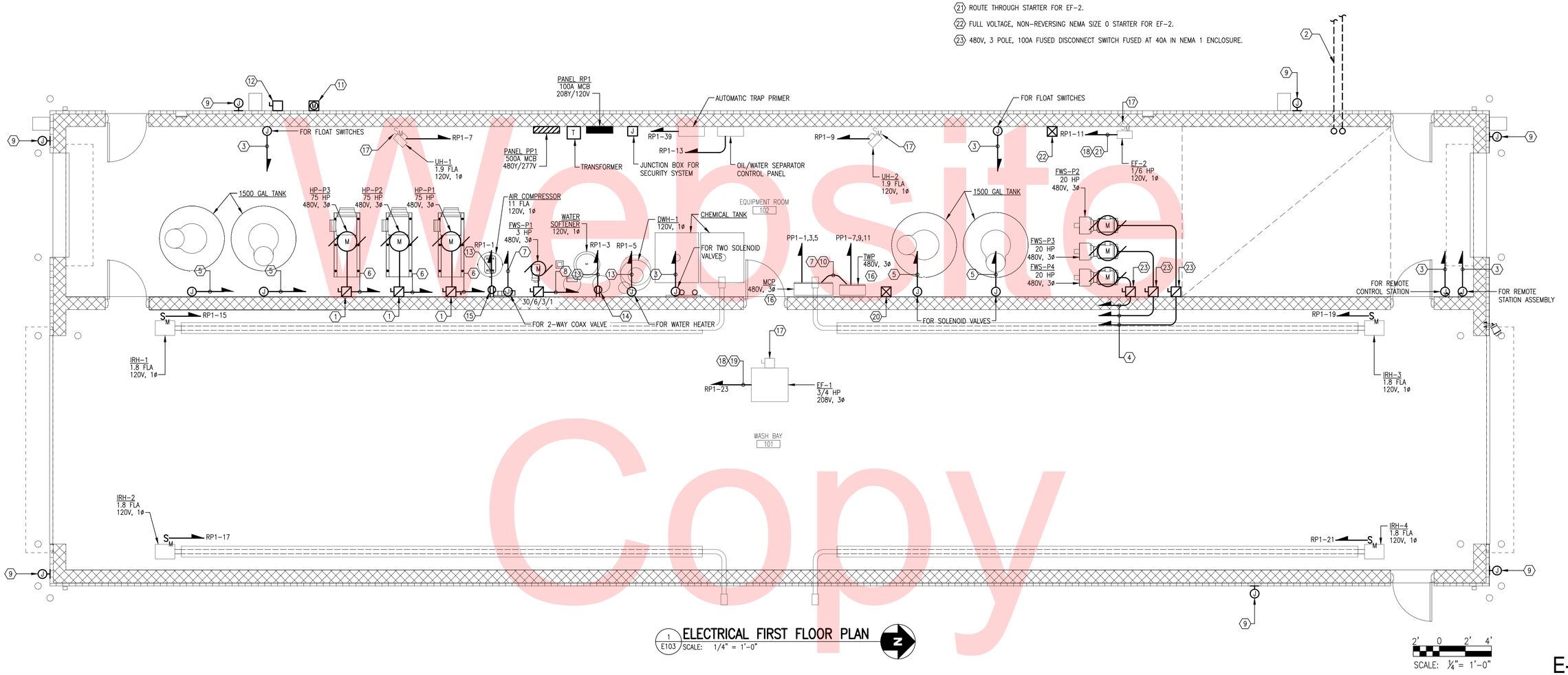

1 E103 ELECTRICAL FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

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

E-103

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	ELECTRICAL POWER FLOOR PLAN	SHEET NO. 37
				COUNTY KENT	DESIGNED BY: AMS		TOTAL SHTS. 39
					CHECKED BY: JWL		

PROPOSED LIGHTING FIXTURE SCHEDULE							
FIXTURE TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS			VOLTAGE	MOUNTING HEIGHT*
			NO.	TYPE	COLOR TEMPERATURE		
A	16" PENDANT MOUNTED HIGH BAY, DIE CAST ALUMINUM HOUSING, ENCLOSED, CLEAR PRISMATIC ACRYLIC REFRACTOR, WET LOCATION	KENALL LIGHTING EPLB-16-E-PM-CA-GW-144L-40K8-DCC-DV	1	156W LED	4000K	120V	AS NOTED ON DRAWING
B	4' PENDANT MOUNTED INDUSTRIAL STRIPLIGHT, STEEL HOUSING, SPECULAR ALUMINUM REFLECTOR, NARROW DISTRIBUTION	COLUMBIA LIGHTING LCR-4-40-HL-E-U	1	56W LED	4000K	120V	15' AFF
C	LED WALL PACK; DIE-CAST ALUMINUM HOUSING WITH DIFFUSER; WET LOCATION; BLACK FINISH; TYPE IV DISTRIBUTION	HUBBELL OUTDOOR LIGHTING LNC-7LU-4K-4-2	1	17W LED	4000K	120V	14' AFG
*MEASURED TO BOTTOM OF LIGHT FIXTURE.							

GENERAL SHEET NOTES:

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY SOLID (———) SHALL BE NEW, AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (———) SHALL BE EXISTING TO REMAIN.
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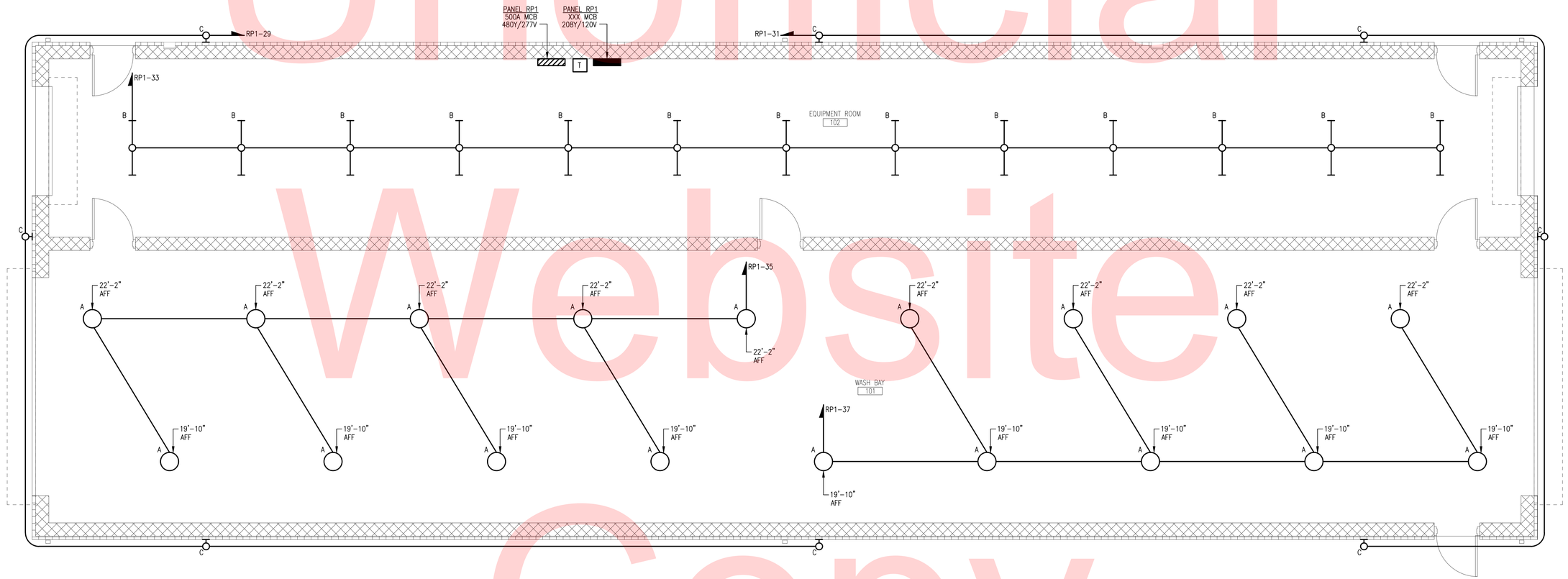

1 E104 LIGHTING FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

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

E-104

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JMT

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A
T201680102	DESIGNED BY:	AMS
COUNTY	CHECKED BY:	JWL
KENT		

ELECTRICAL LIGHTING FLOOR PLAN

SHEET NO.
38
TOTAL SHTS.
39

PP1

277/480 VOLT, **3** PHASE, **4** WIRE & GROUND

MAIN BUS AMPS: **600** MAIN DEVICE AMPS: **500** AIC: **75K**

Circuit Number	Load Description	Connected KVA Load	Overcurrent Device Frame	Trip	Pole	Remarks
	MAIN BREAKER		600	500	3	
1	MASTER CONTROL PANEL (MCP)	245.00	600	350	3	
2	TIRE WASH PANEL (TWP)	69.00	100	100	3	
3	30kVA TRANSFORMER	8.80	100	60	3	
4	SPACE	0.00	-	-	3	
5	SPACE	0.00	-	-	3	
6	SPACE	0.00	-	-	3	
7	SPACE	0.00	-	-	3	
8	SPACE	0.00	-	-	3	
9	SPACE	0.00	-	-	3	
10	SPACE	0.00	-	-	3	
11	SPACE	0.00	-	-	3	
12	SPACE	0.00	-	-	3	
13	SPACE	0.00	-	-	3	
14	SPACE	0.00	-	-	3	

TOTAL CONNECTED LOAD	**322.80**	kVA
TOTAL DEMAND LOAD	**161.40**	kVA

MFG:

OPTIONS:

PANEL: RP1

MOUNTING: **SURFACE** MAIN: **100** MCB

AMP: **125** VOLT: **120/208**

PHASE: **3** **4** WIRE + GND

AIC: **10K** AMPS RMS SYM

Branch Circuit Load Description	KVA Load A	B	C	Trip Poles	Ckt. No.	Phase	Ckt. No.	Trip Poles	KVA Load A	B	C	Branch Circuit Load Description
AIR COMPRESSOR	1.32			15/1	1	A	2	20/1	0.00			SPARE
WATER SOFTENER		0.00		15/1	3	B	4	20/1		0.00		SPARE
WATER HEATER			0.00	20/1	5	C	6	20/1			0.00	SPARE
UH-1	0.24			15/1	7	A	8	20/1	0.00			SPARE
UH-2		0.24		15/1	9	B	10	20/1		0.00		SPARE
EF-2			0.53	15/1	11	C	12	20/1			0.00	SPARE
OIL/WATER SEPARATOR CONTROL PANEL	0.50			20/1	13	A	14	20/1	0.00			SPARE
IRH-1		0.22		15/1	15	B	16	20/1		0.00		SPARE
IRH-3			0.22	15/1	17	C	18	20/1			0.00	SPARE
IRH-2	0.22			15/1	19	A	20	20/1	0.00			SPARE
IRH-4		0.22		15/1	21	B	22	20/1		0.00		SPARE
EF-1			0.42	15/3	23	C	24	20/1			0.00	SPARE
**	0.42			**	25	A	26	20/1	0.00			SPARE
**		0.42		**	27	B	28	20/1		0.00		SPARE
EXTERIOR LIGHTING			0.07	20/1	29	C	30	20/1			0.00	SPARE
EXTERIOR LIGHTING	0.07			20/1	31	A	32	20/1	0.00			SPARE
EQUIPMENT ROOM LIGHTING		0.73		20/1	33	B	34	20/1		0.00		SPARE
WASH BAY LIGHTING			1.40	20/1	35	C	36	20/1			0.00	SPARE
WASH BAY LIGHTING	1.40			20/1	37	A	38	20/1	0.00			SPARE
AUTOMATIC TRAP PRIMER		0.18		20/1	39	B	40	20/1		0.00		SPARE
SPARE			0.00	20/1	41	C	42	20/1			0.00	SPARE
	4.16	2.00	2.63	<< PHASE SUB-TOTALS >>					0.00	0.00	0.00	MECH EQUIPMENT CIRCUIT BRKRS SHALL BE HACR RATED.

PROVIDE THE FOLLOWING:

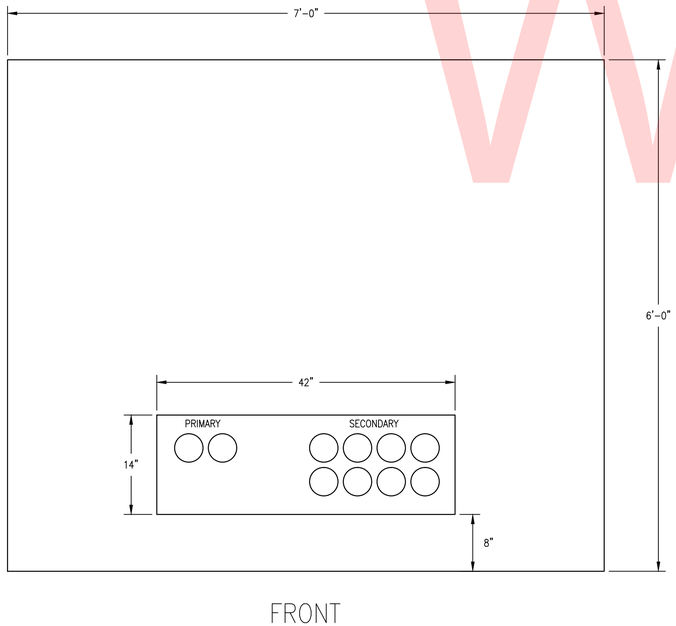
PHASE A	**4.16**	kVA
PHASE B	**2.00**	kVA
PHASE C	**2.63**	kVA

8.80 kVA TOTAL CONNECTED LOAD

6.23 kVA TOTAL DEMAND LOAD

GENERAL SHEET NOTES:

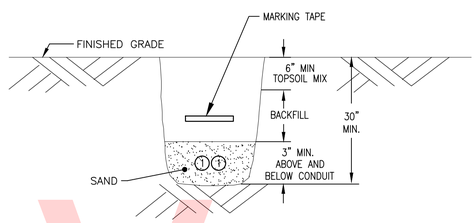
1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. UNIT VENTILATORS, FAN COIL UNITS, AND CABINET UNIT HEATERS PROVIDED WITH FACTORY INSTALLED DISCONNECTS UNDER DIVISION 23.



DETAIL NOTES:

1. CONCRETE PAD SHALL BE 1 FOOT THICK.
2. TOP OF PVC CONDUIT IS TO BE CUT 9" BELOW TOP OF FINISHED PAD.

1 E-301 **UTILITY TRANSFORMER CONCRETE PAD DETAIL**
SCALE: NTS



CONDUIT SIZE AND DESCRIPTION
1 PVC SCHEDULE 40 CONDUIT. REFER TO DRAWING E-101 AND E-103 FOR SIZES.

2 E-301 **DIRECT BURIED CONDUIT (2) – DETAIL**
SCALE: NONE

E-301

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A	SHEET NO.
T201680102	DESIGNED BY: AMS		39
COUNTY			TOTAL SHTS.
KENT	CHECKED BY: JWL		39

ELECTRICAL PANEL SCHEDULES AND DETAILS