PROJECT NOTES:

1. NO UTILITY RELOCATION INVOLVEMENT IS ANTICIPATED. SHOULD ANY CONFLICTS BE ENCOUNTERED DURING CONSTRUCTION REQUIRING ADJUSTMENT AND/OR RELOCATION OF THE AGENCIES' EXISTING FACILITIES, THE NECESSARY RELOCATION WORK SHALL BE ACCOMPLISHED BY THE RESPECTIVE AGENCIES' FORCES, AS DIRECTED BY THE DISTRICT ENGINEER. ANY ADJUSTMENT AND/OR RELOCATIONS OF MUNICIPALLY OWNED FACILITIES SHALL BE DONE BY THE STATES CONTRACTOR IN ACCORDANCE WITH THE RESPECTIVE AGENCIES STANDARD SPECIFICATIONS AS DIRECTED BY THE DISTRICT ENGINEER.

2. NO ENVIRONMENTAL PERMITS ARE REQUIRED FOR THIS WORK PROVIDED NO JURISDICTIONAL WETLANDS OR WATERS ARE IMPACTED. IF THERE IS ANY QUESTION AS TO WHETHER OR NOT A WATER OR WETLAND IS JURISDICTIONAL, CONTACT THE DEL DOT ENVIRONMENTAL SECTION AT 302-760-2264.

3. IT IS ANTICIPATED THAT ALL WORK WILL OCCUR WITHIN DELDOT'S EXISTING RIGHT OF WAY OR EASEMENTS AREAS. SHOULD THE NEED OCCUR TO TRESPASS ONTO PRIVATE PROPERTY: IT WILL BE THE RESPONSIBILITY OF THE PROJECT MANAGER TO SECURE SUCH TRESPASS NEEDS.

4. IT IS ANTICIPATED THAT ALL WORK WILL OCCUR WITHIN DELDOT'S RIGHT OF WAY. SHOULD THE NEED OCCUR TO TRESPASS ONTO RAILROAD PROPERTY, INCLUDING THE HIGHWAY-RAIL CROSSING: IT WILL BE THE RESPONSIBILITY OF THE THE PROJECT MANAGER TO CONTACT THE RAILROAD CHIEF ENGINEER AND OBTAIN WRITTEN AUTHORIZATION BEFORE ENTERING.

5. THE PROJECT MANAGER SHALL BE RESPONSIBLE FOR COORDINATION WITH THE TRAFFIC SECTION RELATING TO ANY IMPACTS TO TRAFFIC SECTION FACILITIES (INCLUDING BUT NOT LIMITED TO TRAFFIC LOOPS, JUNCTION WELLS ETC.) AT LEAST 4 WEEKS IN ADVANCE OF THE THE START OF THE ACTIVITY. PRIOR TO INITIATING ANY WORK ON THIS CONTRACT (OR SITES). THE PROJECT MANAGER SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING FOR APPROVAL OF THE SAFETY SECTION, A MAINTENANCE OF TRAFFIC PLAN. SUFFICIENT TIME SHALL BE PROVIDED FOR THE REVIEW AND APPROVAL OF THE PLAN. THE MAINTENANCE OF TRAFFIC PLAN SHALL INCLUDE PROPOSED TIME RESTRICTIONS ON THE CLOSURE OF TRAVEL LANES SUBJECT TO THE APPROVAL OF THE SAFETY SECTION.

6. THE PROJECT MANAGER IS RESPONSIBLE FOR ENSURING ANY REQUIRED DOCUMENTS AND ANALYSIS AS PART OF THE ADOPTED WORK ZONE SAFETY AND MOBILITY PROCEDURES AND GUIDELINES HAS BEEN COMPLETED PRIOR TO ANY WORK STARTING ON THIS CONTRACT.

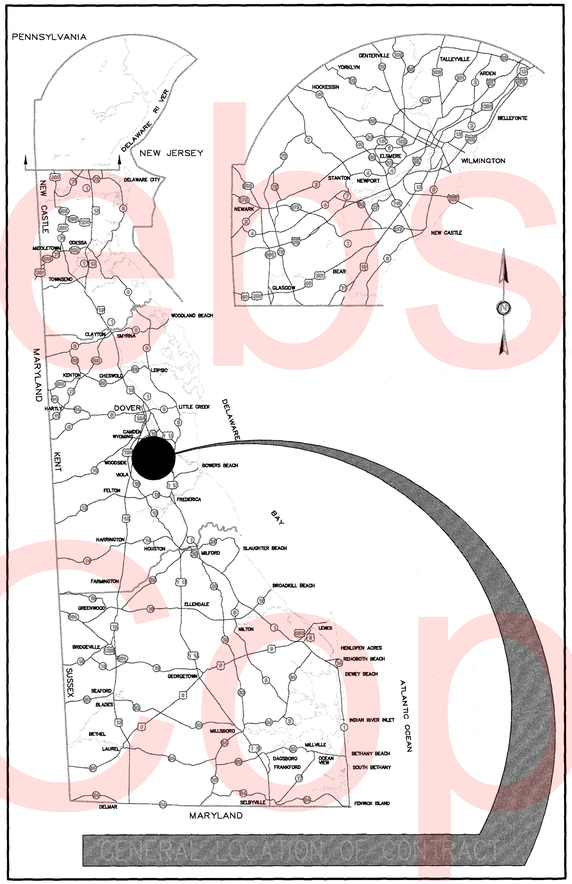
THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

MAGNOLIA TRUCK WASH
CONSTRUCTION PLANS

CONTRACT NUMBER: T201680102

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



LOCATION MAP

SCALE: N. T. S.

PREPARED BY
THE CONSULTING FIRM OF

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
121 Continental Drive, Suite 300 Newark, Delaware 19713
302-266-9600

DAVID M. CHANDLER No. 13809 PROFESSIONAL ENGINEER — SEAL

RECOMMENDED — 3/31/2017 DATE

RECOMMENDED

MAINTENANCE ENGINEER — 4/20/17 DATE

DISTRICT ENGINEER — 4/20/17 DATE

STATEWIDE SUPPORT SERVICES ENGINEER — 4/27/17 DATE

ASSISTANT DIRECTOR STATEWIDE SUPPORT SERVICES — 4/28/17 DATE

DIRECTOR, MAINTENANCE & OPERATIONS — 5/1/17 DATE

RECOMMENDED AS TO PROCESS

CHIEF ENGINEER — Robert B. McCleaf

DATE 5/2/17

SUBMISSION STATUS: PS&E
DATE PLOTTED: $DATE$
.MT FILE LOCATION: $FILE$

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	

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TOTAL SHEETS: 38

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
T201680102	MAGNOLIA TRUCK WASH

ISSUED FOR BID - 03/31/2017

T-001

ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
ADT	Average Daily Traffic
AHD	Ahead
APPROX.	Approximate
℄ or B/L	Baseline
BK	Back / Book
BIT.	Bituminous
B.C.	Bituminous Concrete
B.M.	Bench Mark
BOT.	Bottom
C.C.	Center of Curve
CATV	Cable Television
C.B.R.	California Bearing Ratio
℄ 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
FT.	Feet
FF	Finished Floor
F or FL	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
PVC	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
RT.	Right
RW. 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
VCL	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

GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2014, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
2. CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ESC SUPERVISOR
3. ELECTRONIC PROJECT FILES WILL NOT BE MADE AVAILABLE TO THE CONTRACTOR
4. THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
5. THE DISTURBED AREA FOR THIS PROJECT IS .80 ACRES.

PROJECT NOTES

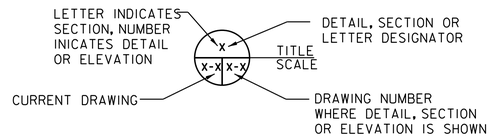
1. HORIZONTAL CONTROL: THIS PROJECT IS ORIENTED TO CONFORM TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NAD 83/91.
2. VERTICAL CONTROL: THE LOCATION AND ELEVATION OF BENCH MARKS ARE SHOWN ON THE PLANS. ALL ELEVATIONS ARE IN FEET AND ARE BASED ON THE U.S. COAST AND GEODETIC SURVEY MEAN SEA LEVEL DATUM OF 1988 (NAVD 88).
3. PIPE CULVERTS: THE LOCATION AND LENGTH OF PIPES SHALL BE VERIFIED BY THE CONTRACTOR AT ANY DRAINAGE STRUCTURES BEFORE ORDERING.
4. MATERIALS SALVAGED: MATERIAL SALVAGED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
5. 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.
6. THE CONTRACTOR MUST PROTECT IN PLACE ALL ACTIVE UNDERGROUND UTILITIES UNLESS OTHER TREATMENT IS CALLED FOR.
7. 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.
8. 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 908 TO THE SATISFACTION OF THE ENGINNER. 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.
9. 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. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A FIVE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

EXISTING SYMBOLS

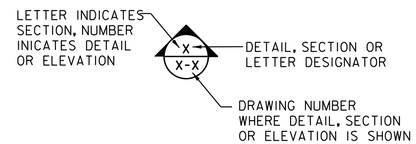
DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
C.B. / D.I.	DRAINAGE INLET
J.B.	DRAINAGE JUNCTION BOX
D	DRAINAGE MANHOLE
SIZE/TYPE LABEL	DRAINAGE PIPE AND FLOW ARROW
UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
E	ELECTRIC TRANSFORMER
G	GAS MANHOLE
G.M.	GAS METER
G.V.	GAS VALVE
G.P.	GAS PUMP - SERVICE STATION
S	SANITARY SEWER MANHOLE
S.V.	SANITARY SEWER VALVE
SCO	SANITARY SEWER CLEANOUT OR VENT
T	TELEPHONE MANHOLE
T	TELEPHONE TEST POINT
J.W.	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
U	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
F.H.	WATER - FIRE HYDRANT
W.M.	WATER METER
W.V.	WATER VALVE
WELL	WELL HEAD
?	MANHOLE - UNDETERMINED OWNER
SURVEY CONTROL & MONUMENTATION	
B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
△	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS

PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BUTT JOINT
CZ	CLEAR ZONE
100+00	CONSTRUCTION BASELINE
CSF	CONSTRUCTION SAFETY FENCE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CURB OPENING
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	JUNCTION BOX - DRAINAGE
LO	LATERAL OFFSET
LOC	LIMIT OF CONSTRUCTION
MB	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
DA	PROPOSED DENIAL OF ACCESS
PE	PROPOSED PERMANENT EASEMENT
R/W	PROPOSED RIGHT-OF-WAY
R/W-DA	PROPOSED R/W & DENIAL OF ACCESS
TCE	TEMPORARY CONSTRUCTION EASEMENT
100+00	PROPOSED RIGHT-OF-WAY BASELINE



TITLE AND SECTION/DETAIL REFERENCE SYMBOL



BUILDING SECTION/DETAIL SYMBOL

C-001

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3/23/2017

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

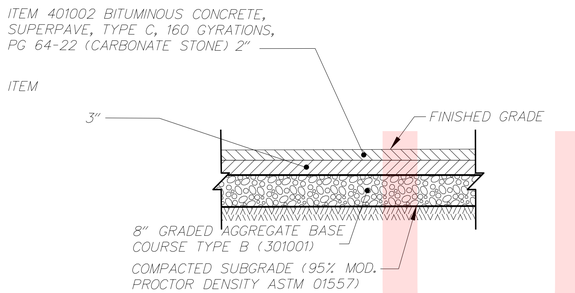
NOT TO SCALE

MAGNOLIA YARD TRUCK WASH FACILITY

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

GENERAL NOTES AND ABBREVIATIONS

SHEET NO.	
2	
TOTAL SHTS.	
37	



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

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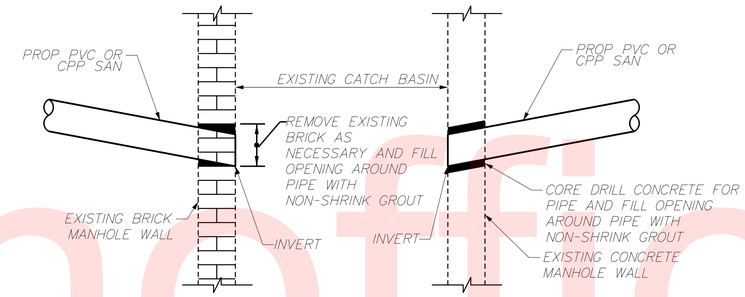

2 C-002 C-002 CONNECTION TO EXISTING BRICK OR CONCRETE CATCH BASIN DETAIL

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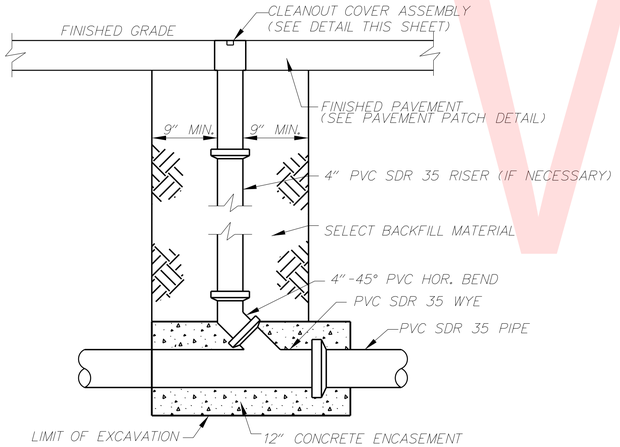

3 C-002 C-002 ROOF DRAIN CLEANOUT DETAIL - INLINE

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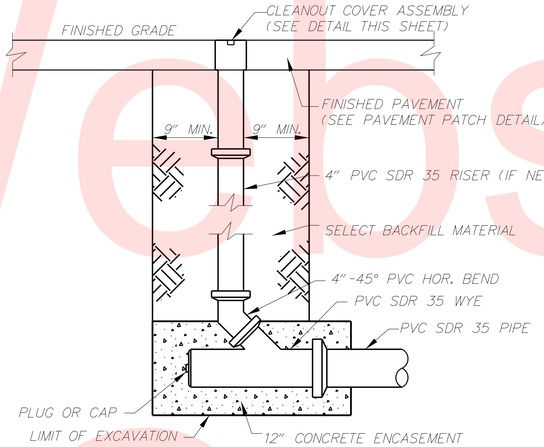

4 C-002 C-002 ROOF DRAIN CLEANOUT DETAIL - AT BEND

N.T.S.

NOTE: PAVEMENT FOR ROOF DRAIN AND CLEANOUT COVER ASSEMBLIES SHALL BE INCLUDED IN THE PROPOSED PIPE LENGTH COST. NO SEPARATE PAYMENT WILL BE PAID.

5 C-002 C-002 CLEANOUT COVER ASSEMBLY

N.T.S.

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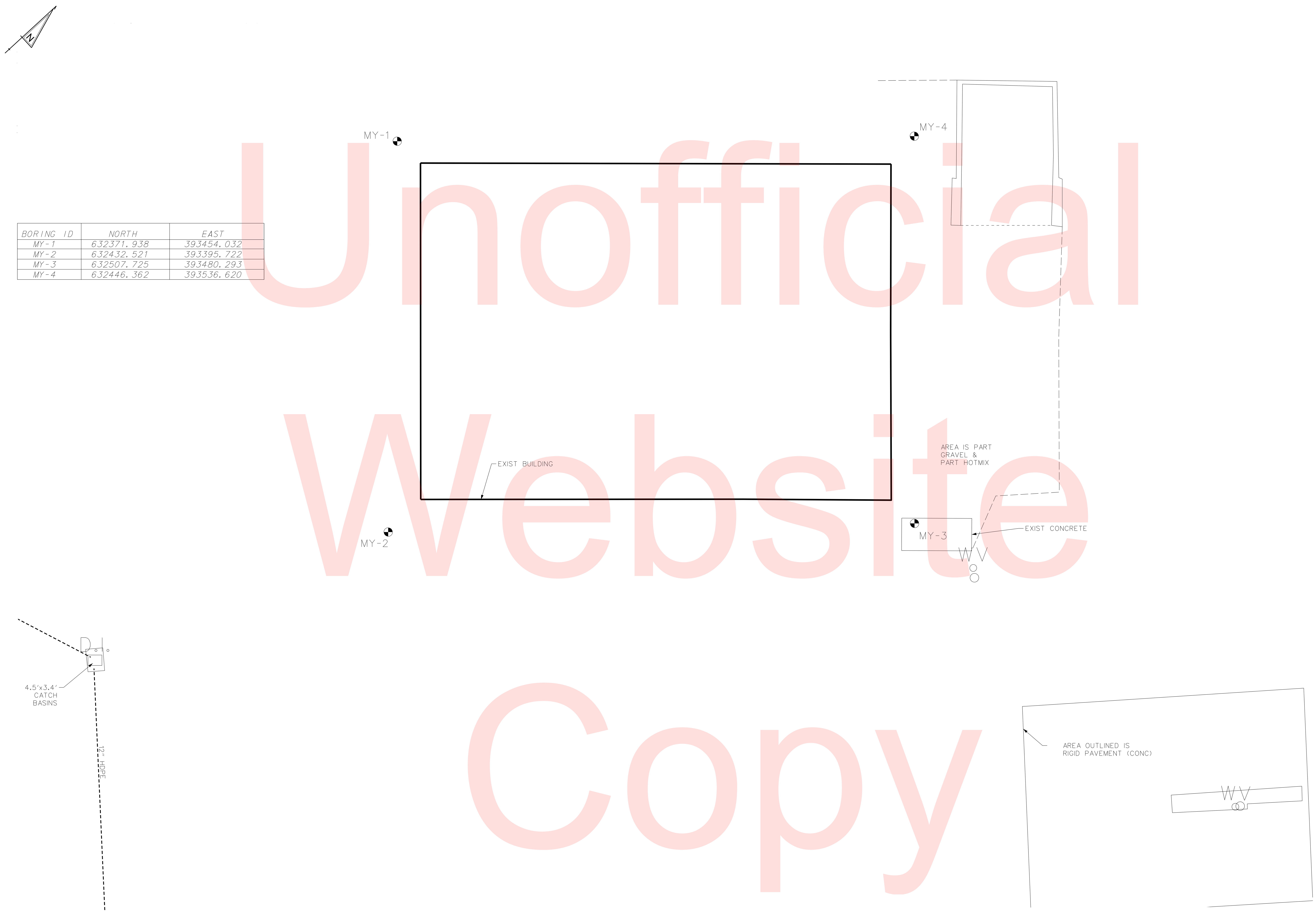
4/20/2017

C–002

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. 37
					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

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3/23/2017

C-101

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			
KENT	CHECKED BY: RJM		

BORING PLAN

SHEET NO.	4
TOTAL SHTS.	C-101

C–102

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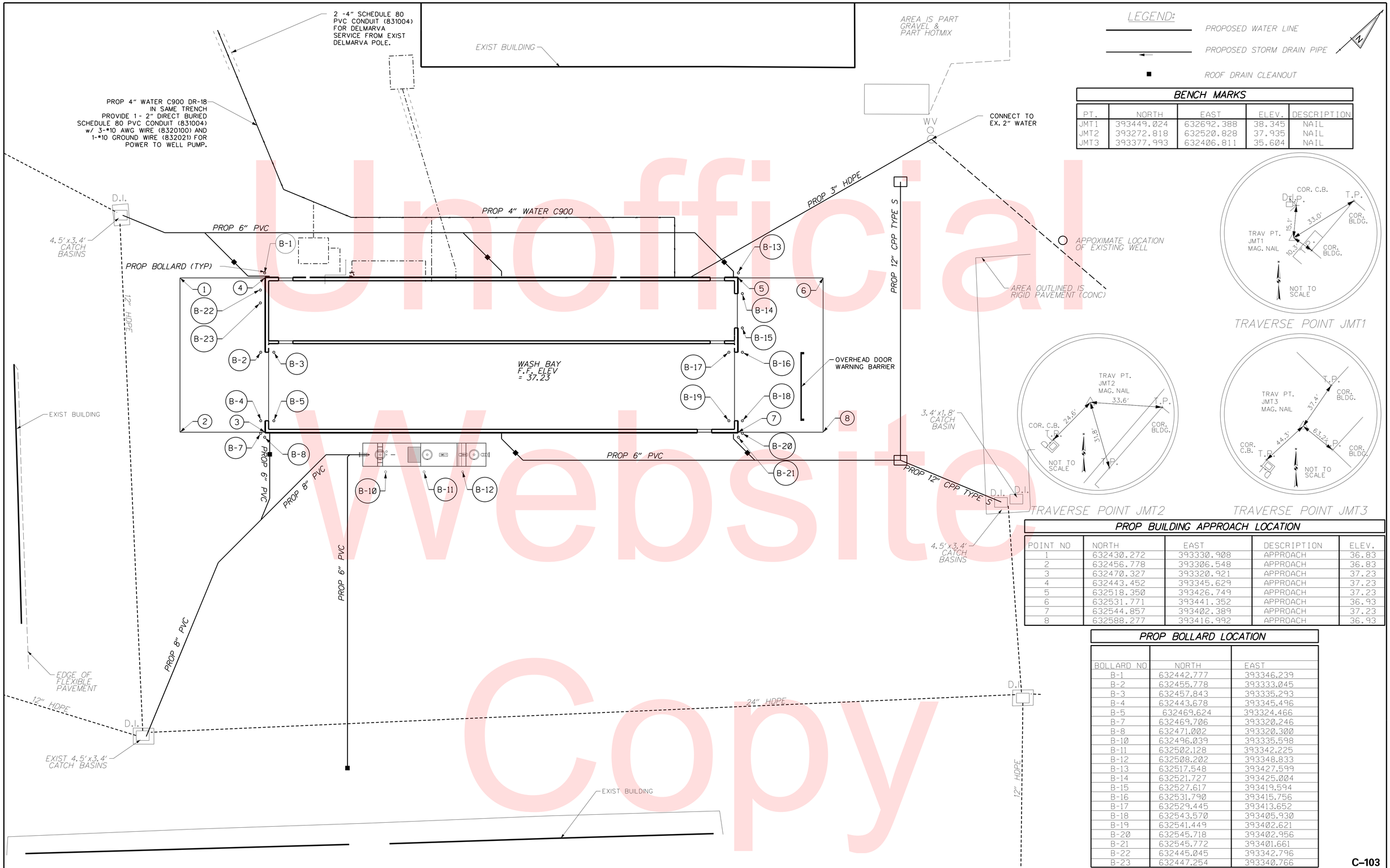
4/24/2017

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 20 40 60 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	SHEET NO. 5
				COUNTY KENT	DESIGNED BY: WES	TOTAL SHTS. 37
					CHECKED BY: RJM	SITE PLAN



LEGEND:

- PROPOSED WATER LINE
- PROPOSED STORM DRAIN PIPE
- ROOF DRAIN CLEANOUT

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

PROP BUILDING APPROACH LOCATION

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	632518.350	393426.749	APPROACH	37.23
6	632531.771	393441.352	APPROACH	36.93
7	632544.857	393402.389	APPROACH	37.23
8	632588.277	393416.992	APPROACH	36.93

PROP BOLLARD LOCATION

BOLLARD NO	NORTH	EAST
B-1	632442.777	393346.239
B-2	632455.778	393333.045
B-3	632457.843	393335.293
B-4	632443.678	393345.496
B-5	632469.624	393324.466
B-7	632469.706	393320.246
B-8	632471.002	393320.300
B-10	632496.039	393335.598
B-11	632502.128	393342.225
B-12	632508.202	393348.833
B-13	632517.548	393427.599
B-14	632521.727	393425.004
B-15	632527.617	393419.594
B-16	632531.790	393415.756
B-17	632529.445	393413.652
B-18	632543.570	393405.930
B-19	632541.449	393402.621
B-20	632545.718	393402.956
B-21	632545.772	393401.661
B-22	632445.045	393342.796
B-23	632447.254	393340.766

C-103

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4/20/2017

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 10 20 30 FEET

MAGNOLIA YARD TRUCK WASH FACILITY

CONTRACT	BRIDGE NO. N/A	SITE STAKEOUT PLAN	SHEET NO.
1201680102	DESIGNED BY: WES		6
COUNTY	CHECKED BY: RJM		TOTAL SHTS.
KENT			37

C-104

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY

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

GRADING PLAN

SHEET NO. 7
TOTAL SHTS. 37

4/20/2017

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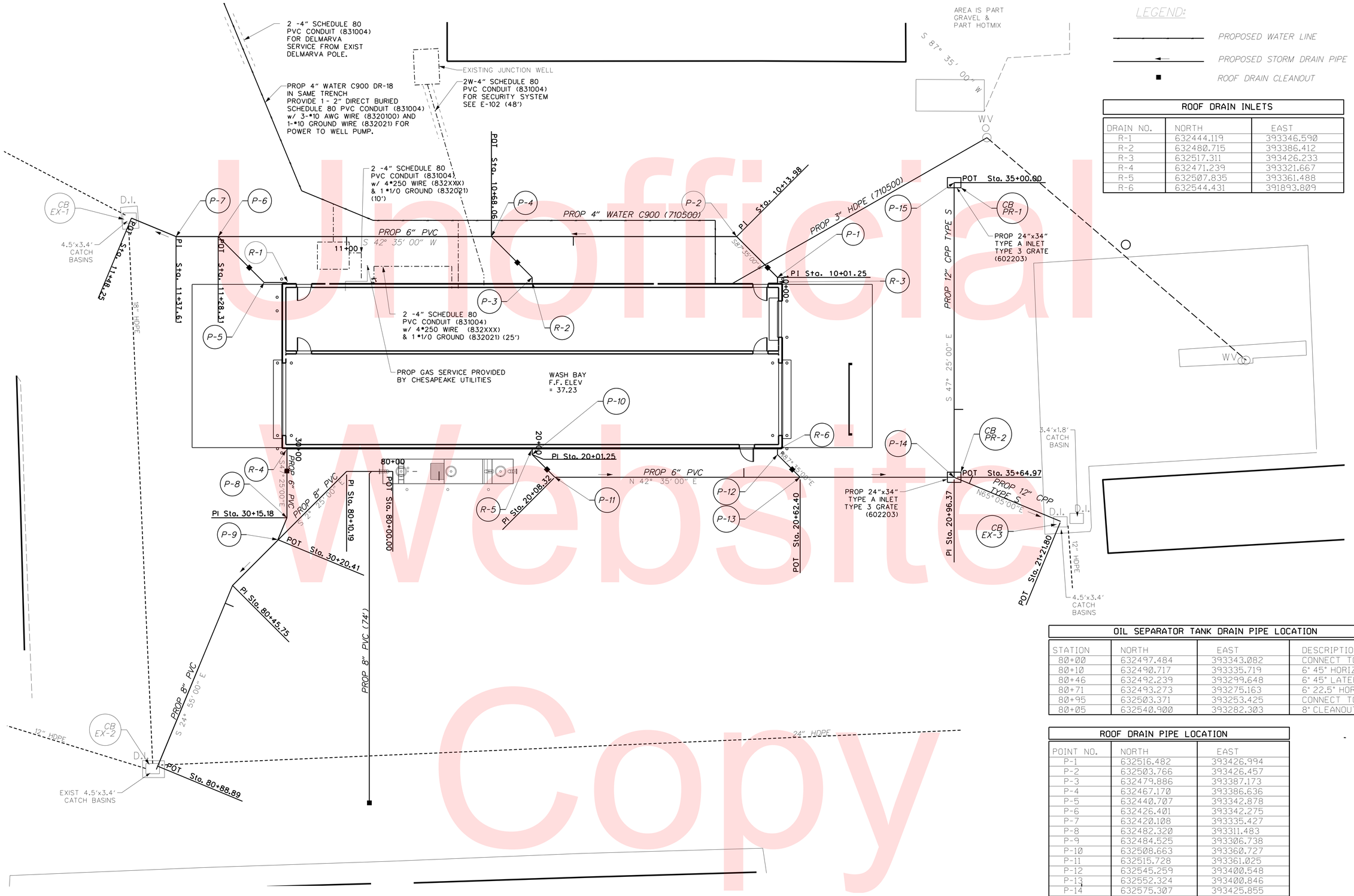


LEGEND:

- PROPOSED WATER LINE
- PROPOSED STORM DRAIN PIPE
- ROOF DRAIN CLEANOUT

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

OIL SEPARATOR TANK DRAIN PIPE LOCATION

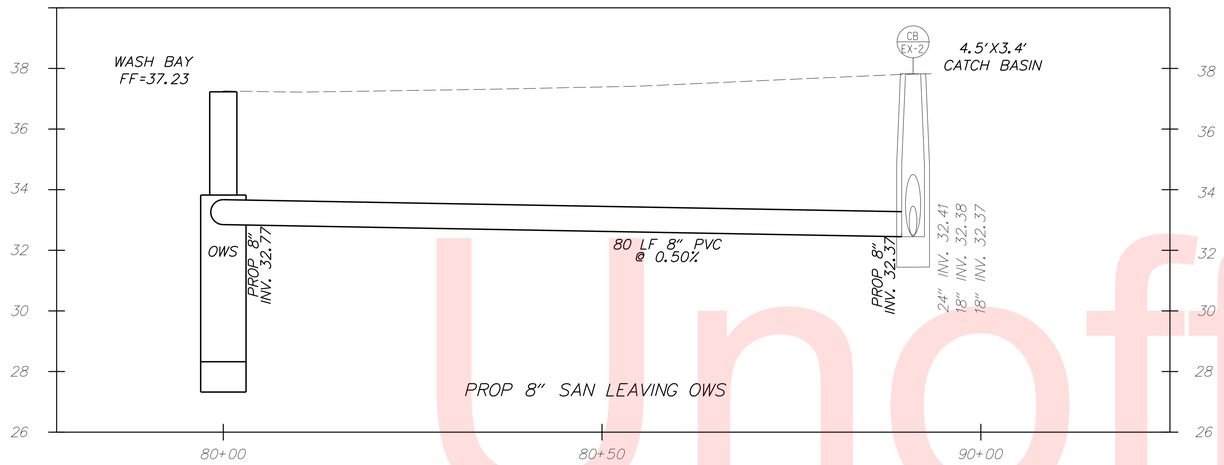
STATION	NORTH	EAST	DESCRIPTION
80+00	632497.484	393343.082	CONNECT TO OWS
80+10	632490.717	393335.719	6° 45° HORIZ BEND
80+46	632492.239	393299.648	6° 45° LATERAL
80+71	632493.273	393275.163	6° 22.5° HORIZ BEND
80+95	632503.371	393253.425	CONNECT TO EX C.B.
80+05	632540.900	393282.303	8° CLEANOUT - 73' LEFT

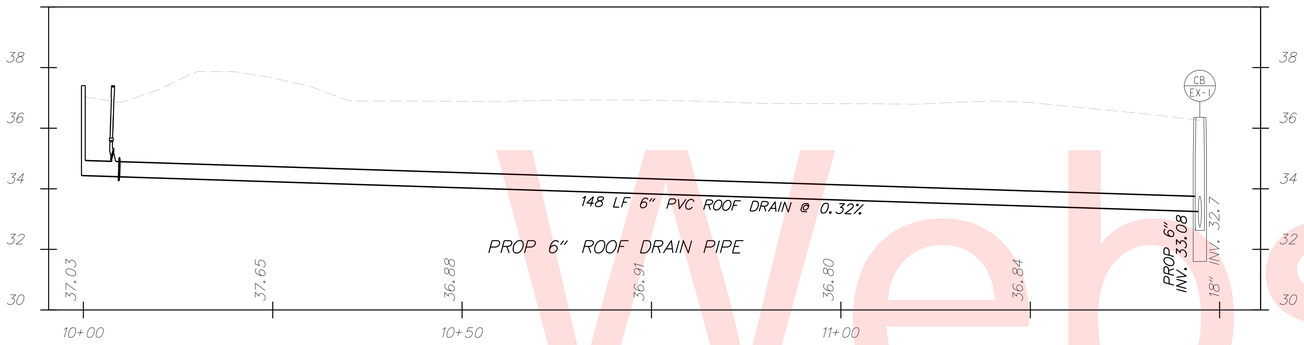
ROOF DRAIN PIPE LOCATION

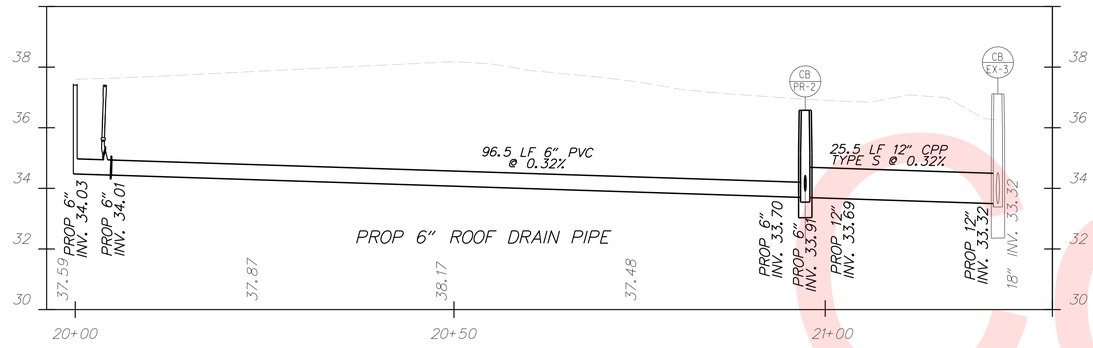
POINT NO.	NORTH	EAST
P-1	632516.482	393426.994
P-2	632503.766	393426.457
P-3	632479.886	393387.173
P-4	632467.170	393386.636
P-5	632440.707	393342.878
P-6	632426.401	393342.275
P-7	632420.108	393335.427
P-8	632482.320	393311.483
P-9	632484.525	393306.738
P-10	632508.663	393360.727
P-11	632515.728	393361.025
P-12	632545.259	393400.548
P-13	632552.324	393400.846
P-14	632575.307	393425.855
P-15	632527.470	393469.818

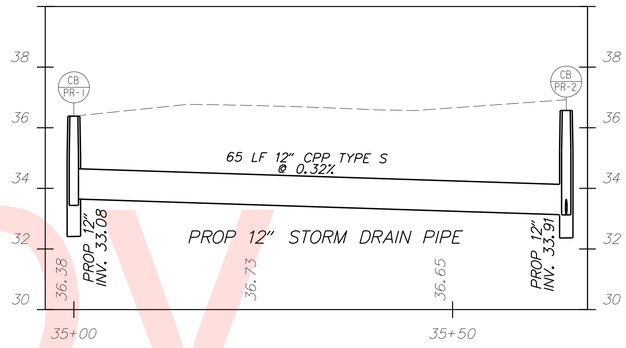
C-105

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 10 20 30 FEET	MAGNOLIA YARD TRUCK WASH FACILITY	CONTRACT 1201680102	BRIDGE NO. N/A	COMPOSITE UTILITY PLAN
				COUNTY KENT	DESIGNED BY: WES	SHEET NO. 8
					CHECKED BY: RJW	TOTAL SHTS. 37









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	SHEET NO. 9
				COUNTY KENT	DESIGNED BY: WES		TOTAL SHTS. 37
					CHECKED BY: RJM		

N

CSF — CSF — CSF — LOC — SF — SF — SF — SF — SF

1 BEGIN SILT FENCE

EXIST BUILDING

AREA IS PART GRAVEL & PART HOTMIX

2 END SILT FENCE

LEGEND:

- PROPOSED WATER LINE
- PROPOSED STORM DRAIN PIPE
- SF — SILT FENCE
- INLET SEDEMENT CONTROL E-4 (2014)
- SANITARY CLEANOUT COVER

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)

EXIST BUILDING

3.4'x1.8' CATCH BASIN

EXIST BUILDING

4.5'x3.4' CATCH BASINS

AREA IS PART GRAVEL & PART HOTMIX

12" HDPE

EDGE OF FLEXIBLE PAVEMENT

12" HDPE

24" HDPE

36" HDPE

3 4.5'x3.4' CATCH BASINS

4

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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4/18/2017

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		

EROSIN SEDIMENT CONTROL PLAN

SHEET NO.
10
TOTAL SHTS.
37

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.

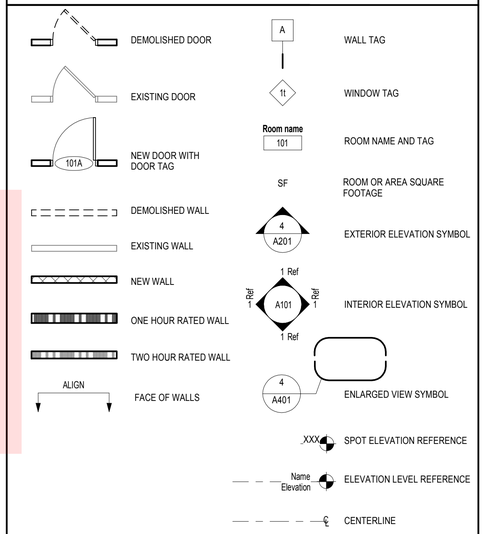
5. ALL CONTRACTORS SHALL COORDINATE LOCATIONS, CLEARANCES, AND ELEVATIONS OF BUILDING STRUCTURE, HVAC WORK, ELECTRICAL WORK, LIGHT FIXTURES, MECHANICAL WORK, CEILINGS AND THE LIKE WITH THEIR RESPECTIVE WORK PRIOR TO FABRICATION AND INSTALLATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES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

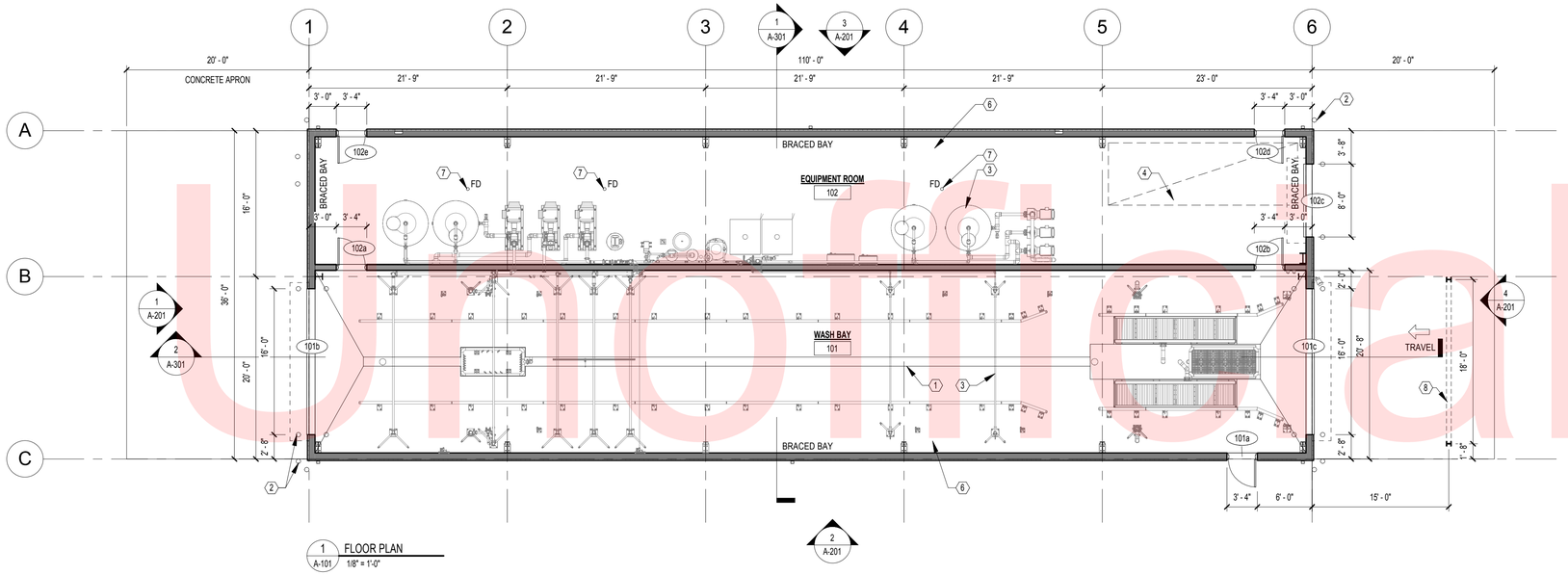
8. COORDINATE AND SCHEDULE WORK WITH THE OWNER TO ACCOMMODATE THE OWNER'S NORMAL ACTIVITIES AND TO MAINTAIN THE SAFETY OF THE OWNER'S PROPERTY, STAFF AND OTHERS USING THE SITE.

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. 38
					CHECKED BY: KNM		



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.
4. CLEAR FLOOR SPACE FOR BRINE OPERATIONS.
5. NOT USED.
6. EPOXY COATING OVER CONCRETE SLAB. TURN COATING UP WALL 8" MIN.
7. FLOOR DRAIN, REF PLUMBING.
8. OVERHEAD CLEARANCE BAR PAINTED SAFETY YELLOW, ABOVE. COORDINATE HEIGHT WITH WASH SYSTEM REQUIREMENTS.

4' 0' 4' 8'
SCALE 1/8"=1'-0"

A-101

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DELAWARE
DEPARTMENT OF TRANSPORTATION

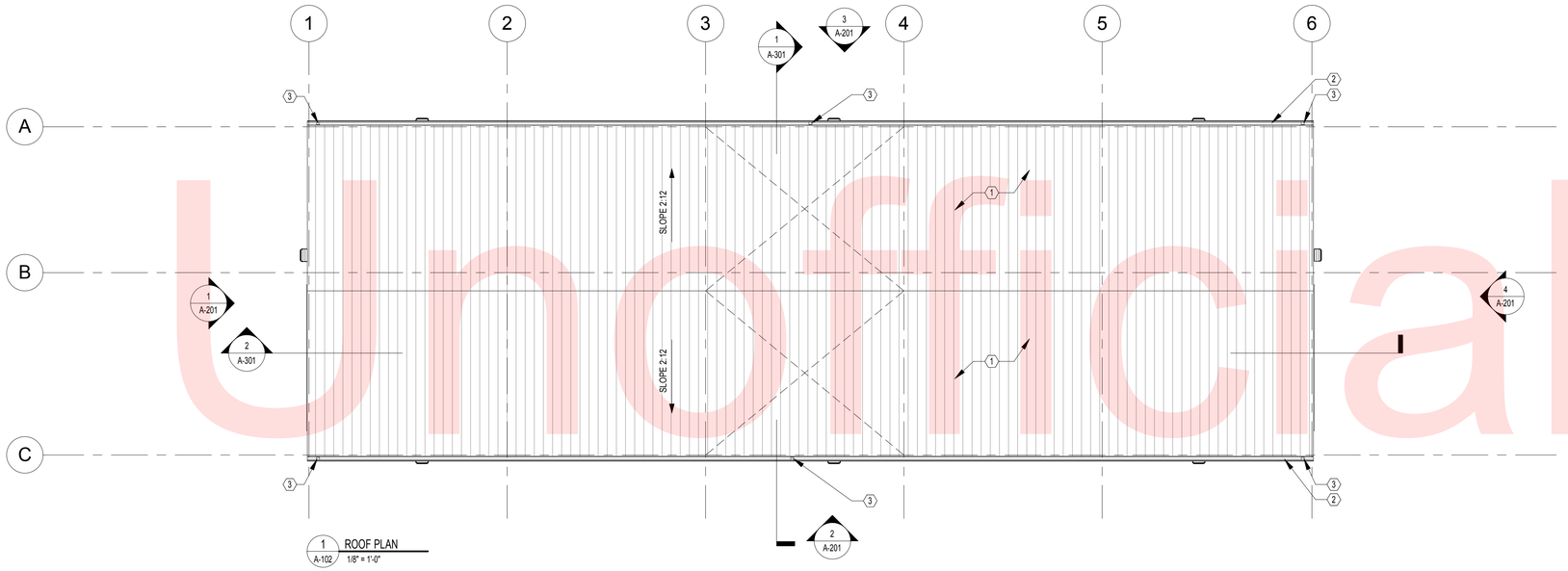
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

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

FLOOR PLAN

SHEET NO.	12
TOTAL SHTS.	38



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

SHEET KEYNOTES:

1. STANDING SEAM INSULATED METAL ROOF PANEL.
2. 5"x5" PREFINISHED METAL GUTTER.
3. 3"x4" PREFINISHED METAL DOWNPSOUT.

A-102

DELAWARE
DEPARTMENT OF TRANSPORTATION

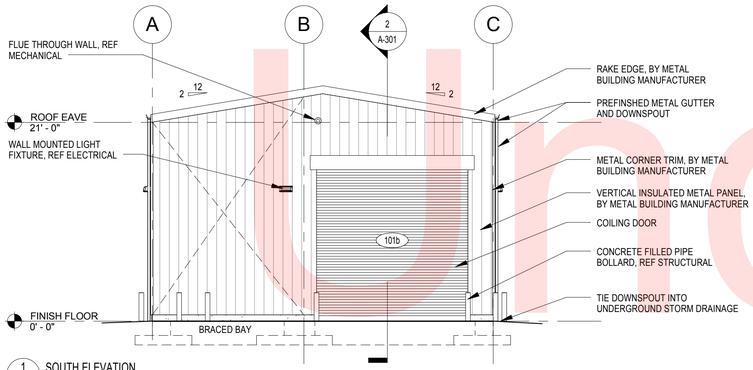
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

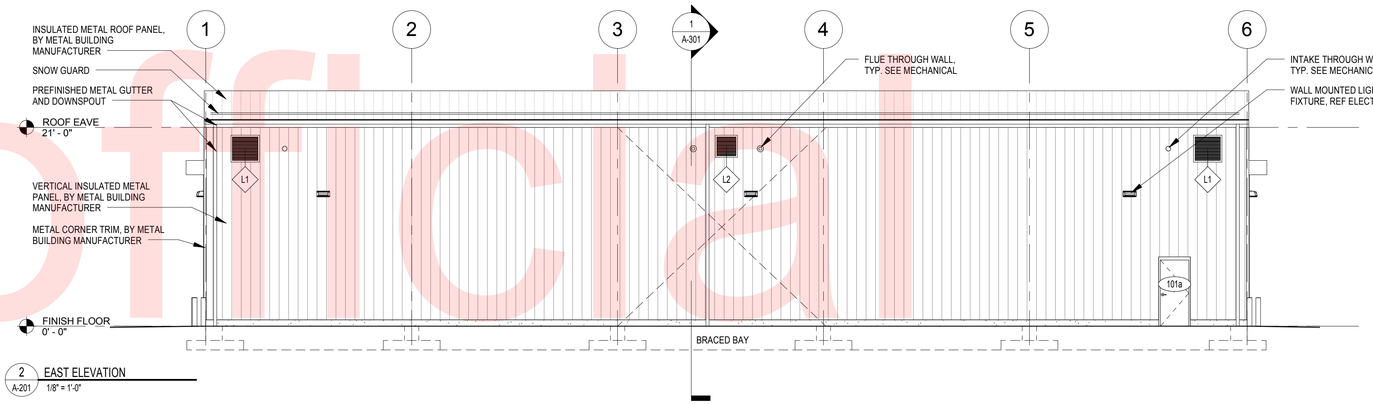
CONTRACT	T201680102
COUNTY	KENT
BRIDGE NO.	
DESIGNED BY:	DCH
CHECKED BY:	KNM

ROOF PLAN

SHEET NO.	13
TOTAL SHTS.	38



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



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

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

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

A-201

DELAWARE
DEPARTMENT OF TRANSPORTATION

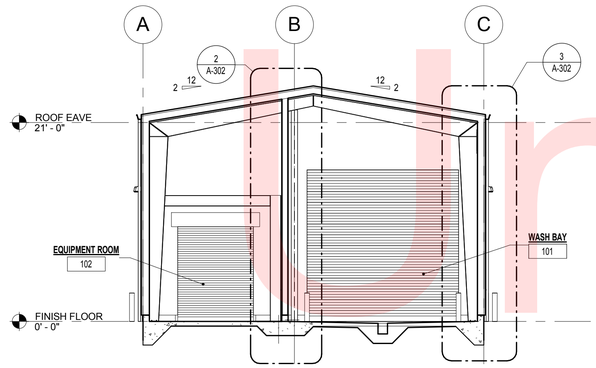
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

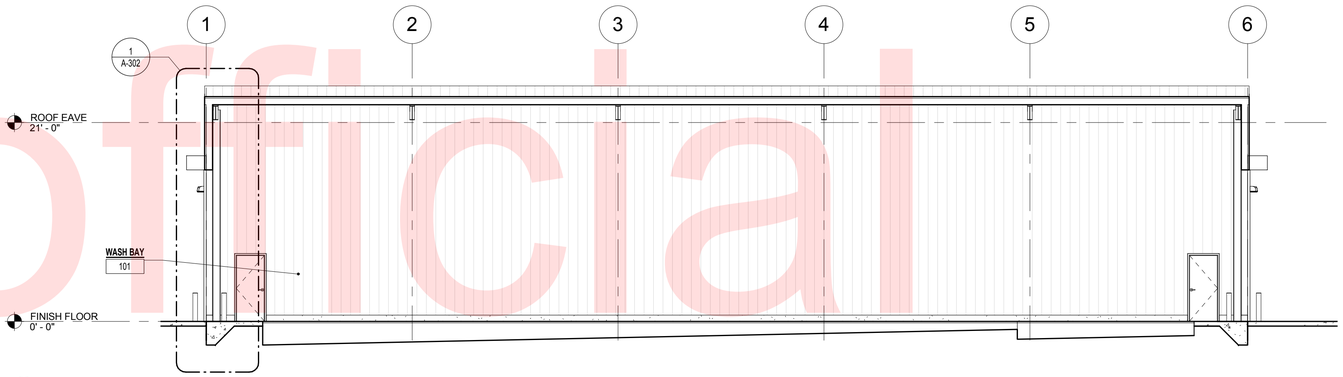
CONTRACT	T201680102	BRIDGE NO.	
COUNTY	KENT	DESIGNED BY: DCH	
		CHECKED BY: KNM	

EXTERIOR ELEVATIONS

SHEET NO.
14
TOTAL SHTS.
38



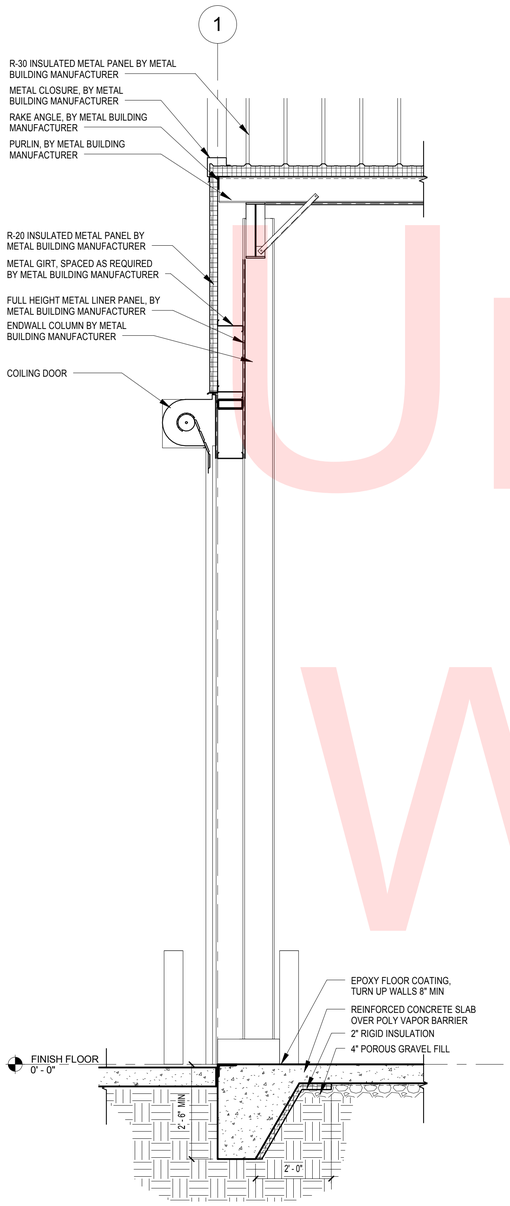
1 A-301 TRANSVERSE SECTION
1/8" = 1'-0"



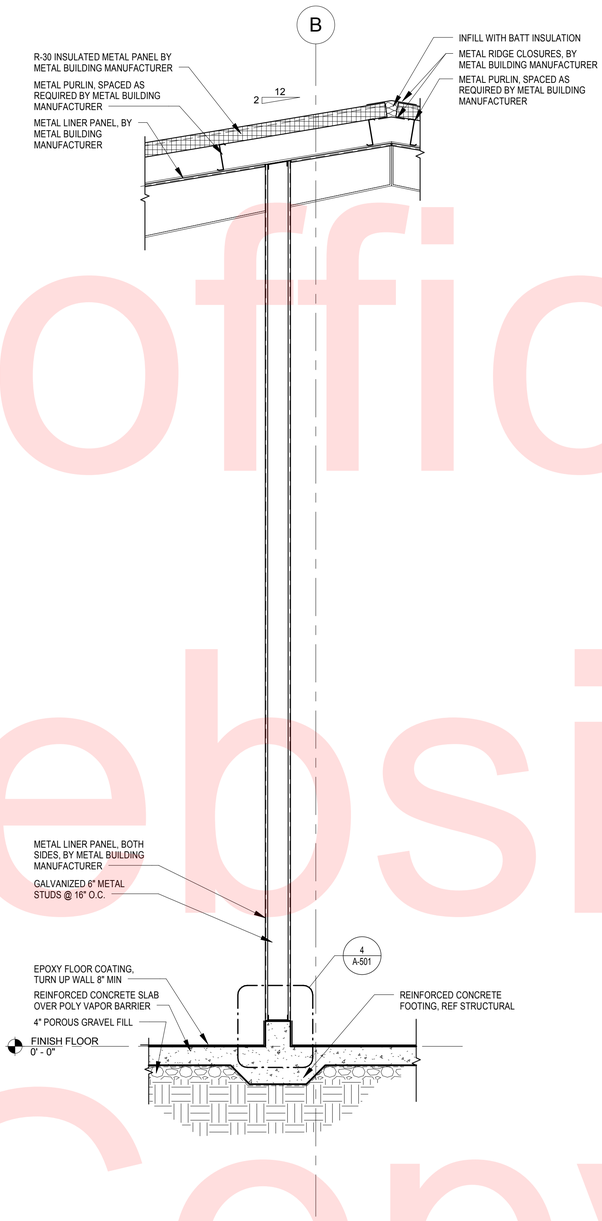
2 A-301 LONGITUDINAL SECTION
1/8" = 1'-0"

A-301

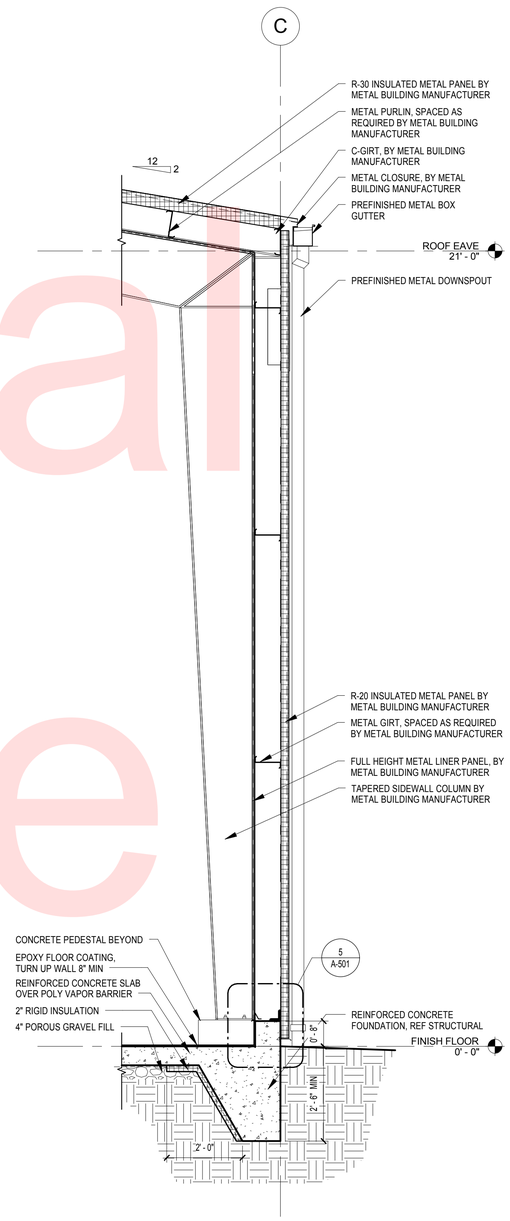
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO.	BUILDING SECTIONS	SHEET NO. 15
				COUNTY KENT	DESIGNED BY: DCH		TOTAL SHTS. 38
					CHECKED BY: KNM		



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



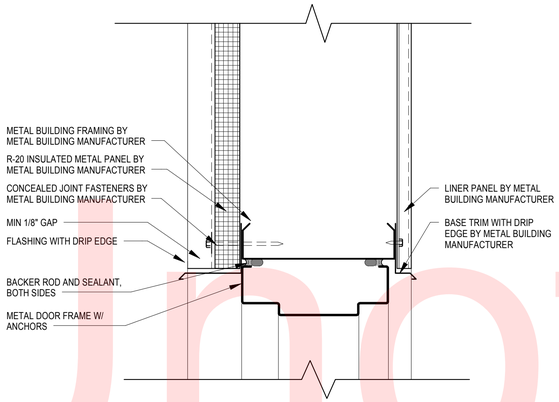
2 A-302 WALL SECTION 1/2" = 1'-0"



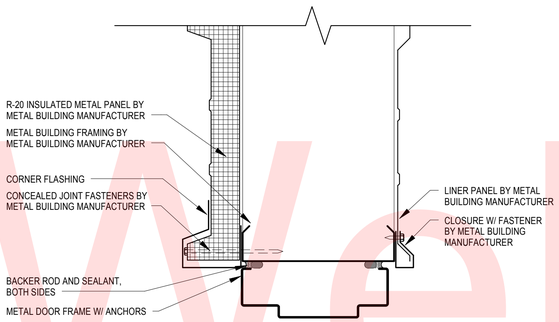
3 A-302 WALL SECTION 1/2" = 1'-0"

A-302

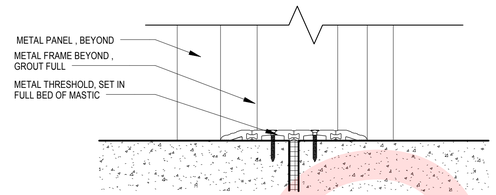
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO.	WALL SECTIONS	SHEET NO. 16
				COUNTY KENT	DESIGNED BY: DCH		TOTAL SHTS. 38
					CHECKED BY: KNM		



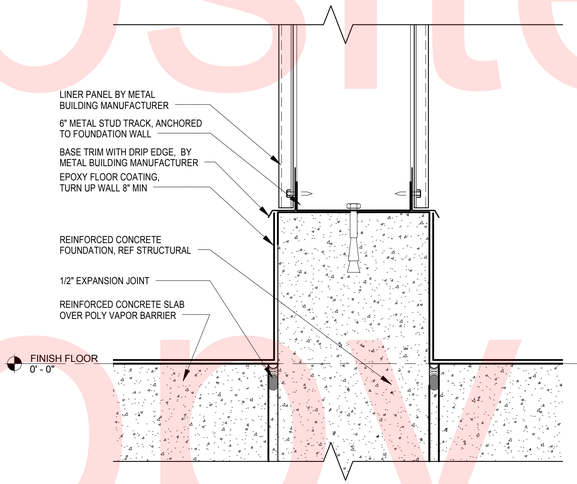
1 A-501 HOLLOW METAL DOOR HEAD 3" = 1'-0"



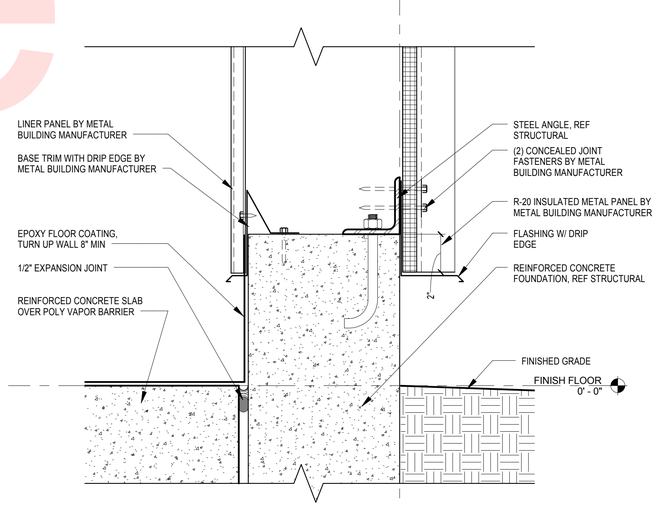
2 A-501 HOLLOW METAL DOOR JAMB 3" = 1'-0"



3 A-501 HOLLOW METAL DOOR SILL 3" = 1'-0"



4 A-501 WALL BASE DETAIL 3" = 1'-0"



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

DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THK	DOOR TYPE	DOOR MATL	DOOR LOUVER WIDTH	DOOR 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	HM	--	--	1	HM	7 3/4"	1/A-801	2/A-801	3/A-801	--	1	
101b	16' - 0"	16' - 0"	3/4"	OH	STL	--	--	--	STL	--	--	--	--	--	--	
101c	16' - 0"	16' - 0"	3/4"	OH	STL	--	--	--	STL	--	--	--	--	--	--	
102a	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	5 3/4"	1/A-801	2/A-801	3/A-801	--	2	
102b	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	5 3/4"	1/A-801	2/A-801	3/A-801	--	2	
102c	8' - 0"	10' - 0"	3/4"	OH	STL	--	--	--	STL	--	--	--	--	--	--	
102d	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	7 3/4"	1/A-801	2/A-801	3/A-801	--	1	
102e	3' - 0"	7' - 0"	1 3/4"	F	HM	--	--	1	HM	7 3/4"	1/A-801	2/A-801	3/A-801	--	1	

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.

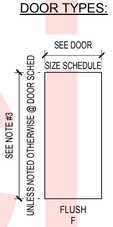
5. ALL DOOR FRAMES SHALL BE FLUSH W/ WALL CONSTRUCTION UNLESS WALL CONSTRUCTION EXCEEDS 8" (IF WALL EXCEEDS 8" USE 7 3/4" FRAME DEPTH UNLESS NOTED OTHERWISE.)

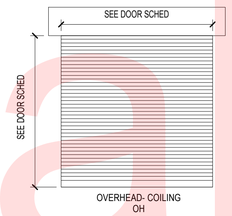
6. GROUT ALL HOLLOW METAL FRAMES SOLID WHEN IN CONTACT W/ CONCRETE CONSTRUCTION.

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

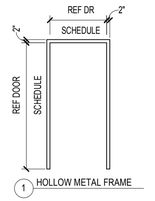
8. REFERNCE SPECIFICATION SECTION "087100 -DOOR HARDWARE" FOR DOOR HARDWARE SETS.

DOOR TYPES:





DOOR FRAME TYPES:



1 HOLLOW METAL FRAME

LOUVER SCHEDULE

MARK	WIDTH	HEIGHT	SILL ELEV ABOVE FF
L1	32"	30"	17'-6"
L2	24"	24"	18-0"
L3	10"	10"	7'-4"

PROVIDE GREENHECK ESD-403 DRAINABLE BLADE LOUVER OR EQUIVALENT

ROOM FINISH SCHEDULE

NO	ROOM NAME	FLOOR MAT'L	FLOOR FIN	FLOOR BASE	WALLS NORTH MAT'L	WALLS NORTH FIN	WALLS EAST MAT'L	WALLS EAST FIN	WALLS SOUTH MAT'L	WALLS SOUTH FIN	WALLS WEST MAT'L	WALLS WEST FIN	CEILING MAT'L	CEILING FIN	COMMENTS
101	WASH BAY	CONCRETE	EPOXY	EPOXY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	
102	EQUIPMENT ROOM	CONCRETE	EPOXY	EPOXY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	LINER	FACTORY	

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: KNM		38

$DATE_USER$

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.

GENERAL 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

WALL PRESSURE	MAX / MIN
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:	STEEL ORDINARY MOMENT FRAMES
RESPONSE MODIFICATION FACTOR:	3.5
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

CONCRETE

1. ALL REINFORCED CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318-11, 2011.
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.

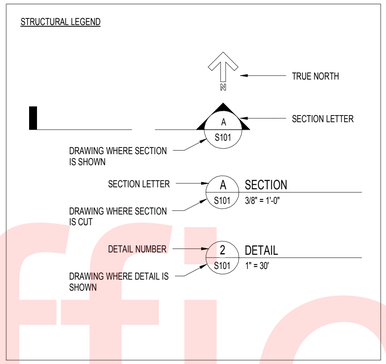
GEOTECHNICAL

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.

PRE-ENGINEERED METAL BUILDING NOTES

1. THE BUILDING SHALL BE A MANUFACTURE'S STANDARD PRE-FABRICATED METAL STRUCTURE OF THE APPROXIMATE INSIDE AREA SHOWN. RIGID FRAMES SHALL BE SPACED AS SHOWN IN THE PLANS, BUT OVERALL DIMENSIONS AND CONSTRUCTION DETAILS MAY VARY TO SUIT THE MANUFACTURE'S STANDARD DESIGN.
2. PRE- ENGINEERED BUILDING (PEMB) MANUFACTURER AND ENGINEER SHALL SUPPLY ALL CALCULATIONS INCLUDING GRAVITY AND LATERAL FORCES AT THE BASE OF ALL STRUCTURAL SUPPORTS PRIOR TO POURING ANY FOUNDATIONS.
3. PEMB SHALL PROVIDE LOCATIONS OF ALL "X" BRACING, AND PORTAL FRAMES USED TO RESIST THE LATERAL LOADS IN THE OPPOSITE DIRECTION OF THE BENTS ARE SPANNING. ROOF DESIGN SHOULD BE BASED ON ACTUAL DEAD LOAD PLUS 15 PSF COLLATERAL LOAD. 20 PSF ROOF LIVE LOAD AND ALL LATERAL LOADS SHOULD BE IN ACCORDANCE IBC.
4. PEMB SHALL SUBMIT ALL DESIGN LOADINGS SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE IN WHICH THE PROJECT IS BEING BUILT TO THE ARCHITECT FOR REVIEW PRIOR TO ANY FABRICATION. PACKAGE SHOULD INCLUDE A SUMMARY SHEET WITH ENVELOPE REACTIONS AT THE BASES OF ALL STRUCTURAL ELEMENTS. SUBMITTAL WILL NOT BE REVIEWED UNLESS THE ABOVE REQUIREMENTS ARE MET.
5. PEMB MANUFACTURER SHALL SUPPLY ANCHOR BOLT LAYOUT,NUMBER, AND SIZE REQUIRED FOR PROJECT. MINIMUM EMBEDMENT FOR ANCHORS SHALL BE 1'-0" UNLESS NOTED OTHERWISE.
6. PEMB SHALL COORDINATE WITH MECHANICAL, ELECTRICAL AND PLUMBING ENGINEERS FOR LOCATION OF ALL EQUIPMENT TO BE SUPPORTED FROM THE PEMB. THIS INCLUDES SUPPORT LOADS FOR HOSE REELS IN SHOPS.
7. ANCHOR BOLT SIZES SHALL BE AS SHOWN ON THE SHOP DRAWINGS. BOLTS SHALL BE PROPERLY PLACED, ALIGNED, AND SECURLY TIED TO REMAIN IN PLACE DURING PLACEMENT OF THE CONCRETE.

STRUCTURAL LEGEND



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.

S-001

SPECIAL INSPECTIONS

MATERIAL		VERIFICATION AND INSPECTION	FREQUENCY		REFERENCED STANDARD	IBC REFERENCE	COMMENTS
			CONTINUOUS	PERIODIC			
SOILS	1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHEIVE THE DESIGN BEARING CAPACITY	-	X	ASTM D7380	-	
	2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	-	X	-	-	REFER TO GEOTECHNICAL PROFESSIONAL
	3.	PERFORM TESTING AND CLASSIFICATION OF FILL MATERIALS	-	X	ASTM D2487	-	
	4.	VERIFY PROPER USE OF MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF FILL.	X	-	ASTM 1557	-	
	5.	PRIOR TO PLACEMENT OF PREPARED FILL, ENSURE SITE PREPARATION I.A.W SOILS REPORT.	-	X	-	-	REFER TO GEOTECHNICAL PROFESSIONAL
CONCRETE	1.	INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	-	X	ACI 318: 3.5, 7.1-7.7	1910.4	
	2.	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH STEEL INSPECTIONS, ITEM 2B.	-	-	AWS D1.4; ACI 318: 3.5.2	1705.5.2	WELDING ONLY WHEN PERMITTED BY ENGINEER
	3.	INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING THE PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	-	X	ACI 318: 8.1.3,21.2.8	1908.5, 1909.1	MLFRS ONLY
	4.	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE.	-	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1	
	5.	VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3	
	6.	AT THE TIME OF PLACEMENT SAMPLE FRESH CONCRETE AND FABRICATE TEST SPECIMENS FOR STRENGTH TESTS. PERFORM SLUMP AND AIR TEST, AND DETERMINE TEMPERATURE OF CONCRETE.	X	-	ASTM C172, ASTM C31 ACI 318: 5.6, 5.8	1910.10	
	7.	INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUE.	X	-	ACI 318: 5.9-5.10	1910.6-.8	
	8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 5.11-5.13	1910.9	
	9.	INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 6.1.1	-	

STATEMENT OF SPECIAL INSPECTIONS PLAN

ABBREVIATIONS

O -OBSERVE ITEMS AT RANDOM. OPERATIONS NEED NOT BE DELAYED.

P- PERFORM THESE TASKS FOR EACH JOINT OR MEMBER.

X -REQUIRED INSPECTION

GENERAL NOTES

1. THE STATEMENT OF SPECIAL INSPECTIONS PLAN DRAWINGS PROVIDES PROJECT COMPLIANCE WITH THE PROVISIONS OF 2012 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION AND TESTING FOR WIND AND SEISMIC RESISTANCE EXCEPT WHERE OTHERWISE NOTED. THIS INSPECTION IS OWNER FURNISHED.

2. ITEMS IDENTIFIED IN THESE TABLES ARE REQUIRED TO MEET BUILDING CODE COMPLIANCE. THESE ARE NOT THE ENTIRE INSPECTIONS REQUIRED. EACH SPECIFICATION SECTION MAY REQUIRE ADDITIONAL INSPECTIONS AND QUALITY CONTROL MEASURES THAT ARE REQUIRED TO MEET THE STANDARDS ESTABLISHED FOR THE PROJECT CONTRACT. CONTRACTOR SHALL FURNISH ALL ELEMENTS, TESTS AND INSPECTIONS NOT INDICATED TO BE BY THE OWNER.

3. OWNER AND CONTRACTOR SHALL DECIDE IF CERTAIN ITEMS ARE ALREADY COVERED IN THE THE QUALITY CONTROL OF THE CONTRACTORS OPERATIONS AND FIELD REPORTS OF THE CONTRACTOR MAY SUFFICE FOR LESS SIGNIFICANT ITEMS ON THE LIST OF INSPECTIONS,

SPECIAL INSPECTION

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH IBC CHAPTER 17 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND REFERENCES.

2. SPECIAL INSPECTIONS WILL BE PERFORMED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE THE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.

3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED BY THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS PLAN.

5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.

GEOTECHNICAL OBSERVATION

1. GEOTECHNICAL OBSERVATION SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.7, 1803.5 AND 1803.6 TOGETHER WITH LOCAL AND STATE AMENDMENTS.

2. GEOTECHNICAL OBSERVATION SHALL BE PERFORMED BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. GEOTECHNICAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTION OR INSPECTIONS BY THE BUILDING OFFICIAL.

3. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE GEOTECHNICAL OBSERVATION.

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION IN ACCORDANCE WITH IBC SECTION 1709 TOGETHER WITH LOCAL AND STATE AMENDMENTS ARE NOT APPLICABLE TO PROJECT.

2. STRUCTURAL OBSERVATION IF PERFORMED WILL BE BY A REGISTERED PROJECT DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. ANY STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS. INSPECTIONS BY THE BUILDING OFFICIAL OR SPECIFICATION REQUIRED QUALITY CONTROL.

3. STRUCTURAL OBSERVATION REPORTS, NOTING ANY DEFICIENCIES IN OBSERVED CONSTRUCTION, WILL BE DELIVERED TO THE CONTRACTOR, BUILDING OFFICIAL, AND OWNER FOLLOWING EACH OBSERVATION IF A VISIT IS PERFORMED. THE CONTRACTOR WILL BE NOTIFIED ON-SITE OR BY PHONE OR EMAIL WITHIN 24 HOURS UPON FINDING ANY DEFICIENCIES.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341. THE SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATION IN ACCORDANCE WTIH IBC 2012 SECTION 1705.12.3 AND VERIFY THAT THE LABEL, ANCHORAGE, OR MOUNTING CONFORMS TO THE CERTIFICATE OF COMPLIANCE.

TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.

CONTRACTOR RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND OR SEISMIC RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

S-002

DELAWARE
DEPARTMENT OF TRANSPORTATION

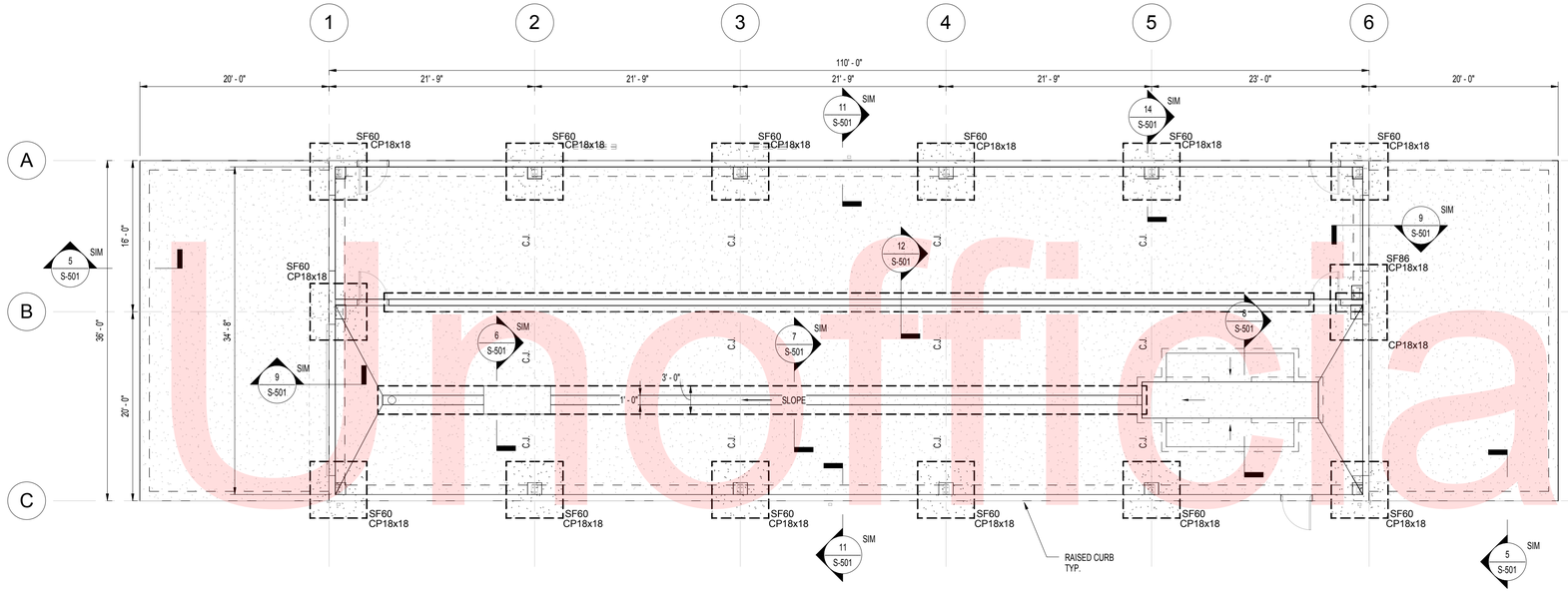
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	
T201680102	DESIGNED BY:	BEE
COUNTY	CHECKED BY:	DO
KENT		

SPECIAL INSPECTIONS

SHEET NO.
19
TOTAL SHTS.
37



1 S-101 FOUNDATION PLAN
1/8" = 1'-0"

DRAWING NOTES:

1. COORDINATE WITH ARCH. MEP/ AND EQUIPMENT MANUFACTURER FOR SLAB PENETRATION LOCATIONS.
2. FLOOR SURFACE SHALL BE COATED WITH PIGMENTED POLYURETHANE 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. COORD. TRENCH DRAIN WITH ARCH., MEP, AND MANUF.
6. C.J. - DENOTES CONTROL JOINT.

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	BOTTOM REINF.	TOP REINF.	COUNT
SF60	6' - 0"	6' - 0"	1' - 0"	(5) #6 BOTH WAYS	(5) #6 BOTH WAYS	13
SF86	8' - 0"	6' - 0"	1' - 0"	(5) #6 BOTH WAYS	(5) #6 BOTH WAYS	1

CONCRETE PIER SCHEDULE

MARK	SIZE (x,y)	VERT. REINF. DOWELED FROM FTG.	HORIZ. REINF.	TOP OF PIER ELEV.	COUNT
CP18x18	18 x 18	(8) # 6	#4 @ 8" o.c. MAX.	8"	15

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DELAWARE
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ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

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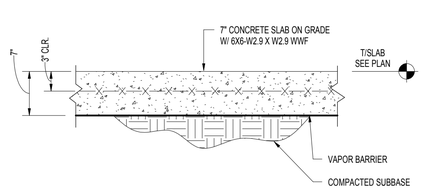
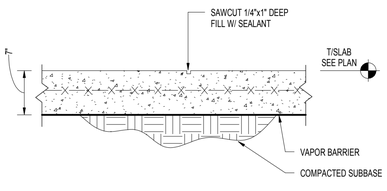
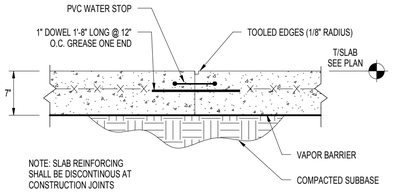
T201680102	DESIGNED BY: BEE	FOUNDATION PLAN	20
COUNTY			TOTAL SHTS.
KENT	CHECKED BY: DO		37



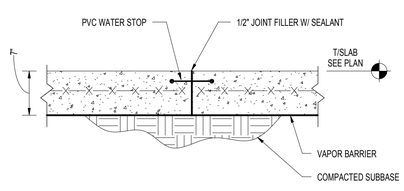
1 S-501 CONC - TYP. SLAB SECTION
1" = 1'-0"



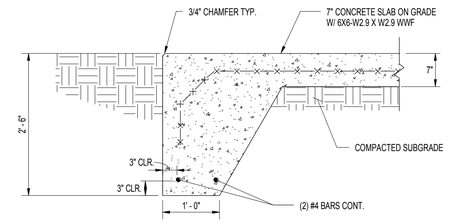
2 S-501 CONC - TYP. SLAB ON GRADE DETAIL - CONTROL JOINT
1" = 1'-0"



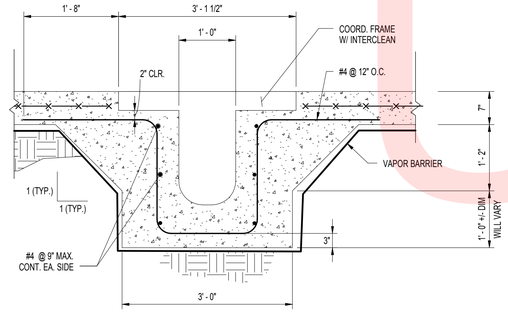
3 S-501 CONC - TYP. SLAB ON GRADE DETAIL - CONST. JOINT
1" = 1'-0"



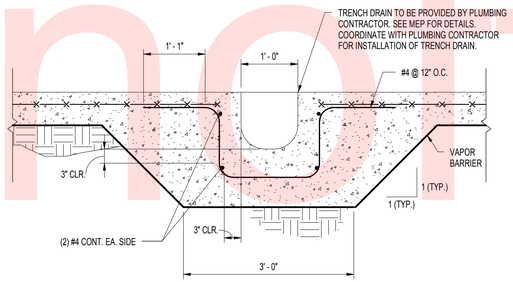
4 S-501 CONC - TYP. SLAB ON GRADE DETAIL - EXPANSION JOINT
1" = 1'-0"



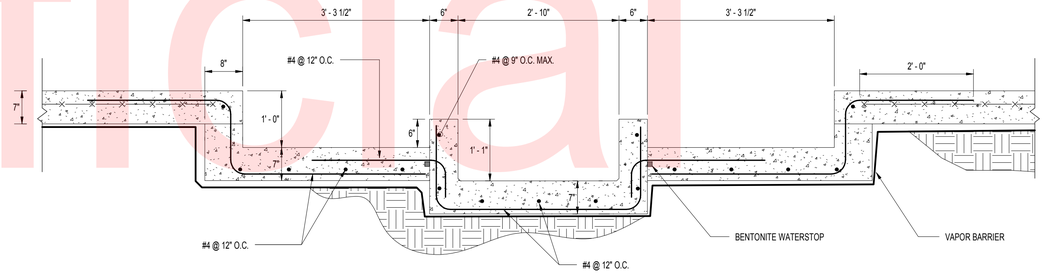
5 S-501 CONC - TYP. EXTERIOR TURN DOWN SLAB
3/4" = 1'-0"



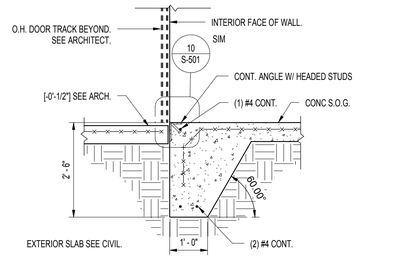
6 S-501 TRENCH DRAIN SECTION
3/4" = 1'-0"



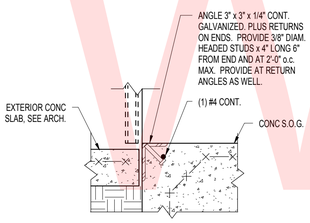
7 S-501 TRENCH DRAIN SECTION II
3/4" = 1'-0"



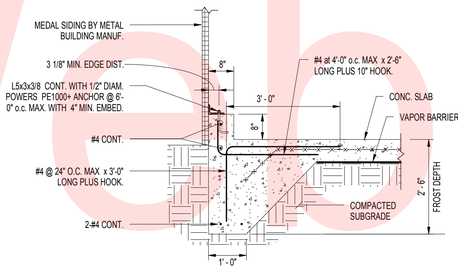
8 S-501 FOOTING SECTION AT LARGE DRAIN
3/4" = 1'-0"



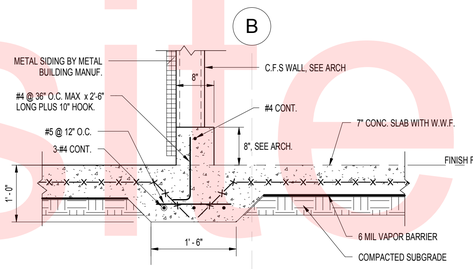
9 S-501 TYP. SECTION AT TURNDOWN AT OVERHEAD DOOR, RECESSED
1/2" = 1'-0"



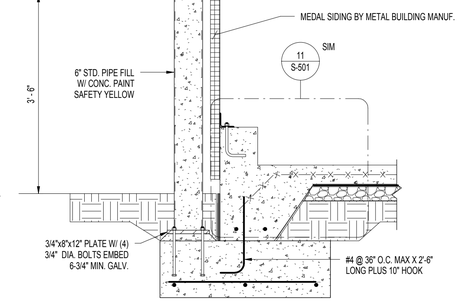
10 S-501 CALLOUT AT TURNDOWN AT OVERHEAD DOOR
1" = 1'-0"



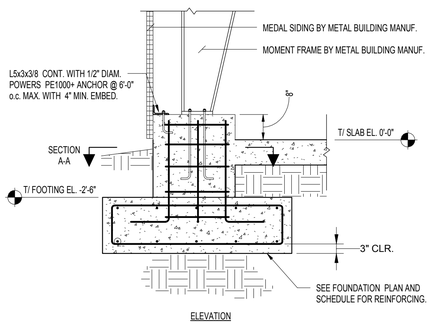
11 S-501 FOOTING DETAIL
1/2" = 1'-0"



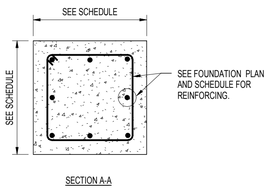
12 S-501 THICKENED SLAB FOUNDATION
3/4" = 1'-0"

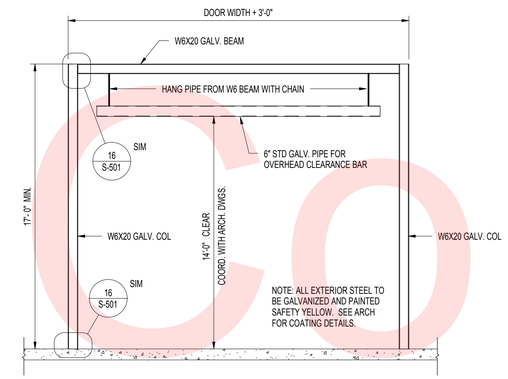


13 S-501 FNDN - BOLLARD DETAIL
3/4" = 1'-0"

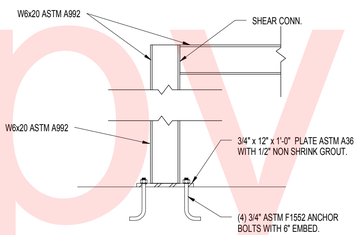


14 S-501 FNDN - RIGID FRAME FOOTING
1/2" = 1'-0"





15 S-501 OVHD CLEARANCE BAR
1/4" = 1'-0"



16 S-501 OVHD CLEARANCE BAR COL. DETAILS
3/4" = 1'-0"

S-501

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

CONTRACT	T201680102	BRIDGE NO.	
COUNTY	KENT	DESIGNED BY: BEE	
		CHECKED BY: DO	

TYP. FOUNDATION DETAILS

SHEET NO.	21
TOTAL SHTS.	37

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	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

DESIGNATIONS

EQUIPMENT DESIGNATIONS

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

X / X — SECTION REFERENCE: (SEE DATA BELOW FOR DETAILS)

/ SHT — DETAIL = LETTER / SECTION = NUMBER
DRAWING TITLE
SCALE
SHEET NUMBER FROM WHICH THE PARTIAL, SECTION, ELEVATION, OR DETAIL IS DRAWN

PLAN NORTH / N / TRUE NORTH — NORTH ARROW

NECK SIZE — 12"x12" — XXX CFM — AIR FLOW (TO BE BALANCED)
AIR DEVICE DESIG. (D/R/G)

ABBREVIATIONS

@	AT	MAV	MANUAL AIR VENT
AAV	AUTOMATIC AIR VENT	MAX	MAXIMUM
ABV	ABOVE	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
AD	ACCESS DOOR	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	MFR	MANUFACTURER
APPROX	APPROXIMATELY	MIN	MINIMUM
		MOD	MOTOR OPERATED DAMPER
BDD	BACKDRAFT DAMPER	MTD	MOUNTED
BFP	BACKFLOW PREVENTOR	MVD	MANUAL VOLUME DAMPER
BHP	BRAKE HORSEPOWER		
BLDG	BUILDING	NC	NOISE CRITERIA OR NORMALLY CLOSED
BLW	BELOW	NIC	NOT IN CONTRACT
BTU/HR	BRITISH THERMAL UNITS PER HOUR	NOM	NOMINAL
		NO	NORMALLY OPEN
C	COMMON	No	NUMBER
CFM	CUBIC FEET PER MINUTE		
CI	CAST IRON	OA	OUTDOOR AIR
CLG	CEILING	OAI	OUTDOOR AIR INTAKE
CO	CLEANOUT	OAT	OUTDOOR AIR TEMPERATURE
CONN	CONNECT, CONNECTION	OED	OPEN END DUCT WITH 3/4" SS WIRE MESH SCREEN
CONT'N	CONTINUATION	OI	OIL INTERCEPTOR
CV	CHECK VALVE	OS&Y	OUTSIDE STEM & YOKE VALVE
CW	DOMESTIC COLD WATER		
		%	PERCENT
D	DEEP, DEPTH	PD	PRESSURE DROP OR PUMP DISCHARGE
DB	DECIBEL OR DRY BULB	PH	PHASE
DDC	DIRECT DIGITAL CONTROL	POD	POINT OF DISCONNECTION
DIA, ø	DIAMETER	PR	PRESSURE
DIFF	DIFFERENTIAL	PRESS, P	PRESSURE REDUCING VALVE
DL	DOOR LOUVER	PS	PRESSURE SENSOR
DN	DOWN	PSI	POUNDS PER SQUARE INCH POUNDS
DPR	DAMPER	PSIG	PER SQUARE INCH GAUGE
DWG	DRAWING	PUH	PROPELLER UNIT HEATER
EA	EXHAUST AIR	R	EXHAUST AIR REGISTER
EFF	EFFICIENCY	REQ'D	REQUIRED
EF	EXHAUST FAN	RH	RELATIVE HUMIDITY
ELEC	ELECTRIC	RLA	RUNNING LOAD AMPERES
ESP	EXTERNAL STATIC PRESSURE	RM	ROOM
EX	EXISTING	RPM	REVOLUTIONS PER MINUTE
EXH	EXHAUST	RX	REMOVE EXISTING
°F	DEGREES FAHRENHEIT	S	SPRINKLER SUPPLY PIPE
F&T	FLEXIBLE CONNECTION	SAN	SANITARY, SOIL, WASTE
FD	FIRE DAMPER OR FOUNDATION DRAINAGE	SD	SMOKE DAMPER
FDC	FIRE DEPARTMENT CONNECTION	SF	SQUARE FEET
FDR	FLOOR DRAIN	S/M	SHEET METAL
FDV	FIRE DEPARTMENT VALVE	SP	STATIC PRESSURE
FL	FLOOR	SPD	STATIC PRESSURE DROP
FLA	FULL LOAD AMPERES	SPEC	SPECIFICATION
FPM	FEET PER MINUTE	SQ	SQUARE
FPS	FEET PER SECOND	SQ FT	SQUARE FOOT
FT, '	FOOT, FEET OR FLASH TANK	SPR	SPRINKLER LINE
FT HD	FEET OF HEAD	S/S	START/STOP
		SS	STAINLESS STEEL
G	NATURAL GAS PIPE OR EXHAUST GRILLE	STL	STEEL
GAL	GALLON, GALLONS	SW	STORM WATER
GPM	GALLONS PER MINUTE		
		TEMP, T	TEMPERATURE
H	HIGH, HEIGHT	TG	TRANSFER GRILLE
H2O	WATER	TSP	TOTAL STATIC PRESSURE
HB	HOSE BIBB	TYP	TYPICAL
HED	HOSE END DRAIN VALVE		
HP	HORSEPOWER	UH	UNIT HEATER
HW	DOMESTIC HOT WATER	UON	UNLESS OTHERWISE NOTED
HWC	DOMESTIC HOT WATER CIRCULATING		
		V	VOLTS
IN, "	INCH, INCHES	VD	VOLUME DAMPER
INV	INVERT	VEL	VELOCITY
ISOL	ISOLATION	VENT	VENTILATION
		VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATTS	VIB	VIBRATION
		ISOL VLV	ISOLATION VALVE
L	LONG, LENGTH	VP	SANITARY VENT PIPE
LAT	LEAVING AIR TEMPERATURE	VTR	VENT THROUGH ROOF
LBS	POUNDS		
LF	LINEAR FEET	W	WIDTH
LRA	LOCKED ROTOR AMPERES	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.

MISCELLANEOUS PLUMBING EQUIPMENT SCHEDULE

DESIGNATION	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 WITH CONCENTRIC VENT KIT 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
TRENCH DRAIN TRD-A	PRE-FABRICATED TRENCH DRAIN SYSTEM; PRE-SLOPED; MINIMUM CAPACITY: 400 GALLONS PER MINUTE	STRONGWELL POLYCAST 3000 SERIES
FLOOR DRAIN FD-A	4", COATED CAST IRON, REMOVABLE TOP & SEDIMENT BUCKET, DEEP SEAL P TRAP	WATTS FD-340-Y-SET
AUTOMATIC TRAP PRIMER	AUTOMATIC TRAP PRIMER SYSTEM, 4 DRAIN CALIBRATED MANIFOLD, ATMOSPHERIC VACUUM BREAKER, 3/4" INLET, 1/2" OUTLETS, 24HR CYCLE, 120V, GALVANIZED STEEL WALL-MOUNT CABINET	PRECISION PLUMBING PRODUCTS PT-4

PLUMBING PUMP SCHEDULE

DESIG.	LOCATION	SERVICE	TYPE	GPM	HEAD FT H2O	RPM	HP	ELEC VOLT/PH	BASIS	NOTES
WP-1	WATER SUPPLY WELL	WATER SUPPLY	DEEP WELL SUBMERSIBLE	200	235	3450	10.0	480/3	GOULDS 160L	1, 2, 3
TP-1	EQUIPMENT ROOM	TRANSFER PUMP	IN LINE	200	125	3450	15.0	480/3	BELL & GOSSETT SERIES 80	1, 2, 4

NOTES:
1.) PUMP SHALL BE RESELECTED AS REQUIRED TO MEET RESULTS OF CONTRACTOR'S WELL TEST.
2.) STARTER/DISCONNECT PROVIDED UNDER DIVISION 26.
3.) PROVIDE PUMP SYSTEM WITH SIMPLEX CONTROL PANEL, ASSOCIATED PRESSURE SWITCHES, ALARMS, AND WIRING.
4.) PROVIDE PUMP SYSTEM WITH SIMPLEX CONTROL PANEL, ASSOCIATED PRESSURE SWITCHES, LEVEL SWITCHES, ALARMS, AND WIRING.

PLUMBING TANK SCHEDULE

DESIG.	LOCATION	SERVICE	TYPE	ACCEPTANCE VOLUME (GAL)	DIAMETER (IN)	HEIGHT (IN)	SYSTEM CONNECTION	BASIS	NOTES
PT-1	EQUIPMENT ROOM	WELL PUMP	HYDROPNEUMATIC BLADDER TANK	250	48	96	3"	WESSELS FXA-2000	1
PT-2	EQUIPMENT ROOM	TRANSFER PUMP	HYDROPNEUMATIC BLADDER TANK	40	24	55	1 1/2"	WESSELS FXA-300	1
ST-1	EQUIPMENT ROOM	TRANSFER PUMP	ATMOSPHERIC STORAGE TANK	2000	72	136	4"	XERXES AST-V Z60SW & P60DW	1, 2

NOTES:
1.) TANK SHALL BE RESELECTED AS REQUIRED TO MEET RESULTS OF CONTRACTOR'S WELL TEST.
2.) PROVIDE TANK WITH HIGH LEVEL SWITCH, LOW LEVEL SWITCH, ASSOCIATED RELAYS, WIRING, AND CONTROLS.

MP-001

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DELAWARE DEPARTMENT OF TRANSPORTATION

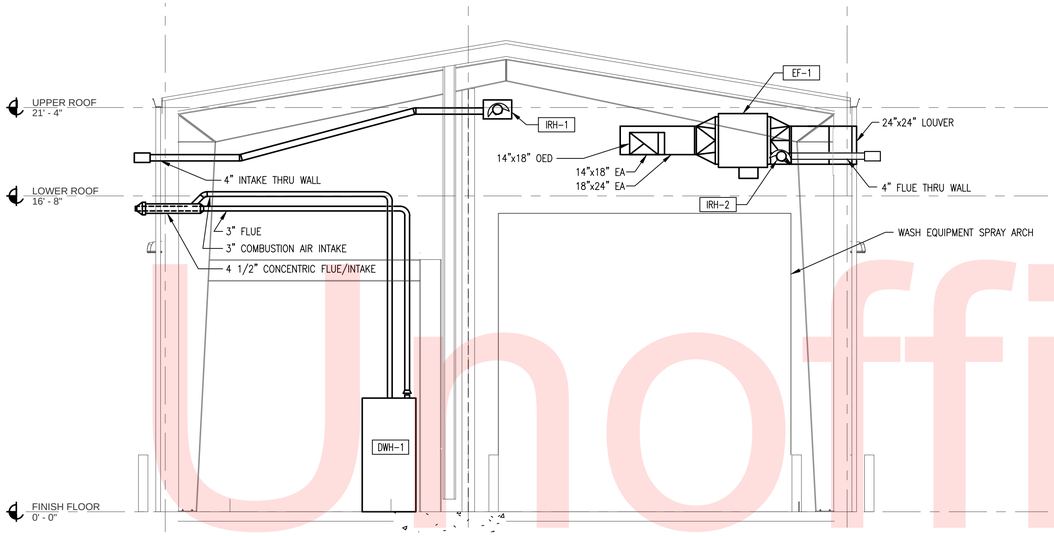
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

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

MECHANICAL & PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

SHEET NO.	
22	
TOTAL SHTS.	
38	



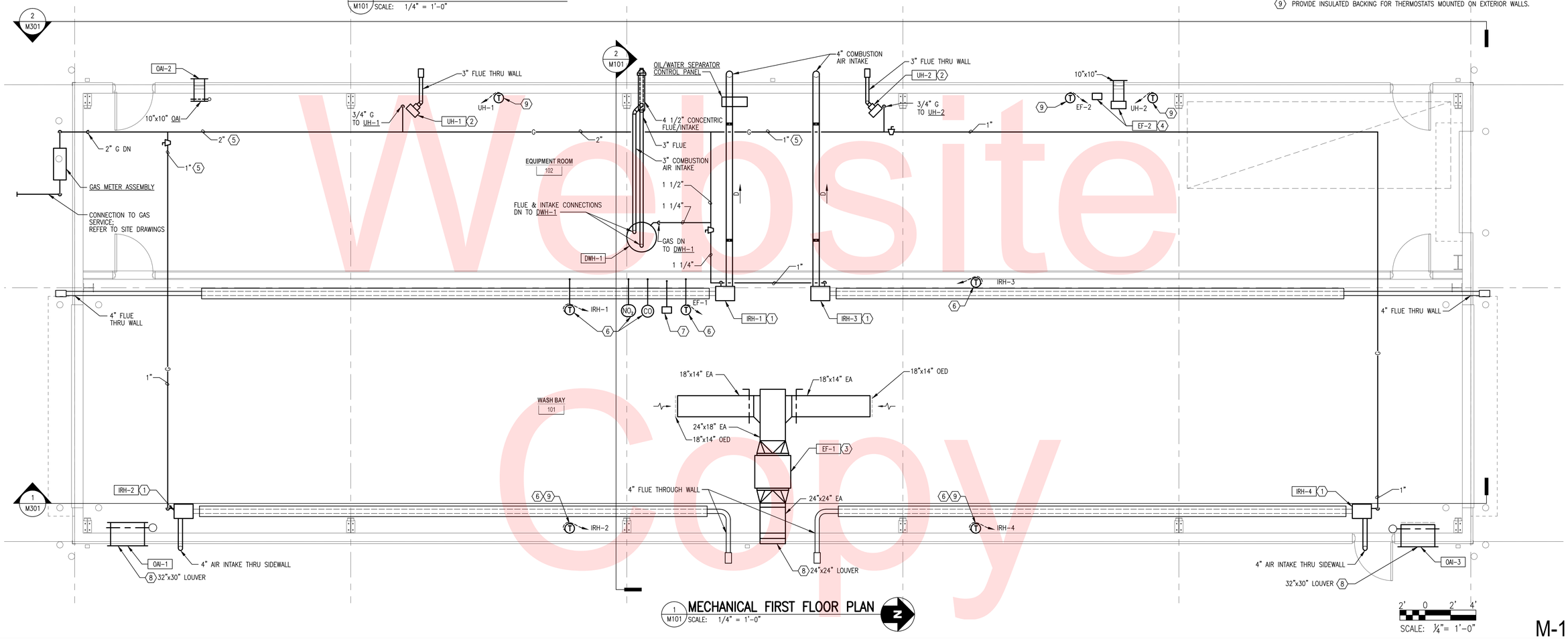
2 M101 **MECHANICAL SECTION**
SCALE: 1/4" = 1'-0"

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. PROVIDE WALL MOUNTED OVERRIDE SWITCH.
5. MAINTAIN MINIMUM 14'-0" CLEAR BELOW PIPING FOR FORKLIFT ACCESS.
6. ALL SPACE SENSORS TO BE PROVIDED WITH WATER-TIGHT COVERS.
7. MANUAL OVERRIDE TIMER FOR EF-1. PROVIDE TIMER WITH WATER-TIGHT COVER.
8. REFER TO ARCHITECTURAL PLANS FOR LOUVER INFORMATION.
9. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR WALLS.



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

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

M-101

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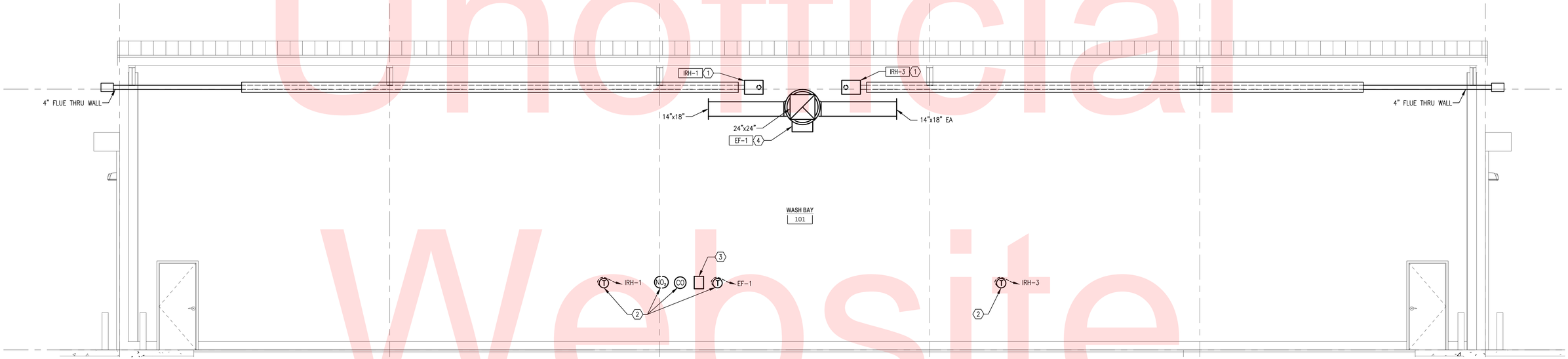
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	SHEET NO. 23
				COUNTY KENT	DESIGNED BY: SSP	TOTAL SHTS. 38
					CHECKED BY: WWR	MECHANICAL FIRST FLOOR PLAN

SHEET KEYNOTES:

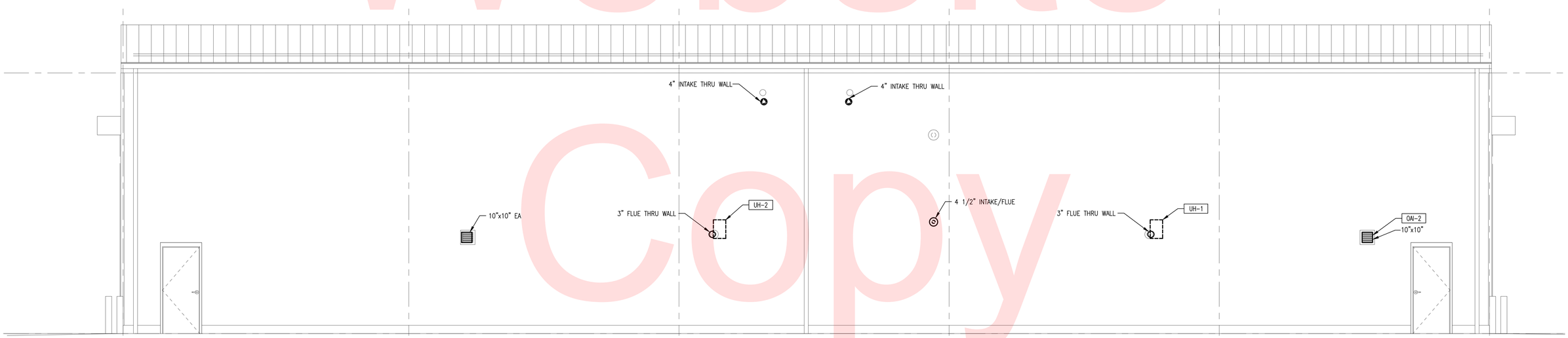
1. REFER TO DRAWING 2/M101 FOR MOUNTING HEIGHT AND ANGLE OF INFRARED HEATERS. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.
2. ALL SPACE SENSORS TO BE PROVIDED WITH WATER-TIGHT COVERS.
3. MANUAL OVERRIDE TIMER FOR EF-1. PROVIDE TIMER WITH WATER-TIGHT COVER.
4. MOUNT EF-1 18'-0" A.F.F. SUPPORTS AND HARDWARE 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 M-301 **MECHANICAL SECTION – EAST**
SCALE: 1/4" = 1'-0"



2 M-301 **MECHANICAL ELEVATION – WEST**
SCALE: 1/4" = 1'-0"

M-301

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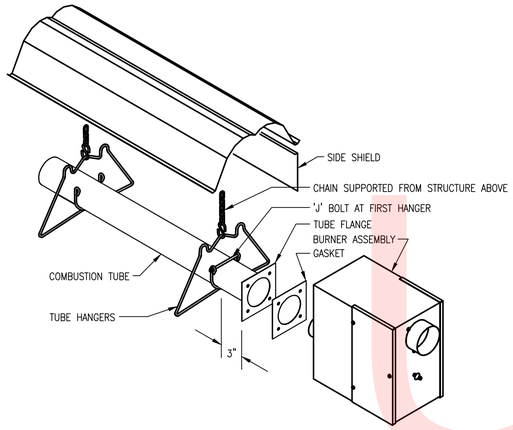
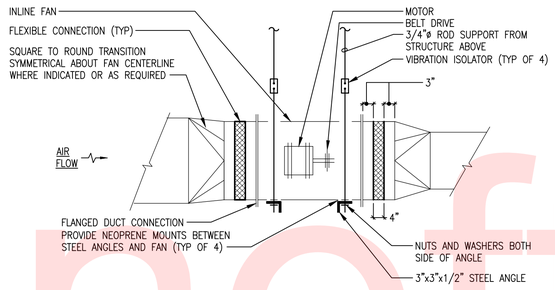
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	MECHANICAL ELEVATIONS	SHEET NO. 24
				COUNTY KENT	DESIGNED BY: SSP		TOTAL SHTS. 38
					CHECKED BY: WWR		

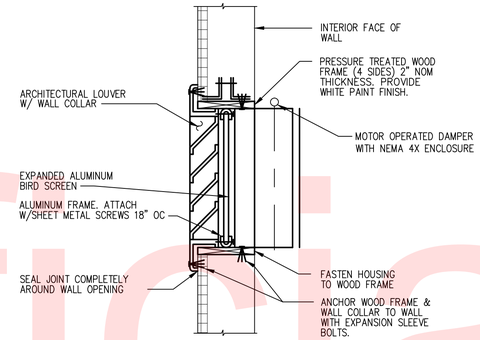


1 M501 **INFRARED RADIANT HEATER MOUNTING**
SCALE: NOT TO SCALE

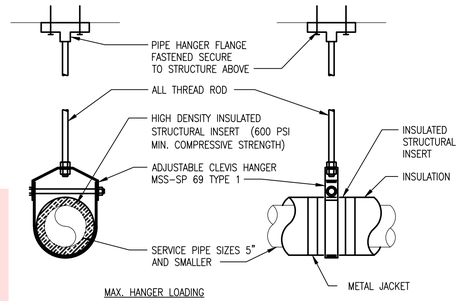


NOTES:
1. INSTALL FAN WITH SUPPORTS AND HARDWARE SUITABLE FOR SALT WATER SPRAY.

2 M501 **INLINE FAN INSTALLATION**
SCALE: NTS



3 M501 **LOUVERED INTAKE WITH MOD**
SCALE: NTS

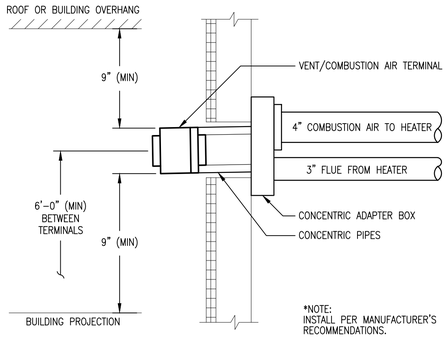


MAX. HANGER LOADING

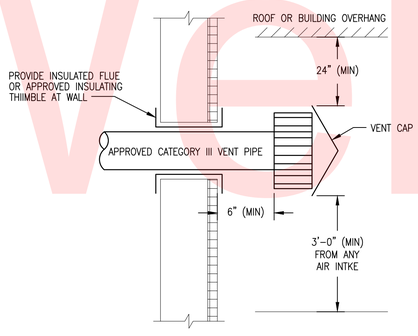
PIPE SIZE	ROD DIA.	MAX. SPACING
1/2" THRU 2"	1/2"	8'
2 1/2" THRU 4"	5/8"	10'

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

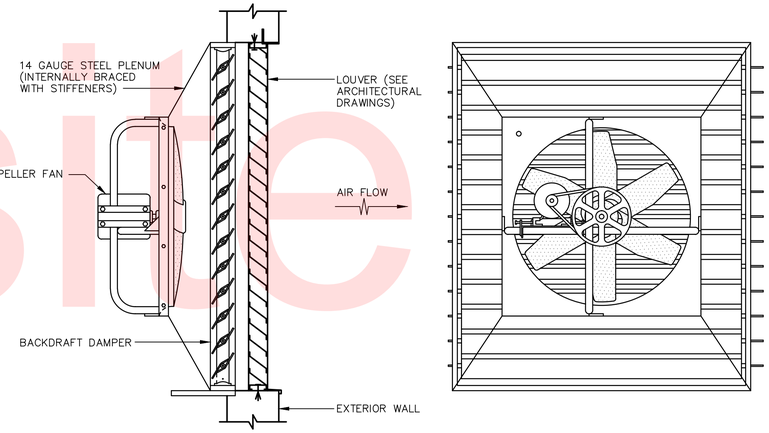
4 M501 **HANGER SUPPORT**
SCALE: NOT TO SCALE



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. 25
					CHECKED BY: WWR	TOTAL SHTS. 38

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	WIDTH	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 M/701 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	MBH OUTPUT	ELECTRICAL VOLTS/ PHASE	TOTAL AMPS	DIMENSIONS LENGTH (INCHES)	WIDTH (INCHES)	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

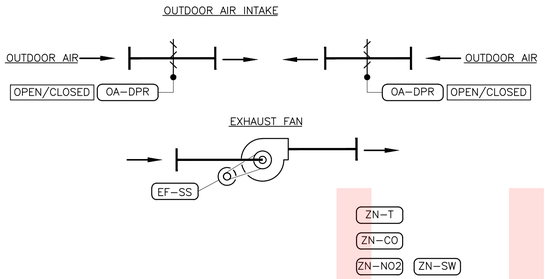
ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

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

MECHANICAL SCHEDULES

SHEET NO.
26
TOTAL SHTS.
38



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:

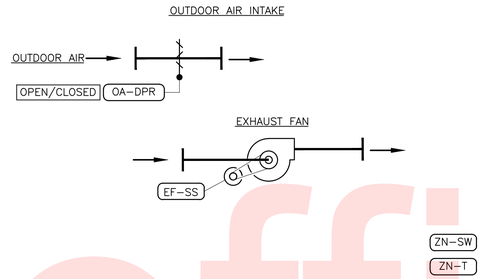
1. WHEN THE SPACE TEMPERATURE EXCEEDS SETPOINT (85°F, ADJ.).
2. MANUAL OVERRIDE THROUGH A WALL MOUNTED SWITCH IN THE SPACE.
3. WHENEVER CARBON MONOXIDE (CO) LEVELS IN THE SPACE RISE ABOVE SETPOINT (25 PPM (ADJ.)) OR WHENEVER NITROGEN DIOXIDE (NO2) LEVELS RISE ABOVE SETPOINT (5 PPM (ADJ.)). ON A FALL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

PROVIDE MINIMUM RUN TIMEOUTS (ADJ.) INITIALLY SET FOR 15 MINUTES RUN AND 15 MINUTES OFF.

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 CALLED TO ENERGIZE THOUGH ANY OF THE FOLLOWING CONDITIONS:

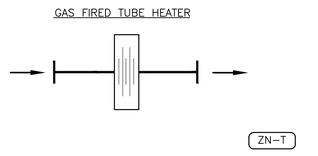
1. WHEN THE SPACE TEMPERATURE EXCEEDS SETPOINT (85°F, ADJ.).
2. MANUAL OVERRIDE THROUGH A WALL MOUNTED SWITCH IN THE SPACE.

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.

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.



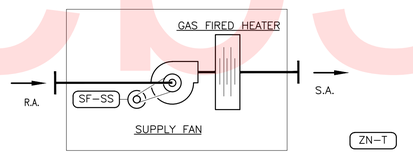
3 M701 GAS-FIRED INFRARED HEATER

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. THE ASSOCIATED IRH SHALL CYCLE THROUGH INTERNAL CONTROLS TO MAINTAIN SPACE TEMPERATURE SETPOINT 60°F (ADJ.).



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, AND 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

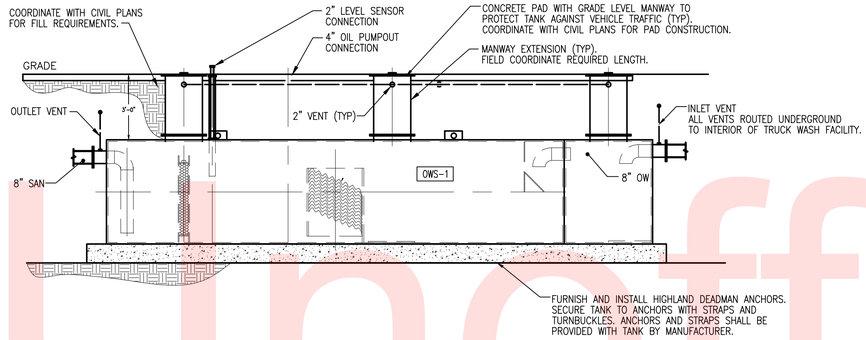
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO.	N/A	SHEET NO. 27
				COUNTY KENT	DESIGNED BY: SSP	MECHANICAL CONTROLS	TOTAL SHTS. 38
					CHECKED BY: WWR		

GENERAL SHEET NOTES:

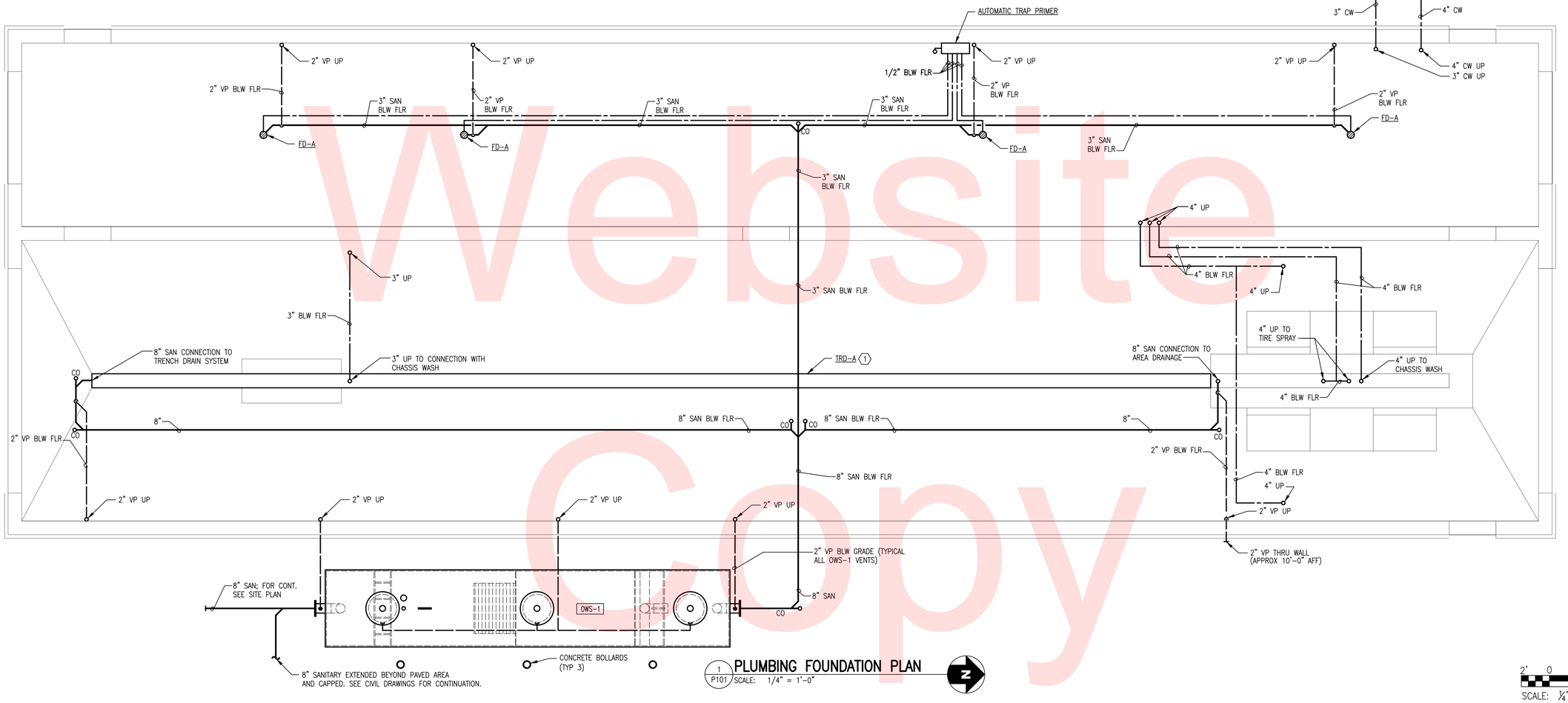
1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS 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. REFER TO DIVISION 22 SPECIFICATIONS AND WASH SYSTEM DRAWINGS FOR REQUIRED PIPING MATERIALS.
3. 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.
4. REFER TO MP-001 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND

SHEET KEYNOTES:

(1) PROVIDE PRE-FABRICATED TRENCH DRAIN SYSTEM. REFER TO STRUCTURAL DETAILS AND COORDINATE FOR INSTALLATION.



2 P101 **OIL WATER SEPARATOR DETAIL**
SCALE: 1/4" = 1'-0"



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

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

P-101

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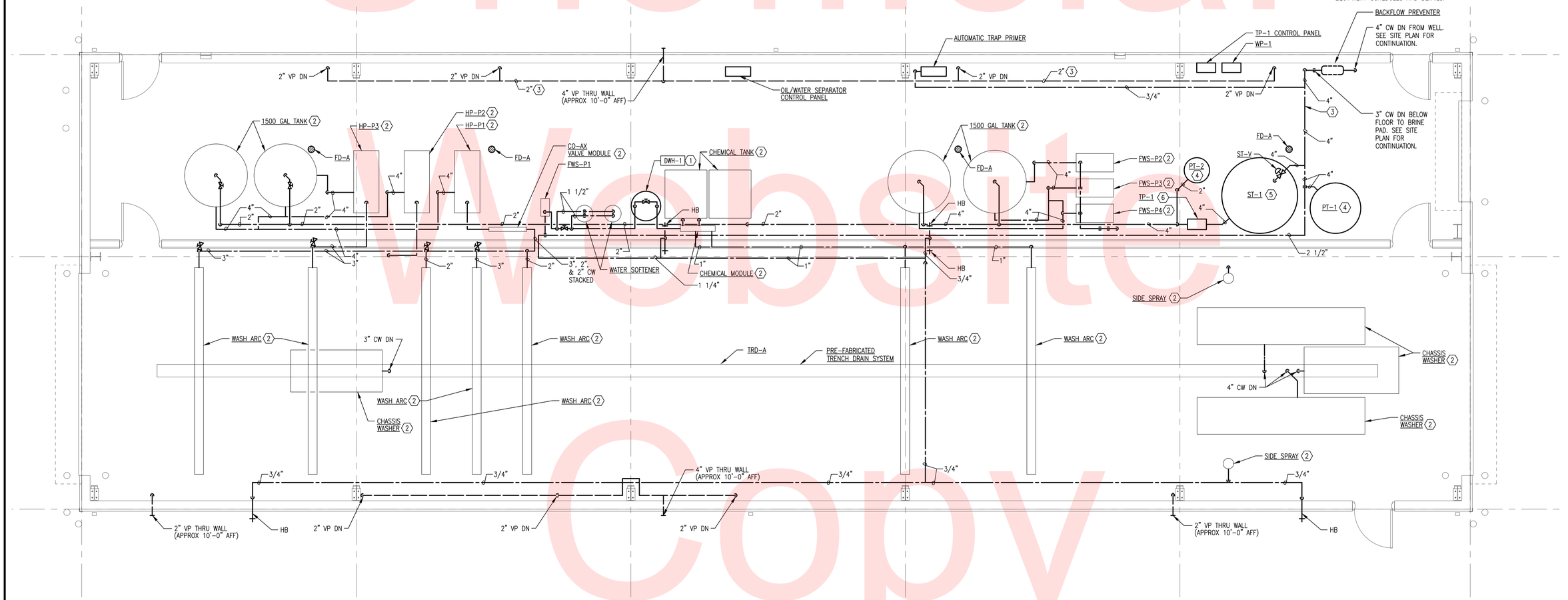
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING FOUNDATION PLAN
				COUNTY KENT	DESIGNED BY: SSP	SHEET NO. 28
					CHECKED BY: WWR	TOTAL SHTS. 38

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. REFER TO DIVISION 22 SPECIFICATIONS AND WASH SYSTEM DRAWINGS FOR REQUIRED PIPING MATERIALS.
3. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.
4. ALL HOSE BIBS SHALL BE RATED FOR OUTDOOR USE.
5. 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.
6. REFER TO MP-001 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND

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 AND ADDITIONAL PIPING DETAILS.
3. INSTALL PIPING MINIMUM 14'-0" CLEAR ABOVE FLOOR.
4. PROVIDE HYDROPNEUMATIC PRESSURE TANK. REFER TO EQUIPMENT SCHEDULES AND DETAILS.
5. PROVIDE 2000 GAL WATER STORAGE TANK. REFER TO EQUIPMENT SCHEDULES AND DETAILS.
6. PROVIDE TRANSFER PUMP WITH ASSOCIATED PIPING, SUPPORTS, AND CONTROLS. REFER TO EQUIPMENT SCHEDULES AND DETAILS.



1 P102 PLUMBING FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

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

P-102

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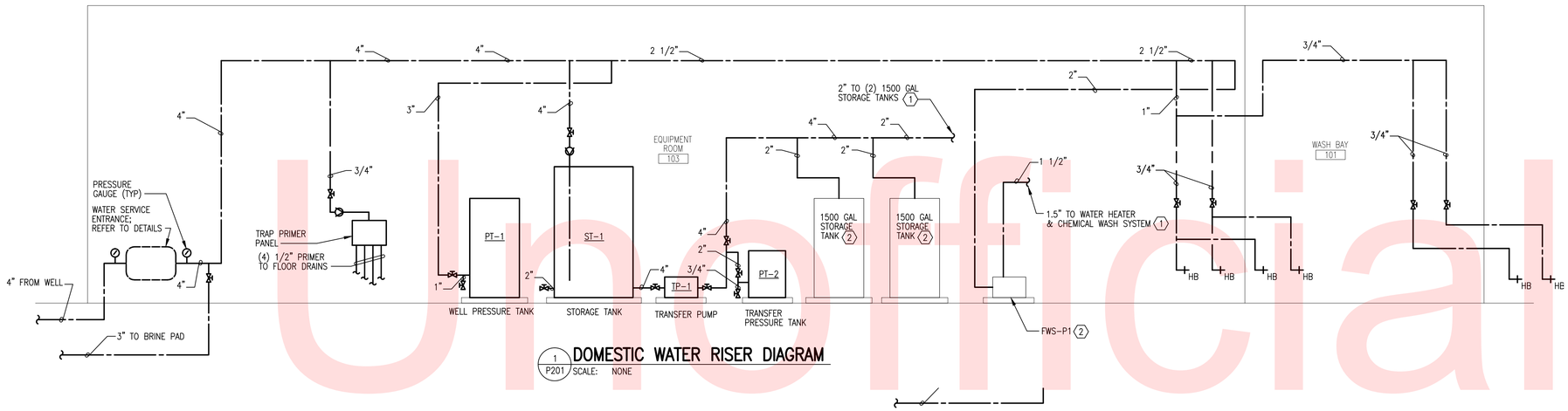
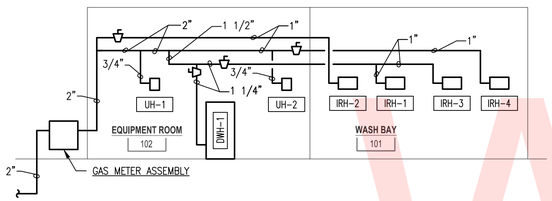
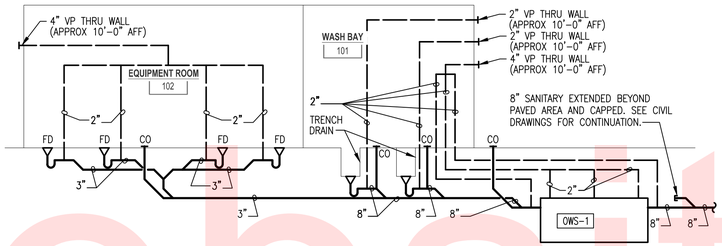
DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING FIRST FLOOR PLAN	SHEET NO. 29
				COUNTY KENT	DESIGNED BY: SSP		TOTAL SHTS. 38
					CHECKED BY: WWR		



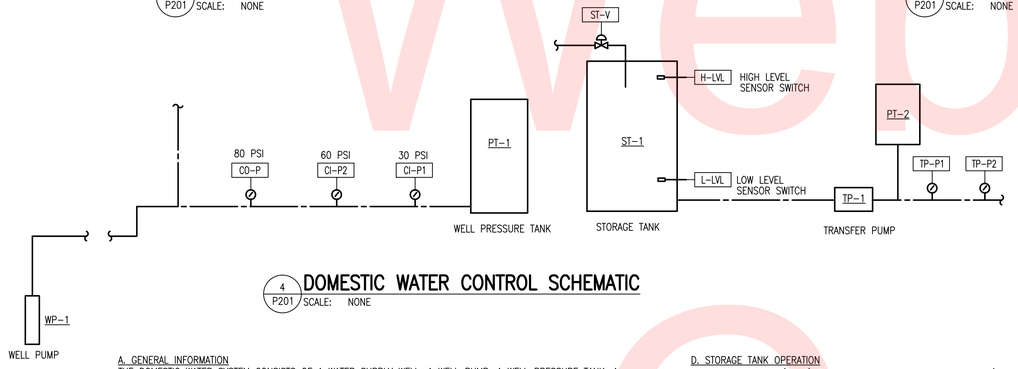
1 P201 **DOMESTIC WATER RISER DIAGRAM**
SCALE: NONE



2 P201 **GAS RISER DIAGRAM**
SCALE: NONE



3 P201 **SANITARY RISER DIAGRAM**
SCALE: NONE



4 P201 **DOMESTIC WATER CONTROL SCHEMATIC**
SCALE: NONE

A. GENERAL INFORMATION
THE DOMESTIC WATER SYSTEM CONSISTS OF A WATER SUPPLY WELL, A WELL PUMP, A WELL PRESSURE TANK, A STORAGE TANK, AND A TRANSFER PUMP, AND A TRANSFER PRESSURE TANK.

THE WELL PRESSURE TANK MAINTAINS PRESSURE IN THE BUILDING DOMESTIC WATER SYSTEM BETWEEN CYCLING OF THE WELL PUMP. THE STORAGE TANK AND TRANSFER PUMP ALLOW THE WASH SYSTEM TANKS TO REFILL AT A HIGH FLOWRATE, WITHOUT INTERRUPTING THE DOMESTIC WATER SERVICE TO THE REST OF THE BUILDING AND WASH SYSTEM. THE TRANSFER PRESSURE TANK PROTECTS THE TRANSFER PUMP AND WASH SYSTEM FROM ABRUPT CYCLING.

B. WELL PUMP OPERATION
THE WELL PUMP (WP-1) SHALL BE ENERGIZED BY A CUT-IN SIGNAL FROM THE WELL PUMP CONTROL PANEL. THE PUMP WILL RUN AT CONSTANT SPEED UNTIL IT IS DE-ENERGIZED BY A CUT-OUT SIGNAL FROM THE WELL PUMP CONTROL PANEL.

C. WELL PRESSURE TANK OPERATION
THE WELL PRESSURE TANK (PT-1) WILL UTILIZE 3 PRESSURE SWITCHES.
WHEN THE PRESSURE AT THE TANK REACHES 80 PSI, THE CUT-OUT PRESSURE SWITCH (CO-P) SHALL SEND A CUT-OUT SIGNAL TO THE WELL PUMP CONTROL PANEL.
WHEN THE PRESSURE AT THE TANK DROPS TO 30 PSI, THE PRIMARY CUT-IN PRESSURE SWITCH (CI-P1) SHALL SEND A CUT-IN SIGNAL TO THE WELL PUMP CONTROL PANEL.
WHEN THE STORAGE TANK FILL VALVE (ST-V) IS OPEN, THE SECONDARY CUT-IN PRESSURE SWITCH (CI-P2) SHALL BE ENABLED THROUGH A RELAY. WHEN THE PRESSURE AT THE TANK DROPS TO 60 PSI, THE SECONDARY PRESSURE SWITCH SHALL SEND A CUT-IN SIGNAL TO THE WELL PUMP CONTROL PANEL.

D. STORAGE TANK OPERATION
THE STORAGE TANK (ST-1) SHALL CONTAIN A HIGH LEVEL SWITCH (H-LVL) AND A LOW LEVEL SWITCH (L-LVL).
THE TANK IS FILLED BY THE STORAGE TANK FILL VALVE (ST-V), A NORMALLY CLOSED TWO-POSITION TWO-WAY SOLENOID VALVE.
WHEN THE TRANSFER PUMP (TP-1) IS ENERGIZED, THE STORAGE TANK FILL VALVE SHALL BE ENERGIZED (OPENED) THROUGH A 30-SECOND (ADJ) TIME-DELAY RELAY.
WHEN THE HIGH LEVEL SWITCH IS ACTIVATED, THE FILL VALVE SHALL BE DEACTIVATED (CLOSED).
WHEN THE LOW LEVEL SWITCH IS ACTIVATED, THE TRANSFER PUMP SHALL BE DISABLED AND NOT RESET UNTIL THE HIGH LEVEL SWITCH IS ACTIVATED.

E. TRANSFER PUMP OPERATION
THE TRANSFER PUMP (TP-1) SHALL BE ENERGIZED BY A CUT-IN SIGNAL FROM THE TRANSFER PUMP CONTROL PANEL. THE PUMP WILL RUN AT CONSTANT SPEED UNTIL IT IS DE-ENERGIZED BY A CUT-OUT SIGNAL FROM THE TRANSFER PUMP CONTROL PANEL. A DISABLE SIGNAL FROM THE LOW LEVEL SWITCH SHALL OVERRIDE THE CUT-IN SIGNAL UNTIL RESET.

F. TRANSFER PRESSURE TANK OPERATION
THE TRANSFER PRESSURE TANK (PT-2) WILL UTILIZE 2 PRESSURE SWITCHES.
WHEN THE PRESSURE AT THE TANK REACHES 80 PSI, THE CUT-OUT PRESSURE SWITCH (TP-P1) SHALL SEND A CUT-OUT SIGNAL TO THE TRANSFER PUMP CONTROL PANEL.
WHEN THE PRESSURE AT THE TANK DROPS TO 30 PSI, THE CUT-IN PRESSURE SWITCH (TP-P2) SHALL SEND A CUT-IN SIGNAL TO THE WELL PUMP CONTROL PANEL.

GENERAL SHEET NOTES:

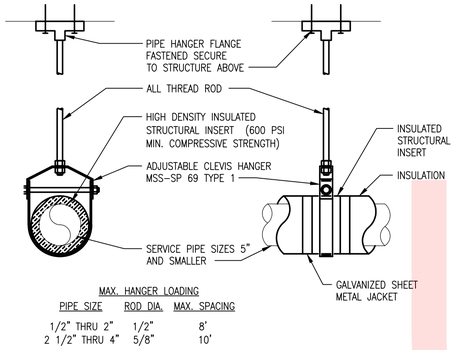
1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS 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. REFER TO DIVISION 22 SPECIFICATIONS AND WASH SYSTEM DRAWINGS FOR REQUIRED PIPING MATERIALS.
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. ALL HOSE BIBS TO BE RATED FOR OUTDOOR USE.
6. WASH SYSTEM MANUFACTURER WILL BE RESPONSIBLE FOR WASH SYSTEM CALIBRATION, PROGRAMMING, AND OPERATIONAL TRAINING OF DELDOT EMPLOYEES.
7. PLUMBING SYSTEM CONTROLS VENDOR WILL BE RESPONSIBLE FOR CALIBRATION, PROGRAMMING, AND OPERATION TRAINING FOR THE CONTROLS SYSTEMS SHOWN ON THIS DRAWING.
8. REFER TO MP-001 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND.

SHEET KEYNOTES:

1. PROVIDE COLD WATER PIPING, HOT WATER PIPING, AND ASSOCIATED APPURTENANCES AS REQUIRED BY WASH SYSTEM VENDOR. FULL EXTENT OF WASH SYSTEM IS NOT SHOWN ON THIS DRAWING. REFER TO WASH SYSTEM VENDOR DRAWINGS FOR CONTINUATION OF PIPING SCHEMATIC.
2. EQUIPMENT REFERENCED IS PROVIDED BY WASH SYSTEM VENDOR. PROVIDE INTERCONNECTING PIPING AS INDICATED. COORDINATE WITH WASH SYSTEM DRAWINGS FOR ADDITIONAL REQUIREMENTS.

P-201

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	PLUMBING SCHEMATIC DIAGRAMS AND CONTROLS	SHEET NO. 30
				COUNTY KENT	DESIGNED BY: SSP		TOTAL SHTS. 38
					CHECKED BY: WWR		

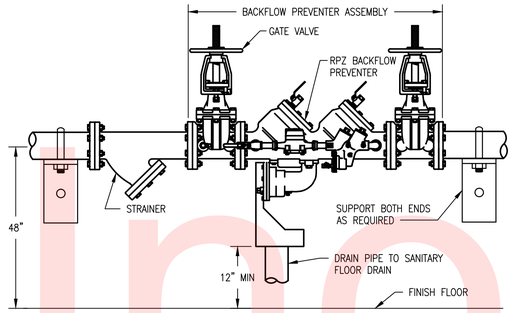


MAX. HANGER LOADING

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

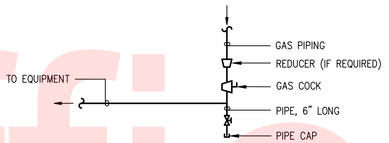
NOTES:
1. THIS DETAIL SHALL BE USED AS A GUIDE. ALL HANGERS SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS SECTION 23-0529 'HANGERS AND SUPPORTS'.

1 / P501 **HANGER SUPPORT**
SCALE: NOT TO SCALE

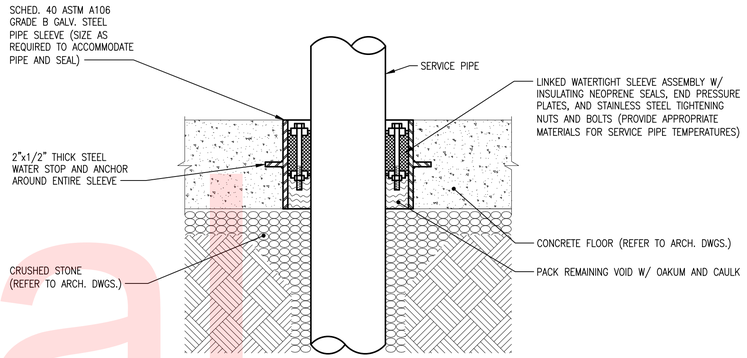


NOTES:
1. BACKFLOW PREVENTER SHALL BE 48" ABOVE FINISH FLOOR AND 12" CLEAR ON ALL SIDES.

2 / P501 **TYPICAL WATER SERVICE ENTRANCE/ BACKFLOW PREVENTOR ASSEMBLY**
SCALE: NTS

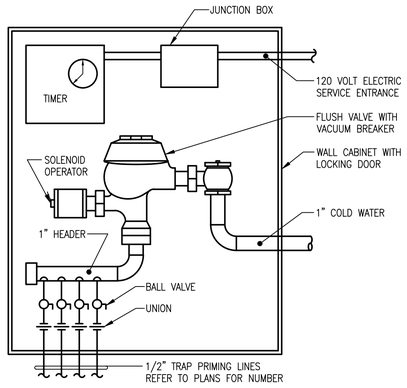


3 / P501 **TYPICAL GAS PIPING CONNECTION**
SCALE: NONE



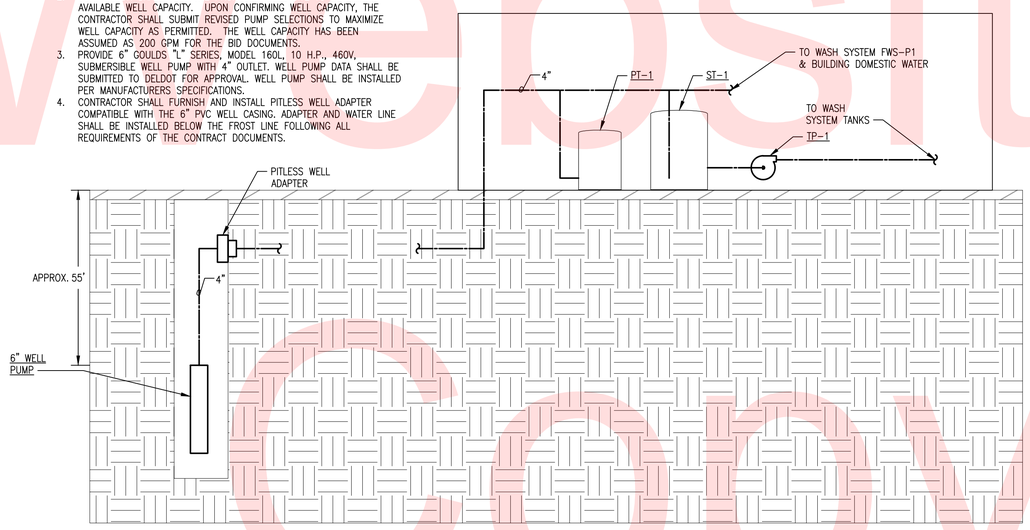
NOTE: PROVIDE STAINLESS STEEL SLEEVE AND SLEEVE HARDWARE FOR ALL PENETRATIONS IN THE WASHBAY.

4 / P501 **TYPICAL PIPE PENETRATION THROUGH GRADE FLOOR**
SCALE: NONE



5 / P501 **TRAP PRIMER PANEL**
SCALE: NONE

NOTES:
1. REFER TO SITE DRAWINGS FOR PROPOSED LOCATION OF WELL.
2. CONTRACTOR SHALL TEST THE PROPOSED WELL SITE TO DETERMINE AVAILABLE WELL CAPACITY. UPON CONFIRMING WELL CAPACITY, THE CONTRACTOR SHALL SUBMIT REVISED PUMP SELECTIONS TO MAXIMIZE WELL CAPACITY AS PERMITTED. THE WELL CAPACITY HAS BEEN ASSUMED AS 200 GPM FOR THE BID DOCUMENTS.
3. PROVIDE 6" GOULDS "L" SERIES, MODEL 160L, 10 H.P., 460V, SUBMERSIBLE WELL PUMP WITH 4" OUTLET. WELL PUMP DATA SHALL BE SUBMITTED TO DELDOT FOR APPROVAL. WELL PUMP SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
4. CONTRACTOR SHALL FURNISH AND INSTALL PITLESS WELL ADAPTER COMPATIBLE WITH THE 6" PVC WELL CASING. ADAPTER AND WATER LINE SHALL BE INSTALLED BELOW THE FROST LINE FOLLOWING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.



6 / P501 **WELL PUMP PIPING SCHEMATIC**
SCALE: NONE

P-501

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

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

PLUMBING DETAILS

SHEET NO.
31
TOTAL SHTS.
38

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	480/277V PANELBOARD, SURFACE MOUNTED		FULL-VOLTAGE NON-REVERSING STARTER WITH HAND-OFF-AUTO SELECTOR SWITCH. REFER TO FLOOR PLANS FOR SIZES.
	480/277V PANELBOARD, FLUSH MOUNTED	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
	208/120V PANELBOARD, SURFACE MOUNTED		
	208/120V PANELBOARD, FLUSH MOUNTED		
	CONTROL PANEL/CABINET, SURFACE MOUNTED	AF OR AT 3P L2 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
	CONTROL PANEL/CABINET, FLUSH MOUNTED		
	2' X 4' SURFACE MOUNTED LIGHT FIXTURE	M	MOTOR TERMINATION
	1' X 4' SURFACE MOUNTED LIGHT FIXTURE	S_M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION
	2' X 2' SURFACE MOUNTED LIGHT FIXTURE	S_3^b	SWITCH, TOGGLE "b" DENOTES SWITCH CONTROL "k" DENOTES KEY OPERATED SWITCH "3" DENOTES THREE POLE SWITCH "4" DENOTES FOUR POLE SWITCH
	4' INDUSTRIAL/STRIP FIXTURE, PENDANT MOUNT		
	LED EXIT SIGN (NUMBER OF FACES AND ARROWS AS INDICATED ON DRAWINGS)	J	JUNCTION BOX – WALL MOUNTED
EBU	EMERGENCY BATTERY UNIT – TWO HEADS	J	JUNCTION BOX
2	125 VOLT, 2 POLE, 3 WIRE, 20 AMP RECEPTACLE "2" DENOTES CIRCUIT NUMBER	H	HAND HOLE
	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER		TRANSFORMER
	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DOUBLE DUPLEX RECEPTACLE		ENCLOSED CIRCUIT BREAKER
GFI	125 VOLT, 2 POLE, 3 WIRE, 20 AMP DUPLEX RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT INTERRUPTER		AUTOMATIC TRANSFER SWITCH
			GENERATOR

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

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

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

1 — SHEET KEYNOTE NUMBER

X — FEEDER TAG (REFER TO FEEDER SCHEDULE)

1 — REVISION NUMBER

E-001

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	ELECTRICAL SYMBOLS AND ABBREVIATIONS
				COUNTY KENT	DESIGNED BY: AMS	SHEET NO. 32
					CHECKED BY: JWL	TOTAL SHTS. 38

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 STRUCTURE.
16. LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS.
17. ALL RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
18. 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.
19. CONTRACTOR SHALL REVIEW ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.
20. 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.
21. 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. SYSTEMS FEEDERS AND BRANCH CIRCUITS WHICH PASS THROUGH ALTERED AREAS AND SERVE OTHER AREAS SHALL BE MAINTAINED AS REQUIRED.
23. FURNISH AND INSTALL NAMEPLATES ON ALL ELECTRICAL EQUIPMENT (SCREW ON TYPE).
24. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL AND STATE ELECTRICAL CODES.
25. 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.
26. 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.
27. 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.
28. 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.
29. DAMAGE TO EXISTING FACILITIES AND EQUIPMENT SHALL BE REPAIRED OR REPLACED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUITY OF ALL POWER, CONTROL, AND COMMUNICATION FUNCTIONS TO ALL AREAS AFFECTED BY DEMOLITION AND/OR NEW CONSTRUCTION.
31. 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.
32. 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.
33. REPAIR AND PATCH ANY DISTURBED AREA TO MATCH EXISTING CONDITIONS.
34. ALL ELECTRICAL WORK INDICATED TO REMAIN SHALL BE SUITABLY PROTECTED TO PREVENT ANY DAMAGE.
35. ALL ELECTRICAL CURRENT CARRYING PARTS SHALL BE COPPER FOR ALL EQUIPMENT.
36. 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.
37. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION THAT IS NOT SHOWN ON THE DRAWINGS.
38. 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.
39. 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.
40. PROVIDE CONCRETE FOUNDATION HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT.
41. 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.
42. 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.

E-002

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

MAGNOLIA TRUCK WASH

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

ELECTRICAL
GENERAL NOTES

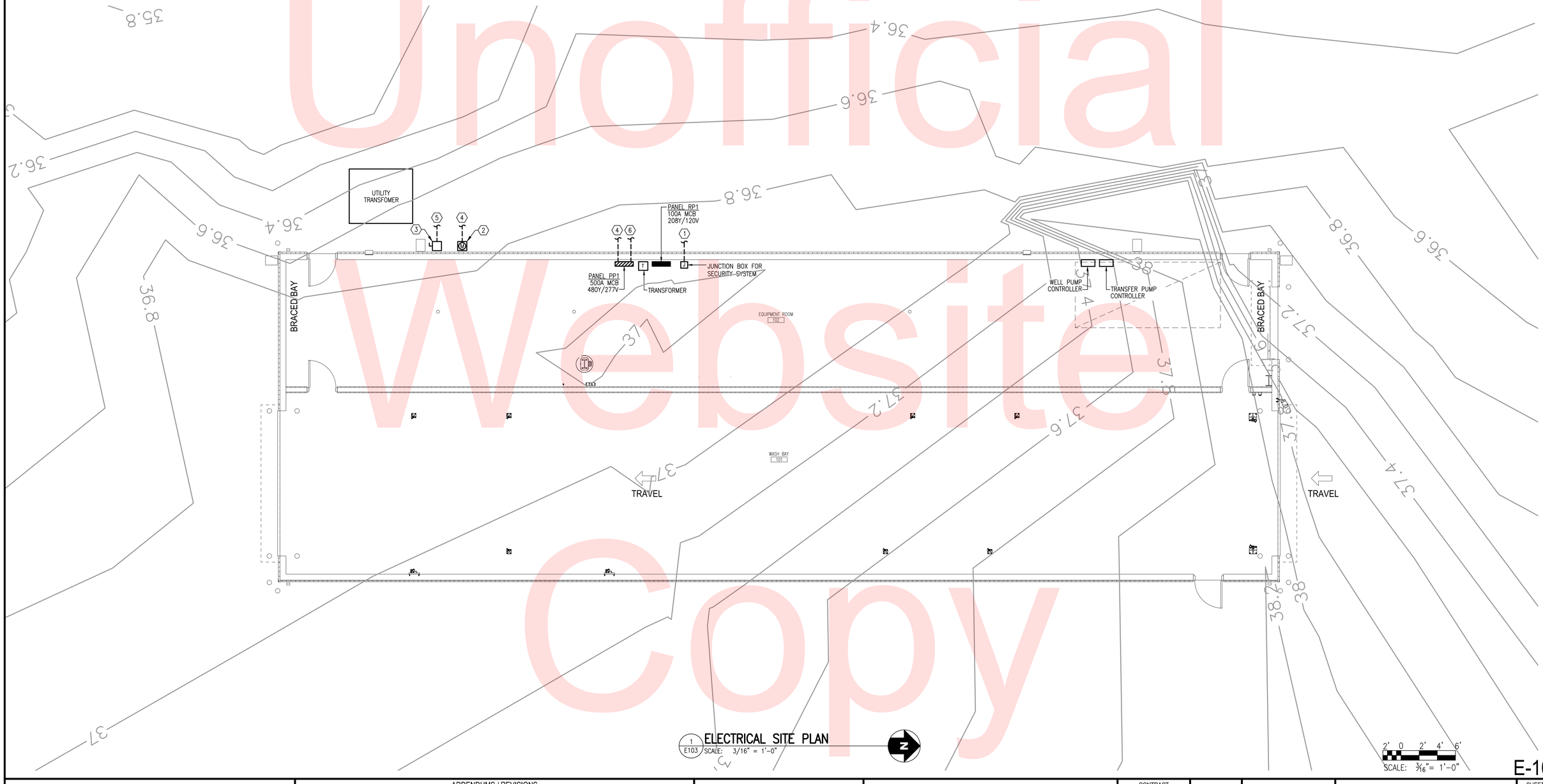
SHEET NO.	33
TOTAL SHTS.	38

SHEET KEYNOTES:

1. UNDERGROUND DIRECT BURIED DUCTBANK FOR SECURITY SYSTEM CONDUIT. REFER TO SHEET E-102 FOR CONDUIT SIZE AND ROUTING.
2. UTILITY METER PROVIDED BY DELMARVA.
3. PROVIDE 480V, 600A, NON-FUSED DISCONNECT SWITCH.
4. UNDERGROUND DIRECT BURIED DUCTBANK BETWEEN UTILITY METER AND PANEL PP1. REFER TO ONE LINE DIAGRAM ON SHEET E-103 FOR WIRE AND CONDUIT SIZE.
5. UNDERGROUND DIRECT BURIED DUCTBANK TO UTILITY TRANSFORMER. REFER TO ONE LINE DIAGRAM ON SHEET E-103 FOR WIRE AND CONDUIT SIZE.
6. UNDERGROUND DIRECT BURIED DUCTBANK FOR POWER TO WELL PUMP. PROVIDE 3#10 AND 1#10 GROUND IN 2" CONDUIT FROM PANEL PP1. ROUTE CIRCUIT THROUGH WELL PUMP CONTROL PANEL BEFORE EXITING THE BUILDING. REFER TO SHEET E-102 FOR UNDERGROUND CONDUIT ROUTING. (APPROXIMATELY 250 FEET)

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.



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

2' 0 2' 4' 6'
SCALE: 3/16" = 1'-0"

E-101

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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 SITE PLAN

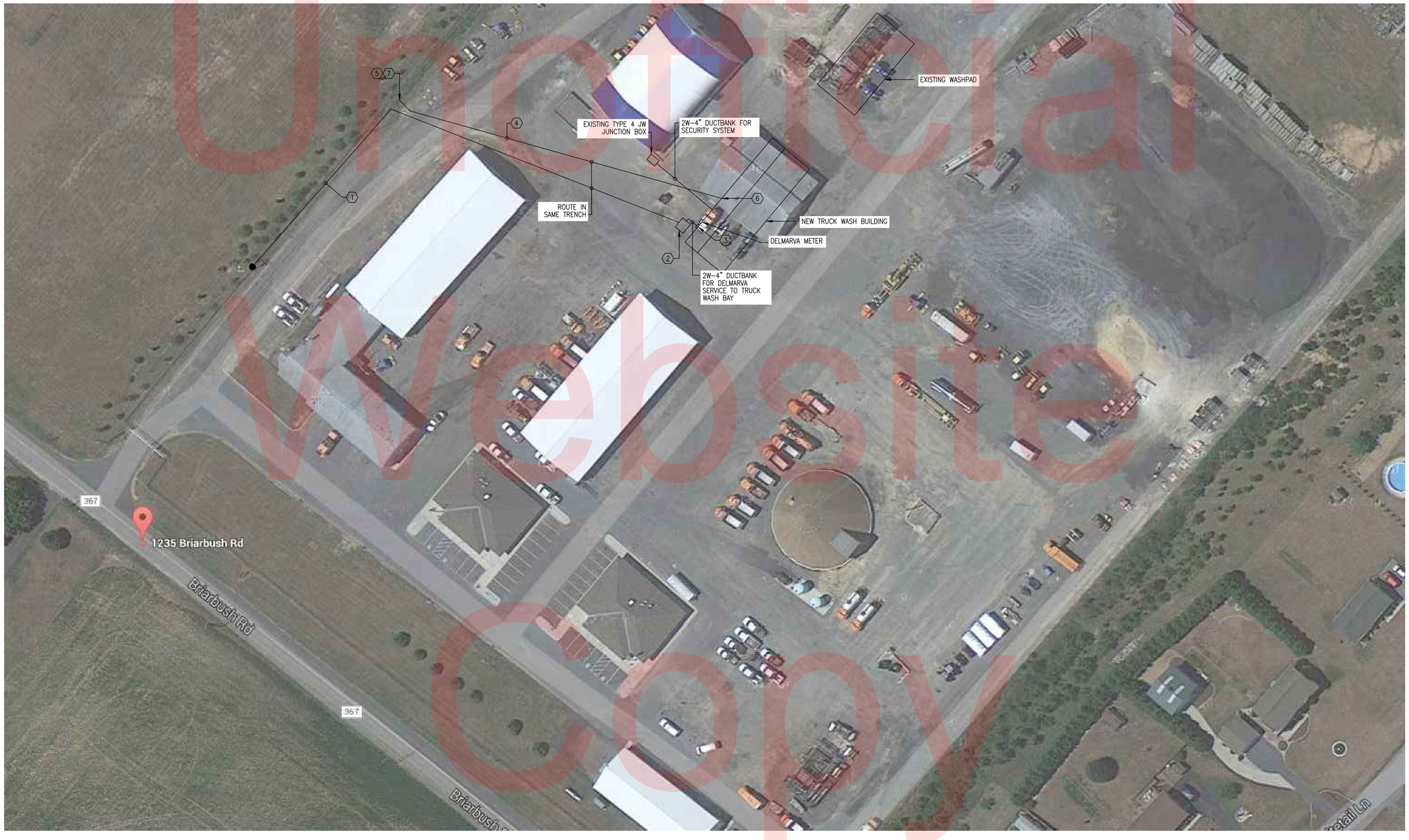
SHEET NO.
34
TOTAL SHTS.
38

SHEET KEYNOTES:

1. PROVIDE 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 MOUNTED TO EXTERIOR WALL.
4. PROVIDE 1–2" DIRECT BURIED SCHEDULE 40 PVC CONDUIT FOR POWER TO WELL PUMP. (APPROXIMATELY 250 FEET)
5. PROVIDE 480V, 30A FUSED DISCONNECT SWITCH FUSED AT 25A IN NEMA 3R ENCLOSURE FOR WELL PUMP. MOUNT DISCONNECT SWITCH ON FREESTANDING KINDORF RACK. SEE DETAIL 3 ON SHEET E–301.
6. COORDINATE BUILDING PENETRATION WITH EQUIPMENT MOUNTED ALONG THE WALL. CONDUIT SHALL THEN CONTINUE INSIDE BUILDING TO THE WELL PUMP CONTROL PANEL. REFER TO DRAWING E–101 FOR CONTROL PANEL LOCATION.
7. APPROXIMATE LOCATION OF 10 HP, 480V, 3ø WELL PUMP, WP–1.

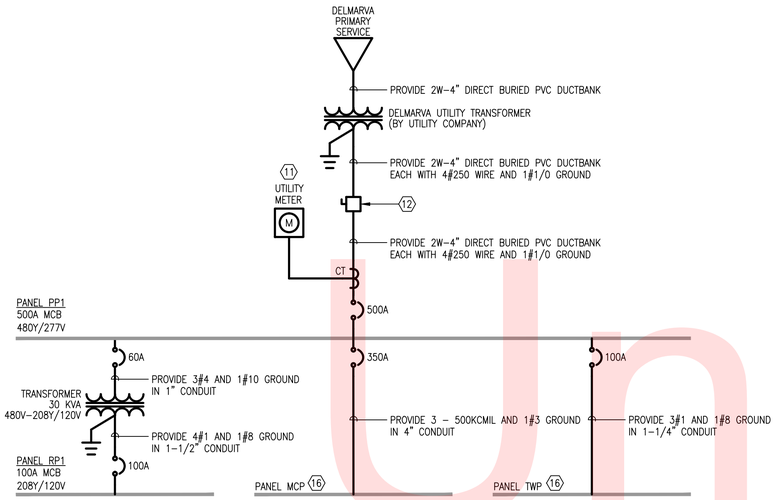
GENERAL SHEET NOTES:

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.



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			35
				COUNTY				TOTAL SHTS.
				KENT	CHECKED BY: JWL			38



SHEET KEYNOTES:

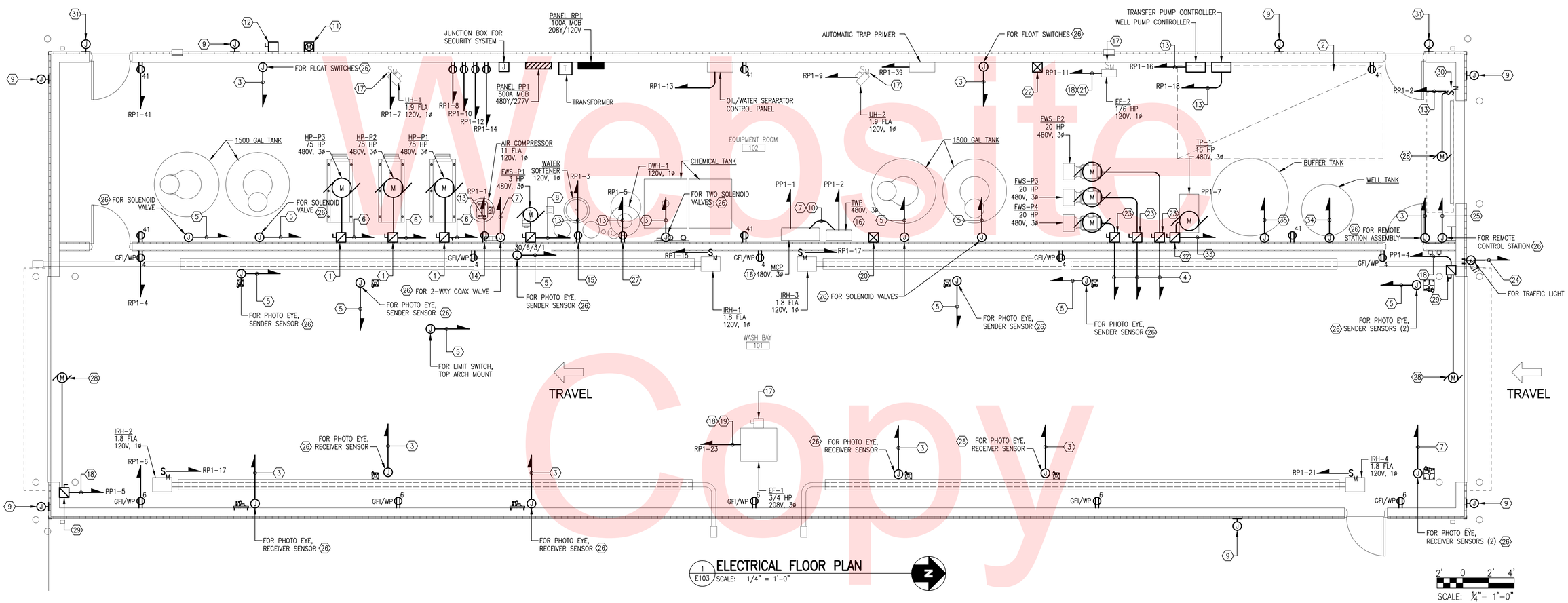
1. PROVIDE 480V, 3 POLE, 200A FUSED DISCONNECT SWITCH FUSED AT 150A IN NEMA 1 ENCLOSURE.
2. AREA SHALL BE KEPT CLEAR FOR FUTURE BRINE SYSTEM INSTALLATION.
3. PROVIDE 3#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
4. PROVIDE 3#8 AND 1#10 GROUND IN 1" CONDUIT BACK TO TIRE WASH PANEL, TWP.
5. PROVIDE 2#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
6. PROVIDE 3#1 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. PROVIDE WEATHERPROOF 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. PROVIDE 480V, 600A, NON-FUSED DISCONNECT SWITCH.
13. PROVIDE 2#12 AND 1#12 GROUND IN 3/4" CONDUIT.
14. PROVIDE 20A, 125V, STRAIGHT BLADE RECEPTACLE FOR AIR COMPRESSOR.
15. PROVIDE 20A, 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. PROVIDE FULL VOLTAGE, NON-REVERSING, 3 POLE, NEMA SIZE 0 STARTER WITH HAND-OFF-AUTO SELECTOR SWITCH FOR EF-1.

SHEET KEYNOTES (CONT'D):

21. ROUTE THROUGH STARTER FOR EF-2.
22. PROVIDE FULL VOLTAGE, NON-REVERSING, 1 POLE, NEMA SIZE 0 STARTER WITH HAND-OFF-AUTO SELECTOR SWITCH FOR EF-2.
23. PROVIDE 480V, 3 POLE, 60A FUSED DISCONNECT SWITCH FUSED AT 40A IN NEMA 1 ENCLOSURE.
24. PROVIDE 4#12 WIRES IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
25. PROVIDE 6#16, 24VDC, IN 3/4" CONDUIT, BACK TO MASTER CONTROL PANEL, MCP.
26. COORDINATE EXACT LOCATION WITH TRUCK WASH SYSTEM VENDOR.
27. PROVIDE 20A, 125V, STRAIGHT BLADE RECEPTACLE FOR WATER HEATER.
28. OVERHEAD DOOR MOTOR. DOOR CONTROLLER PROVIDED BY DOOR MANUFACTURER AND INSTALLED BY ELECTRICAL CONTRACTOR. PROVIDE COMPLETE CONTROL WIRING REQUIRED BY MANUFACTURER.
29. PROVIDE 480V, 3 POLE, 30A FUSED DISCONNECT IN NEMA 4X ENCLOSURE FOR OVERHEAD DOOR. COORDINATE FUSE SIZE WITH MANUFACTURER.
30. PROVIDE 120V, 1 POLE, MANUAL MOTOR STARTER/DISCONNECT FOR OVERHEAD DOOR.
31. PROVIDE WEATHERPROOF JUNCTION BOX FOR CARD READER WITH ONE 3/4" CONDUIT AND PULL STRING BACK TO SECURITY SYSTEM NETWORK SWITCH.
32. PROVIDE 480V, 3 POLE, 60A FUSED DISCONNECT SWITCH FUSED AT 35A IN NEMA 1 ENCLOSURE.
33. PROVIDE 3#10 AND 1#10 GROUND IN 3/4" CONDUIT. ROUTE CIRCUIT THROUGH TRANSFER PUMP CONTROL PANEL.
34. PROVIDE 2#14 AWG WIRE IN 3/4" CONDUIT FOR TANK CONTROLS TO WELL PUMP CONTROL PANEL.
35. PROVIDE 2#14 AWG WIRE IN 3/4" CONDUIT FOR TANK CONTROLS TO TRANSFER PUMP CONTROL PANEL.

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.
3. ROUTE CONDUIT IN WASH BAY ABOVE INFRARED HEATERS.
4. ALL OVERHEAD CONDUIT IN EQUIPMENT ROOM SHALL RUN ALONG CEILING.



E-103

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS: REVISION #1 8/4/16 ADDENDUM 6		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	ELECTRICAL POWER FLOOR PLAN
				COUNTY KENT	DESIGNED BY: AMS	SHEET NO. 36
					CHECKED BY: JWL	TOTAL SHTS. 38

PROPOSED LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS				VOLTAGE	MOUNTING HEIGHT*
			NO.	TYPE	COLOR TEMPERATURE	LUMENS		
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	15,000 LMS	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	6,600 LMS	120V	15' AFF
C	LED WALL PACK; DIE-CAST ALUMINUM HOUSING WITH DIFFUSER; WET LOCATION; BLACK FINISH; TYPE IV DISTRIBUTION WITH PHOTOCELL CONTROL; SHALL HAVE INTEGRAL BATTERY	HUBBELL OUTDOOR LIGHTING LNC2-12L1-4K-4-2-PC-BB1	1	17W LED	4000K	1,500 LMS	120V	14' AFG
WL	LED EMERGENCY EXIT SIGN; WALL MOUNTED; DIE-CAST ALUMINUM CONSTRUCTION; BRUSHED ALUMINUM FACE WITH RED LETTERS WITH BATTERY BACK-UP; FACES AND ARROWS AS INDICATED ON DRAWINGS	LITHONIA LIGHTING LQC-1-R-EL N	N/A	1W LED	RED LED	N/A	120V	8'-6" AFG
WL	LED EMERGENCY EXIT SIGN; WALL MOUNTED; THERMOPLASTIC HOUSING; RATED FOR WET LOCATIONS; GRAY HOUSING WITH RED LETTERS WITH BATTERY BACK-UP; FACES AND ARROWS AS INDICATED ON DRAWINGS	LITHONIA LIGHTING WLTE-GY-1-R-EL	N/A	3W LED	RED LED	N/A	120V	8'-6" AFG
EBU	EMERGENCY BATTERY UNIT WITH TWO LED FIXTURE HEADS WITH POLYCARBONATE LENSES; WALL MOUNTED; THERMOPLASTIC HOUSING; NICKEL-CADMIUM BATTERY; LAMP HEADS SHALL BE ADJUSTABLE; EST SWITCH, STATUS INDICATOR AND RECHARAGABLE BATTERY	LITHONIA LIGHTING ELM2-LED-W	2 HEADS	3W LED	WHITE LED	N/A	120V	7'-6" AFG
EBU WL	EMERGENCY BATTERY UNIT WITH TWO ADJUSTABLE LED FIXTURE HEADS; WALL MOUNTED; THERMOPLASTIC HOUSING; RATED FOR WET LOCATIONS; TEST SWITCH, STATUS INDICATOR AND RECHARAGABLE BATTERY	LITHONIA LIGHTING WLTU LED	2 HEADS	4W LED	WHITE LED	N/A	120V	7'-6" AFG

*MEASURED TO BOTTOM OF LIGHT FIXTURE.

GENERAL SHEET NOTES:

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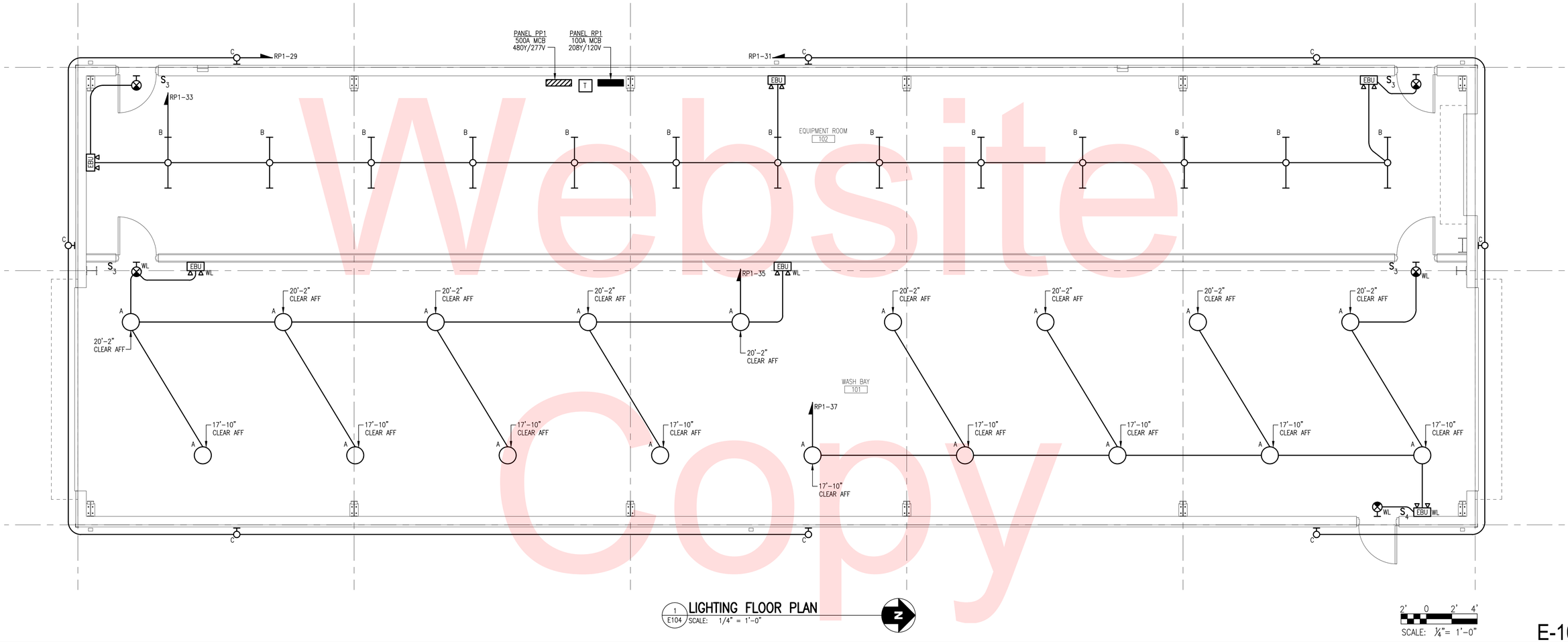

1 / E104 LIGHTING FLOOR PLAN
SCALE: 1/4" = 1'-0"

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

E-104

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		MAGNOLIA TRUCK WASH	CONTRACT T201680102	BRIDGE NO. N/A	ELECTRICAL LIGHTING FLOOR PLAN
				COUNTY KENT	DESIGNED BY: AMS	SHEET NO. 37
					CHECKED BY: JWL	TOTAL SHTS. 38

PP1

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

MAIN BUS AMPS: **600** MAIN DEVICE AMPS: **500** AIC: **65K**

Circuit Number	Load Description	Connected KVA Load	Overcurrent Device Frame	Trip	Pole	Remarks
	MAIN BREAKER		600	500	3	
1	MASTER CONTROL PANEL (MCP)	245.01	600	350	3	
2	TIRE WASH PANEL (TWP)	69.00	100	100	3	
3	30kVA TRANSFORMER	13.56	100	60	3	
4	OVERHEAD DOOR (WASH BAY)	1.75	100	15	3	
5	OVERHEAD DOOR (WASH BAY)	1.75	100	15	3	
6	WELL PUMP (10 HP)	11.64	100	30	3	
7	TRANSFER PUMP (15 HP)	17.46	100	40	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	**360.17**	kVA
TOTAL DEMAND LOAD	**360.17**	kVA

MFG:

OPTIONS:

PROVIDE 100% RATED MAIN CIRCUIT BREAKER.

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	1.18			OVERHEAD DOOR (EQUIPMENT RM)
WATER SOFTENER		0.00		15/1	3	B	4	20/1		0.90		GENERAL RECEPTS (WASH BAY)
WATER HEATER			0.00	20/1	5	C	6	20/1			0.90	GENERAL RECEPTS (WASH BAY)
UH-1	0.24			15/1	7	A	8	20/1	0.18			RECEPT. FOR NETWORK SWITCH
UH-2		0.24		15/1	9	B	10	20/1		0.18		RECEPT. FOR NETWORK SWITCH
EF-2			0.53	15/1	11	C	12	20/1			0.18	RECEPT. FOR NETWORK SWITCH
OIL/WATER SEPARATOR CONTROL PANEL	0.50			20/1	13	A	14	20/1	0.18			RECEPT. FOR NETWORK SWITCH
IRH-1		0.22		15/1	15	B	16	20/1		0.50		WELL PUMP CONTROL PANEL
IRH-3			0.22	15/1	17	C	18	20/1			0.50	TRANSFER PUMP CONTROL PANEL
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
GENERAL RECEPTS (EQUIP RM)			1.08	20/1	41	C	42	20/1			0.00	SPARE
	4.16	2.00	3.71	<< PHASE SUB-TOTALS >>					1.54	1.58	1.58	MECH EQUIPMENT CIRCUIT BRKRS SHALL BE HACR RATED.

PROVIDE THE FOLLOWING:

PHASE A	**5.70**	kVA
PHASE B	**3.58**	kVA
PHASE C	**5.29**	kVA

14.57 kVA TOTAL CONNECTED LOAD

11.42 kVA TOTAL DEMAND LOAD

GENERAL SHEET NOTES:

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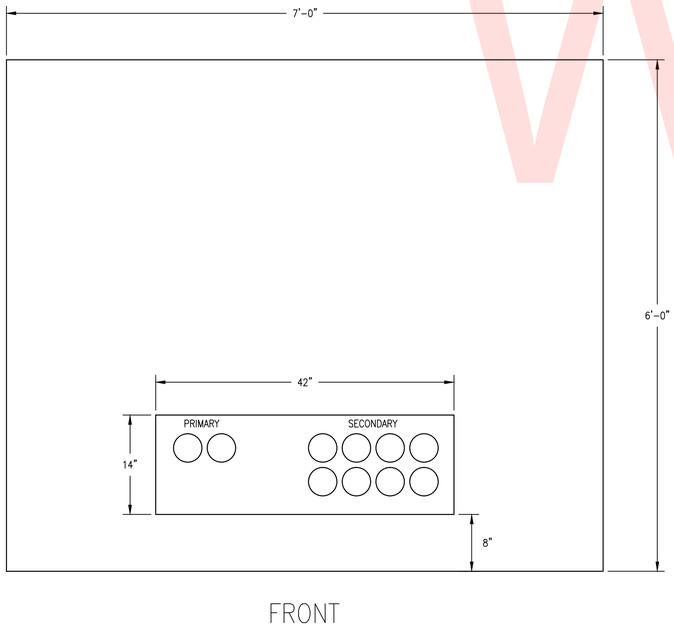
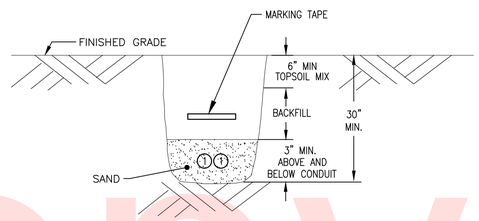
2. UNIT VENTILATORS, FAN COIL UNITS, AND CABINET UNIT HEATERS PROVIDED WITH FACTORY INSTALLED DISCONNECTS UNDER DIVISION 23.

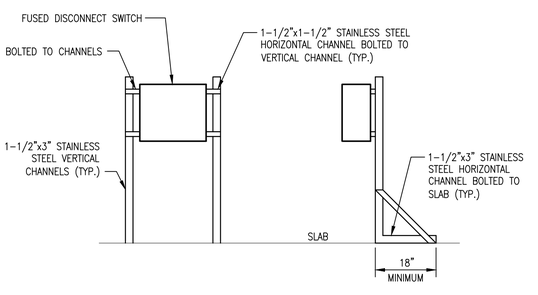


DETAIL NOTES:

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



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



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

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

3 E-301 **RACK MOUNTED EQUIPMENT – DETAIL** SCALE: NONE

E-301

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

MAGNOLIA TRUCK WASH

CONTRACT	BRIDGE NO.	N/A	ELECTRICAL PANEL SCHEDULES AND DETAILS	SHEET NO.
T201680102	DESIGNED BY: AMS			38
COUNTY				TOTAL SHTS.
KENT	CHECKED BY: JWL			38