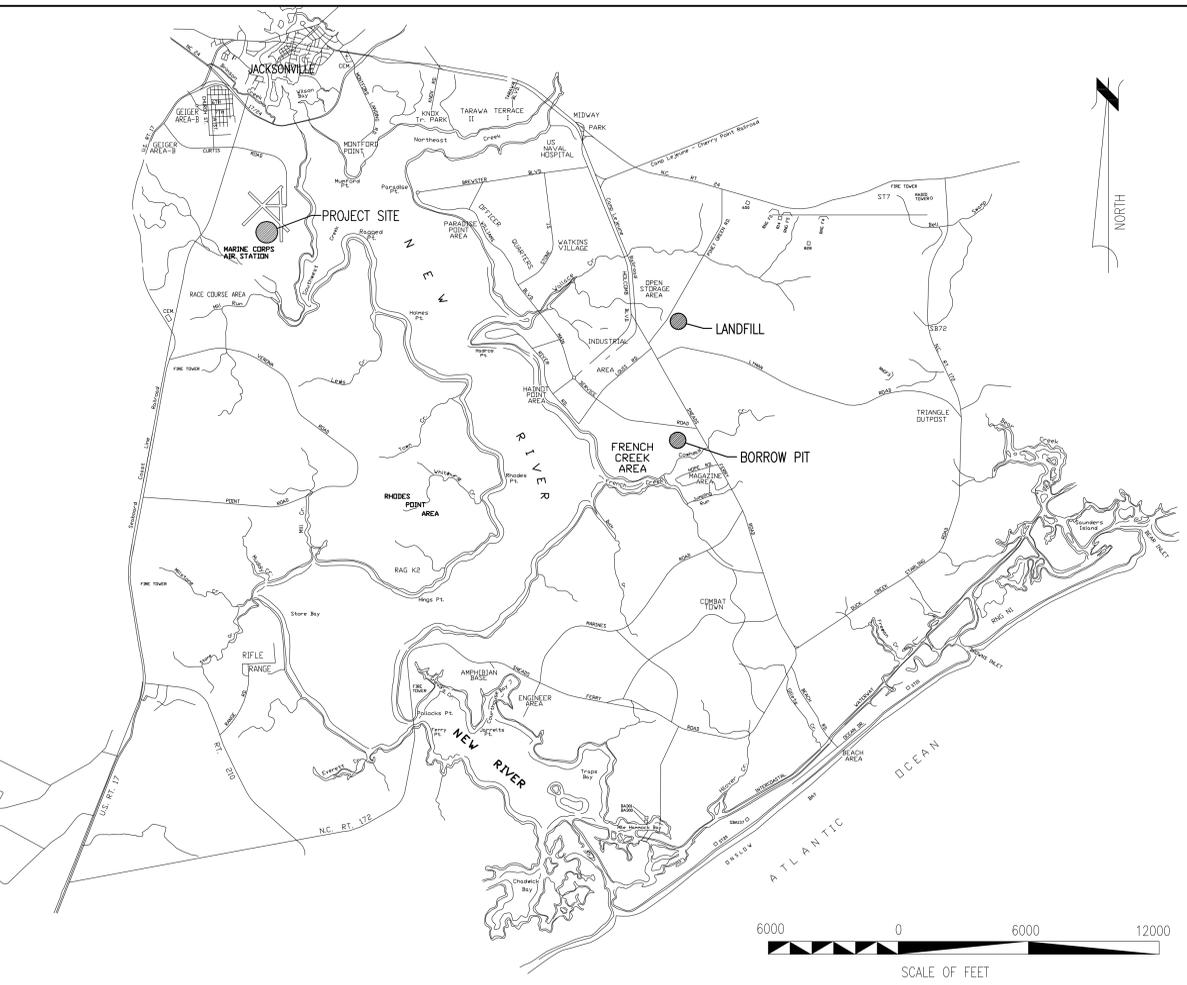
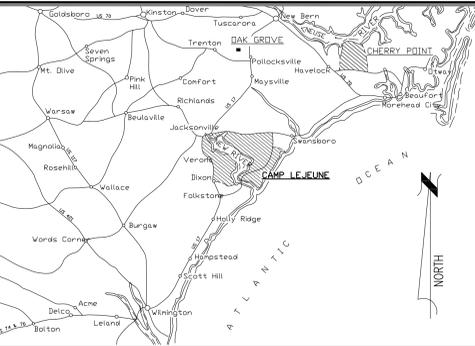


# 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE CONTRACT NO. N40085-16-B-0058



**LOCATION MAP - U. S. MARINE CORPS BASE  
CAMP LEJEUNE, NC**



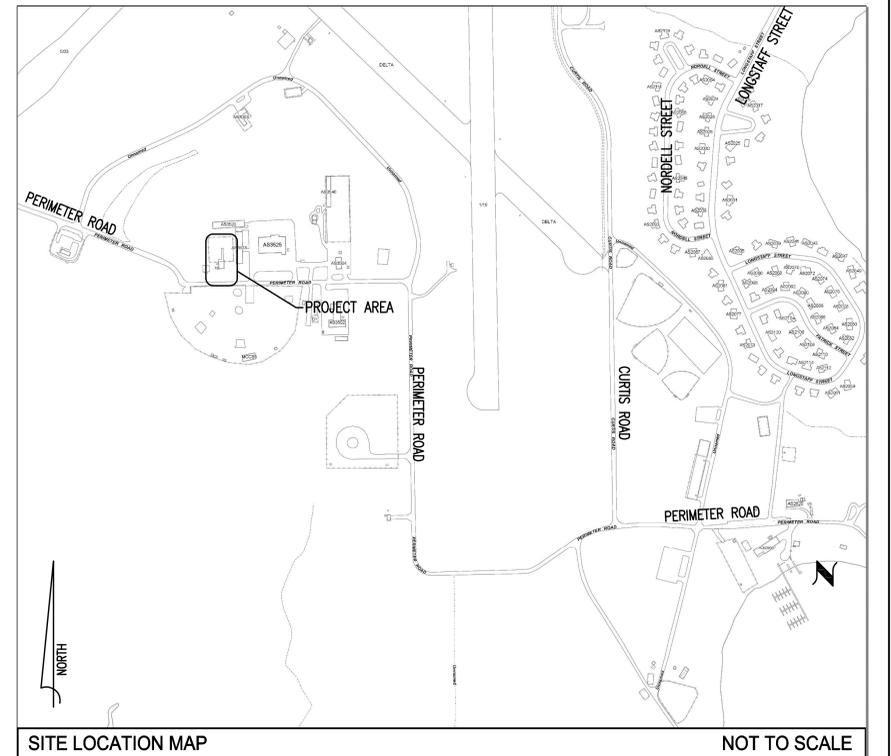
**VICINITY MAP - CAMP LEJEUNE, N.C.**

**NOTE:**  
1. ALL FILL MATERIAL NEEDED TO EXECUTE THIS PROJECT SHALL BE OBTAINED FROM THE FRENCH CREEK BORROW PIT OR FROM A PROPERLY PERMITTED COMMERCIAL BORROW PIT AT THE CONTRACTORS OWN EXPENSE.  
2. NO WETLAND AREAS ARE LOCATED WITHIN THE PROJECT LIMITS OF DISTURBANCE.

**SPECIAL SEEDING NOTE:**  
CUT & FILL SLOPES 3:1 OR FLATTER WILL, WITHIN 7 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED AND PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. ADDITIONALLY, WITHIN 7 DAYS, SLOPES STEEPER THAN 3:1 SHALL BE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, AND SHALL BE PLANTED.

## INDEX OF DRAWINGS

NAVFAV NO.	SHEET COUNT	SHEET NO.	TITLE
60016615	1 OF 32	G-001	COVER SHEET
60016616	2 OF 32	CD-101	EXISTING CODITIONS & DEMOLITION PLAN
60016617	3 OF 32	CS-101	SITE PLAN - NEW WORK
60016618	4 OF 32	CG-101	SITE GRADING & EROSION CONTROL PLAN
60016619	5 OF 32	CS-501	SITE DETAILS
60016620	6 OF 32	CG-501	GRADING DETAILS
60016621	7 OF 32	CU-501	UTILITY DETAILS
60016622	8 OF 32	LS-1	LIFE SAFETY PLAN & CODE ANALYSIS
60016623	9 OF 32	FA-1	FIRE ALARM PLAN
60016624	10 OF 32	FA-2	FIRE ALARM DETAILS
60016625	11 OF 32	S-1	FOUNDATION PLAN
60016626	12 OF 32	S-2	TYPICAL DETAILS, GENERAL NOTES & SECTIONS
60016627	13 OF 32	A-1	FLOOR PLAN
60016628	14 OF 32	A-2	REFLECTED CEILING PLAN AND ROOF PLAN
60016629	15 OF 32	A-3	EXTERIOR ELEVATIONS
60016630	16 OF 32	A-4	SECTIONS
60016631	17 OF 32	A-5	ENLARGED PLAN & INTERIOR ELEVATIONS
60016632	18 OF 32	A-6	SCHEDULES & DETAILS
60016633	19 OF 32	E-001	ELECTRICAL SITE PLAN
60016634	20 OF 32	E-101	ELECTRICAL PLANS
60016635	21 OF 32	E-102	ELECTRICAL PLANS
60016636	22 OF 32	E-201	ELECTRICAL DETAILS
60016637	23 OF 32	E-301	ELECTRICAL SCHEDULES
60016638	24 OF 32	E-401	ELECTRICAL DETAILS
60016639	25 OF 32	M-101	MECHANICAL PLANS
60016640	26 OF 32	M-201	MECHANICAL DETAILS
60016641	27 OF 32	M-301	MECHANICAL SCHEDULES
60016642	28 OF 32	P-101	PLUMBING PLANS
60016643	29 OF 32	P-102	PLUMBING PLANS
60016644	30 OF 32	P-201	PLUMBING DETAILS
60016645	31 OF 32	P-202	PLUMBING DETAILS
60016646	32 OF 32	P-301	PLUMBING SCHEDULES



**SITE LOCATION MAP**

**NOT TO SCALE**

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		<b>G-001</b>	
		<b>AVOLIS ENGINEERING, P.A.</b> P.O. BOX 15584 NEW BERN, NC 28561 PH. (252) 633-0088, FAX (252) 633-6507 DES. J. K. AVOLIS, P.E. DR. MSP / WFF CHK. J. C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR. T. H. BURTON APPROVED: PWO OR OICC DATE SATISFACTORY TO: DATE	
DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE COVER SHEET		NAVFAV DRAWING NO. 60016615 CONSTR. CONTR. NO. N40085-16-B-0058	SHEET 01 OF 32
SCALE: NOTED SPEC: 05-16-0058	SIZE: F CODE IDENT. NO: 80091	NAVFAV PROJECT # 15045	

REVISIONS			
SYM		DATE	APPROVED

CIVIL LEGEND		
EXISTING	DESCRIPTION	NEW
⊗	WATER VALVE	⊗
⊗	POST INDICATOR VALVE	⊗
⊗	SANITARY SEWER MANHOLE	⊗
⊗	ELECTRIC MANHOLE	⊗
⊗	COMMUNICATIONS MANHOLE	⊗
⊗	STORM DRAIN MANHOLE	⊗
⊗	SANITARY SEWER CLEANOUT	⊗
⊗	STORM DRAIN DROP INLET	⊗
⊗	FIRE HYDRANT	⊗
⊗	COMMUNICATIONS PEDESTAL	⊗
⊗	UTILITY POLE/POLE WITH LIGHT	⊗
⊗	GUY WIRE	⊗
⊗	DITCH/SWALE CENTERLINE	⊗
⊗	SANITARY SEWER (GRAVITY)	⊗
⊗	FORCE MAIN	⊗
⊗	STORM SEWER	⊗
⊗	DOMESTIC WATER	⊗
⊗	GAS	⊗
⊗	OVERHEAD ELECTRICAL	⊗
⊗	UNDERGROUND ELECTRICAL	⊗
⊗	UNDERGROUND COMMUNICATIONS	⊗
⊗	FENCE	⊗
⊗	CONCRETE	⊗
⊗	ASPHALT	⊗
⊗	GRAVEL	⊗
⊗	SURVEY CONTROL POINT	⊗
⊗	SPOT ELEVATIONS	⊗
⊗	CONTOUR LINES	⊗
⊗	TREE	⊗
⊗	TREE LINE / CLEARING LIMIT	⊗
⊗	TREE LINE / CLEARING LIMIT	⊗
⊗	SILT FENCE	⊗
⊗	SILT FENCE	⊗
⊗	SOURCE/DESTINATION UNKNOWN	⊗
⊗	SIGN	⊗
⊗	CHECK DAM	⊗
⊗	DEMOLITION ITEMS	⊗

ABBREVIATIONS	
APPROX.	APPROXIMATE/APPROXIMATELY
CL	CONTRACT JOINT
CL, C/L	CENTER LINE
CF	CUBIC FEET
CONT.	CONTINUOUS
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CONG.	CONCRETE
DI, Ø	DIAMETER
DI	(STORM DRAIN) DROP INLET
DMH	DRAINAGE MANHOLE
EL=, ELEV	ELEVATION
E	ELECTRIC; ELECTRICAL
ELEC.	EASTING
ETC.	ET CETERA
EX., EXIST.	EXISTING
FH	FIRE HYDRANT
HVAC	HEATING, VENTILATION AND AIR CONDITIONING (EQUIPMENT)
INV	INVERT
MAG	MAG NAIL (CONTROL)
MAX	MAXIMUM
MIN	MINIMUM
N	NORTHING
NO./#	NUMBER
PIV	POST INDICATOR VALVE
PVC	POLYVINYL CHLORIDE (PIPE)
RCP	REINFORCED CONCRETE PIPE
SMH	SANITARY SEWER MANHOLE
SF	SQUARE FOOT/FEET
SLT	SILT FENCE
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VOL.	VOLUME
WWF	WELDED WIRE FABRIC
&	AND
@	AT
±	PLUS OR MINUS
%	PERCENT
=	EQUALS

- GENERAL CONSTRUCTION NOTES:**
- THE LOCATION AND DEPTHS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCANNING THE AREA OF WORK TO IDENTIFY TO HIS OWN SATISFACTION THE EXTENT OF UTILITIES PRESENT INCLUDING THE UTILITIES INDICATED TO BE PRESENT, THOSE NOT SHOWN, AND THOSE SHOWN TO BE IN A DIFFERENT LOCATION.
  - PHYSICAL SITE FEATURES OUTSIDE THE AREA OF WORK OR THOSE FEATURES NOT RELEVANT TO THE WORK BEING PERFORMED ARE NOT SHOWN FOR CLARITY.
  - ALL EXISTING VEGETATED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN, SEE DETAIL L, SHEET C-XXX.
- DEMOLITION WORK ITEMS:**
- EXISTING CONCRETE TO BE REMOVED.
  - EXISTING GRAVEL TO BE REMOVED.
  - EXISTING UTILITY POLE & LIGHT TO BE REMOVED.
  - EXISTING FENCE TO BE REMOVED.
  - EXISTING UNDERGROUND ELECTRIC SERVICE TO AREA LIGHTING TO BE REMOVED.
  - DEMOLITION IN THIS AREA ONLY TO BE COMPLETED BY OTHERS, UNLESS NOTED OTHERWISE.

**DISCLOSURE OF INFORMATION**

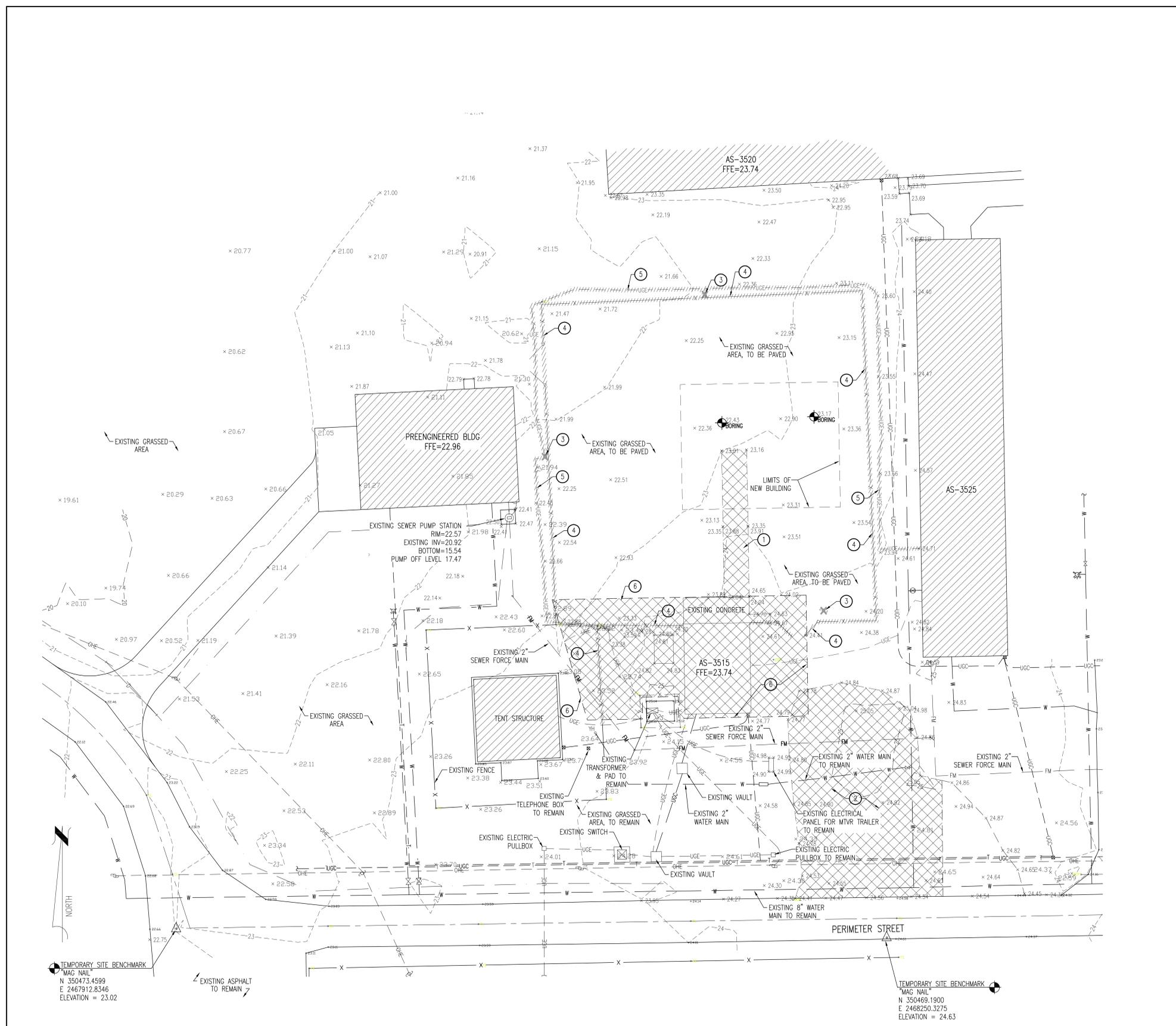
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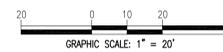
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**NOTE:**  
ENGINEERING SURVEYING COMPLETED BY AVOLIS ENGINEERING, PA. SITE HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY ATLANTIC SURVEY & DESIGN.



**A** EXISTING CONDITIONS & DEMOLITION PLAN  
SCALE: 1"=20'

<b>CD-101</b> AVOLIS ENGINEERING, P.A. P.O. BOX 1558 NEW BERN, NC 28561 PH. (252) 633-0088, FAX (252) 633-6507 DES. J. K. AVOLIS, P.E. DR. MSP / WFF CHK. J. C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR. T. H. BURTON APPROVED: PWO OR OICC DATE SIZE CODE IDENT. NO. NAVIFAC DRAWING NO. <b>F 80091 60016616</b> SATISFACTORY TO: DATE SPEC. 05-16-0058 CONSTR. CONTR. NO. N40085-16-B-0058 SHEET 02 OF 32		MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE EXISTING CONDITIONS & DEMOLITION PLAN
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REVISIONS			
SYM		DATE	APPROVED

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- NEW WORK ITEMS:**
- 1 NEW GRAVEL - SEE DETAIL A, SHEET CS-501. (BASE BID)
  - 2 NEW SIDEWALK - SEE DETAIL B, SHEET CS-501.
  - 3 NEW CONCRETE APRON (TYPICAL OF 4) - SEE DETAIL C, SHEET CS-501.
  - 4 SLAB-ON-GRADE JOINTS - SEE DETAIL D, SHEET CS-501.
  - 5 NEW BOLLARD - SEE DETAIL E, SHEET CS-501.
  - 6 NEW PAVEMENT STRIPING - SEE DETAIL F, SHEET CS-501.
  - 7 NEW CHAINLINK FENCE & GATE - SEE DETAIL G, SHEET CS-501.
  - 8 INSTALL GRAVEL CONTROL ENTRANCE - SEE DETAIL A, SHEET CG-501.
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  - 17 REROUTE EXISTING 2" SEWER FORCE MAIN BELOW NEW WATER SERVICE. PROVIDE 24" VERTICAL SEPARATION 24" VERTICAL SEPARATION. SEE DETAIL E, CU-501.
  - 18 ROUTE NEW WATER BELOW EXISTING WATER MAIN. SEE DETAIL E, CU-501.
  - 19 COORDINATE GAS METER TYPE WITH NATURAL GAS UTILITY COMPANY.

- BID OPTION 1**
- 20 PAVE LOT AROUND FACILITY.
- BID OPTION 2**
- 21 PAVE ADDITIONAL AREA WITHIN THE FENCE LINE.
- BID OPTION 3**
- 22 PROVIDE PAVED POV PARKING

**DISCLOSURE OF INFORMATION**

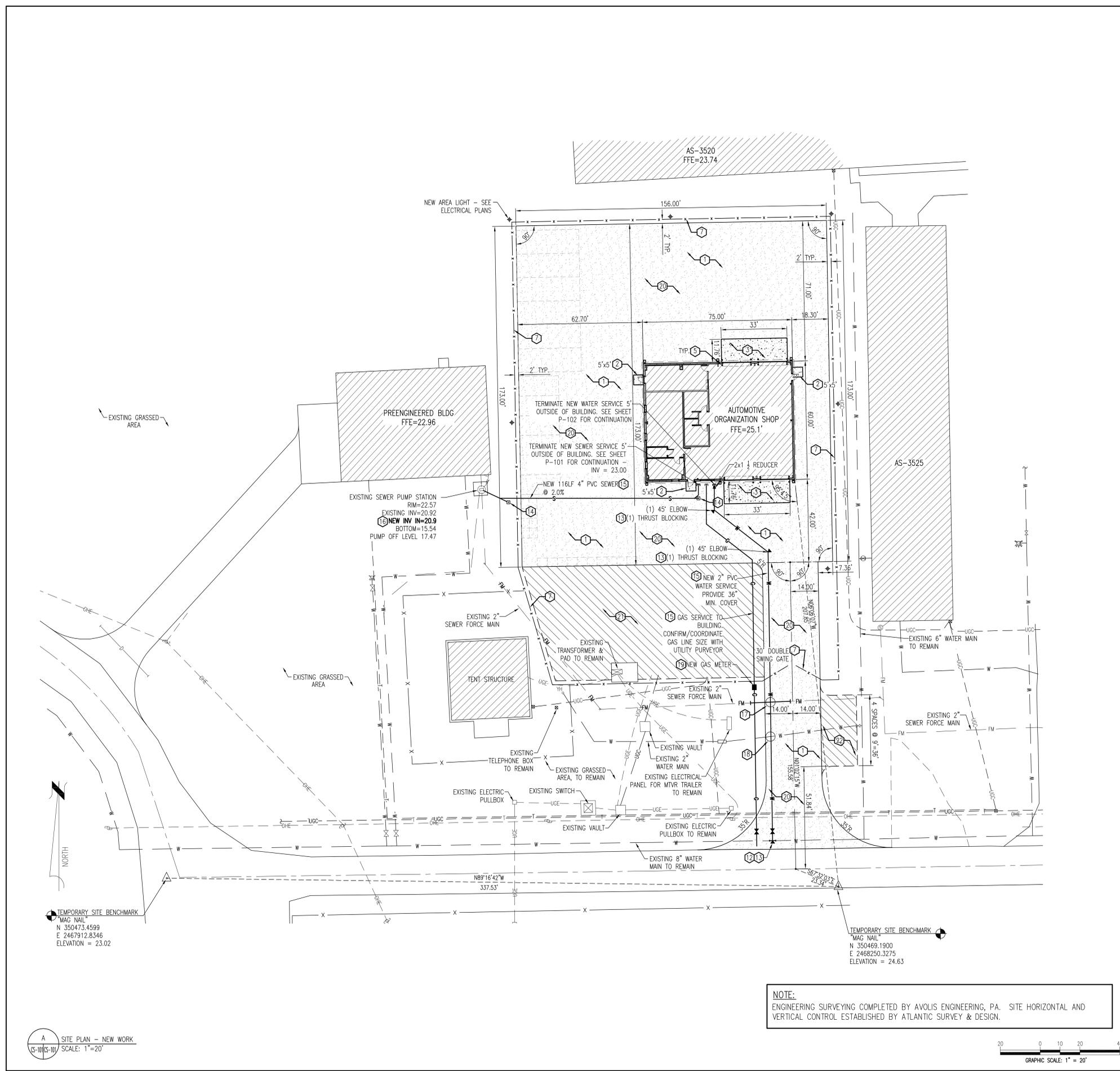
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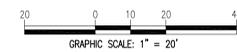
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A SITE PLAN - NEW WORK  
SCALE: 1"=20'

<b>CS-101</b> AVOLIS ENGINEERING, P.A. P.O. BOX 1558 NEW BERN, NC 28561 PH. (252) 633-0088, FAX (252) 633-6507 DES. J. K. AVOLIS, P.E. DR. MSP / WFF CHK. J. C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR. T. H. BURTON APPROVED: PWO OR OICC DATE: _____ SATISFACTORY TO: _____ DATE: _____		DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE SITE PLAN - NEW WORK	
		NAVIFAC DRAWING NO. 60016617 CONSTR. CONTR. NO. N40085-16-B-0058	SHEET 03 OF 32

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REVISIONS			
SYM		DATE	APPROVED

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**NEW WORK ITEMS:**

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- 2 NEW SIDEWALK - SEE DETAIL B, SHEET CS-501.
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- 18 ROUTE NEW WATER BELOW EXISTING WATER MAIN. SEE DETAIL E, CU-501.
- 19 COORDINATE GAS METER TYPE WITH NATURAL GAS UTILITY COMPANY.

**EROSION CONTROL NOTES:**

**SCHEDULE OF EROSION AND SEDIMENTATION CONTROL ACTIVITIES**

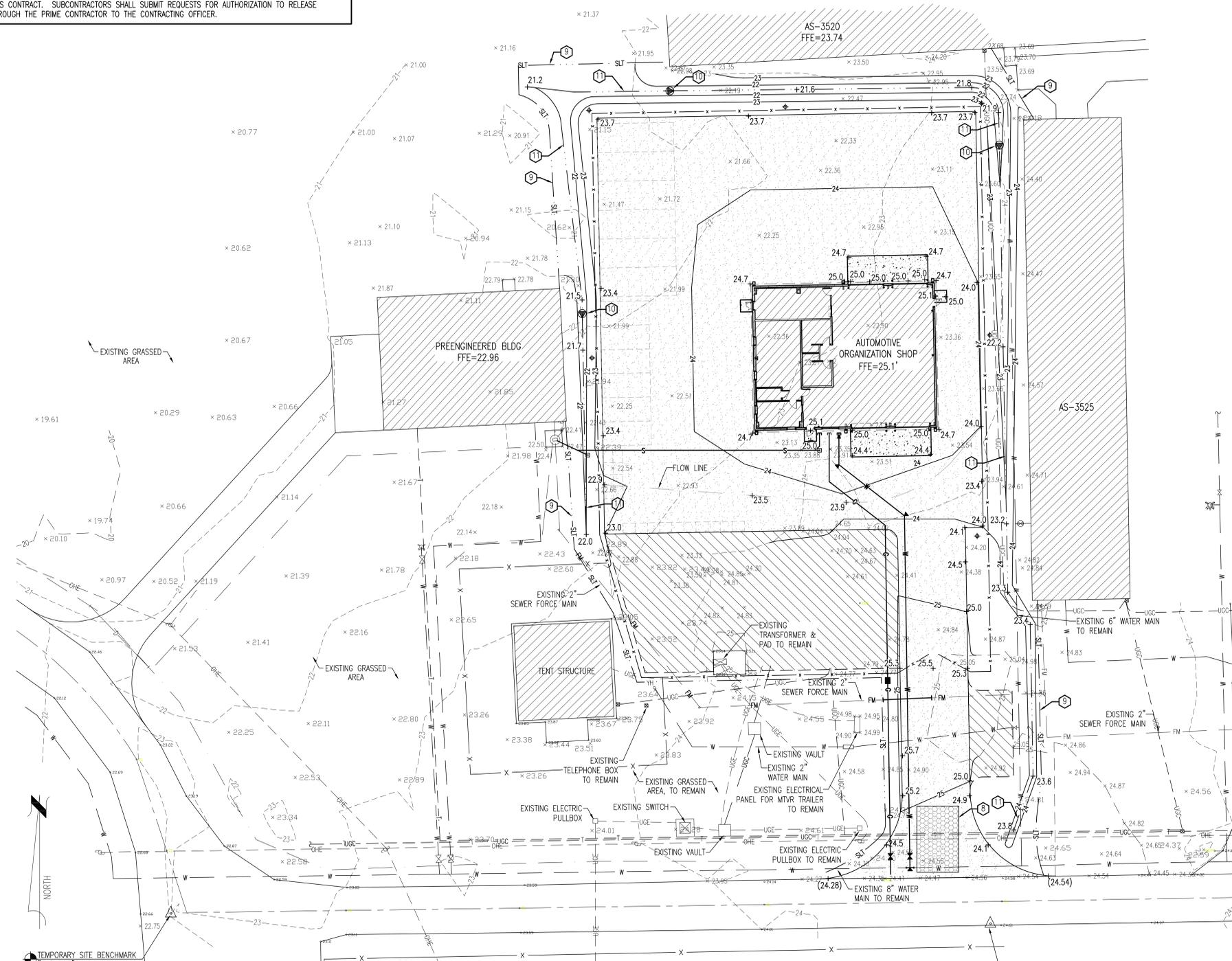
1. INSTALL GRAVEL CONTROL ENTRANCE AT DESIGNATED PROJECT AREAS.
2. CONSTRUCT STORMWATER PONDS AT DESIGNATED PROJECT AREAS. POND SHALL BE UTILIZED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.
3. INSTALL SILT FENCING, DROP INLET PROTECTION, AND CHECK DAMS AT DESIGNATED PROJECT AREAS.
4. COMPLETE IMPROVEMENTS AS INDICATED.
5. STABILIZE AND SEED ALL AREAS NOT TO BE FURTHER DISTURBED BY CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE PROJECT VEGETATION PLAN.
6. RESEED AS NECESSARY TO ESTABLISH FINAL VEGETATION.
7. ADDITIONAL MISCELLANEOUS EROSION CONTROL MEASURES MAY BE REQUIRED WHEN DEEMED NECESSARY BY THE CONTRACTING OFFICER OR THE NCDENR'S LAND QUALITY SECTION.
8. REMOVE ACCUMULATED SEDIMENT FROM STORMWATER POND AT COMPLETION OF CONSTRUCTION.
9. REMOVE SILT FENCING, CHECK DAMS, AND GRAVEL CONTROL ENTRANCE ONCE VEGETATION IS 95% ESTABLISHED.

**MAINTENANCE PLAN**

1. THE PROJECT NPDES CONSTRUCTION PERMIT REQUIRES THAT EROSION CONTROL DEVICES AND STORM WATER OUTFALLS BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF A 1/2-INCH RAIN EVENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT THESE INSPECTIONS AND MAINTAIN RECORDS UNTIL THE AREA HAS STABILIZED, EVIDENT BY 95% VEGETATIVE GROWTH FOR AREAS RECEIVING SEEDING. TO FACILITATE RAINFALL MONITORING, A RAIN GAUGE IS REQUIRED TO BE ON-SITE. ONCE STABILIZATION HAS BEEN ACCOMPLISHED, INSPECTION RECORDS ARE TO BE FORWARDED TO THE CONTRACTING OFFICER AND ALL TEMPORARY EROSION CONTROL MEASURES REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING COMPLIANCE WITH ALL PERMITS AND PLANS. ANY CHANGES MUST BE APPROVED BY THE STATE PRIOR TO EXECUTION. A COPY OF THE EROSION AND SEDIMENTATION CONTROL PLAN, LETTER OF APPROVAL AND NPDES CONSTRUCTION PERMIT MUST BE MAINTAINED BY THE CONTRACTOR AT THE PROJECT SITE.
2. ALL AREAS WILL BE FERTILIZED, SEEDING, RESEEDING AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATION PLAN IN ORDER TO ESTABLISH AND MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ANY SEDIMENT TRACKED ONTO THE ADJACENT ASPHALT ROAD SHALL BE REMOVED ON A DAILY BASIS.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCING, CHECK DAMS, AND DROP INLET PROTECTION WHEN THE SEDIMENT ACCUMULATES TO A DEPTH OF SIX INCHES (6") MAXIMUM.

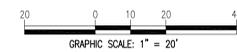
**SPECIAL SEEDING NOTE:**

CUT & FILL SLOPES 3:1 OR FLATTER WILL, WITHIN 7 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED AND PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. ADDITIONALLY, WITHIN 7 DAYS, SLOPES STEEPER THAN 3:1 SHALL BE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, AND SHALL BE PLANTED.



**NOTE:**  
THE ELEVATIONS SHOWN ARE NEW ASPHALT GRADE. SUBTRACT 0.17 FROM ELEVATIONS SHOWN TO OBTAIN NEW GRAVEL GRADE.

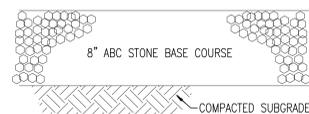
**NOTE:**  
ENGINEERING SURVEYING COMPLETED BY AVOLIS ENGINEERING, P.A. SITE HORIZONTAL AND VERTICAL CONTROL ESTABLISHED BY ATLANTIC SURVEY & DESIGN.



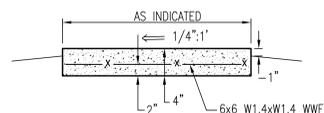
A SITE GRADING & EROSION CONTROL PLAN  
SCALE: 1"=20'

 AVOLIS ENGINEERING, P.A. P.O. BOX 5584 NEW BERN, NC 28561 PH. (252) 633-0088, FAX (252) 633-6507 DES. J. K. AVOLIS, P.E. DR. MSP / WFF CHK. J. C. AVOLIS, P.E. SUBMITTED BY: DESIGN DIR. T. H. BURTON		DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE SITE GRADING & EROSION CONTROL PLAN		<b>CG-101</b> NAVFAC DRAWING NO. 60016618 CONSTR. CONTR. NO. N460085-16-B-0058	
AE PROJECT # 15045		SHEET 04 OF 32			

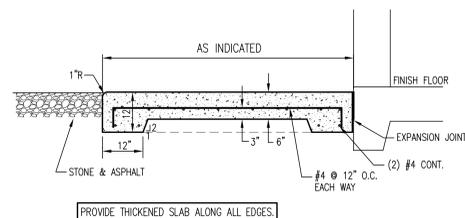
REVISIONS		
SYM	DATE	APPROVED



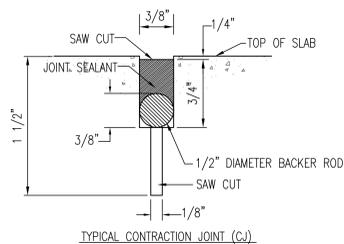
**A** GRAVEL SECTION  
CS-10/CS-50/ NOT TO SCALE



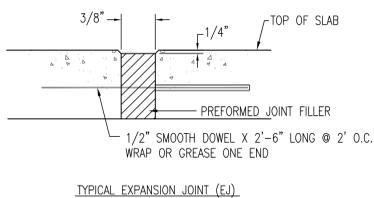
**B** CONCRETE SIDEWALK  
CS-10/CS-50/ NOT TO SCALE



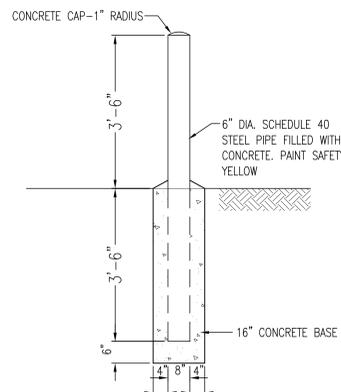
**C** CONCRETE APRON  
CS-10/CS-50/ NOT TO SCALE



**D** SLAB-ON-GRADE JOINTS  
CS-10/CS-50/ NOT TO SCALE



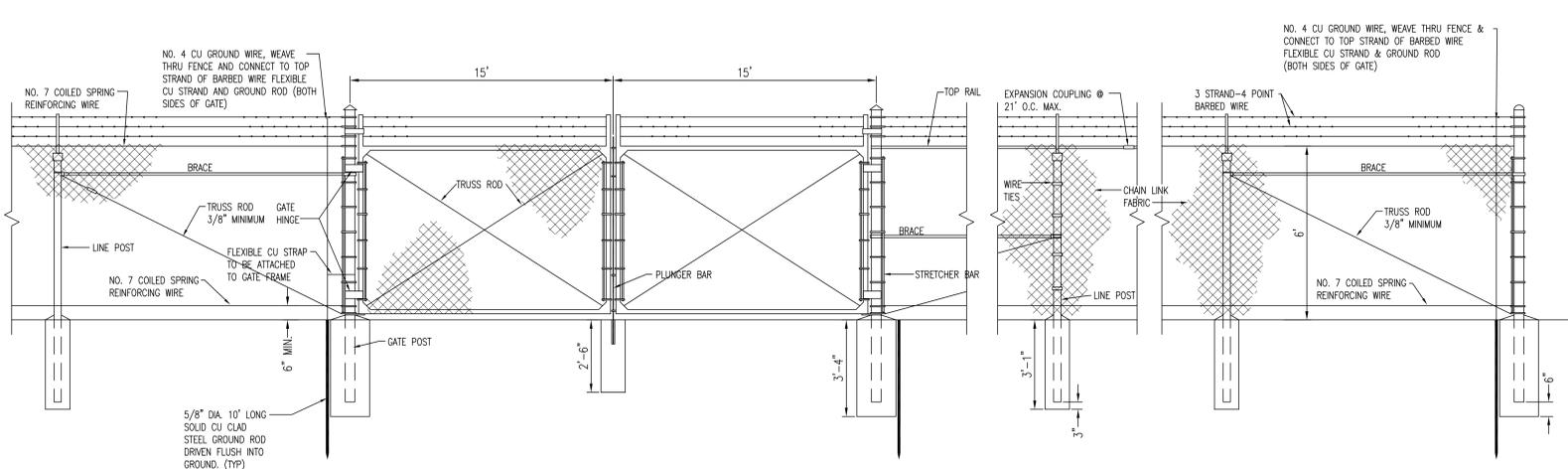
TYPICAL EXPANSION JOINT (EJ)



**E** BOLLARD  
CS-10/CS-50/ NOT TO SCALE



**F** PAVEMENT STRIPING  
CS-10/CS-50/ NOT TO SCALE



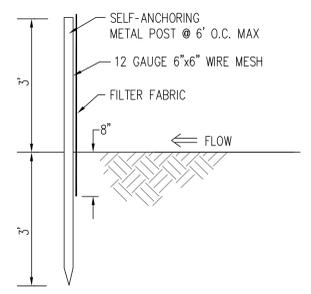
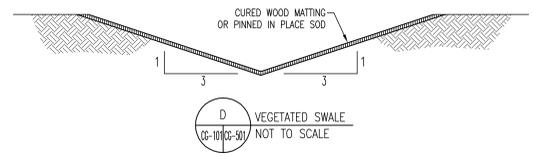
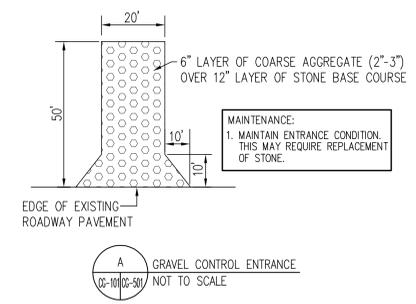
**G** CHAIN LINK FENCE & GATE  
CS-10/CS-50/ NOT TO SCALE

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		<b>CS-501</b>	
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DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE SITE DETAILS		NAVAFAC DRAWING NO. 60016619 CONSTR. CONTR. NO. N40085-16-B-0058	CODE IDENT. NO. <b>F 80091</b> SCALE: NOTED SPEC. 05-16-0058
AE PROJECT # 15045		SHEET 05 OF 32	

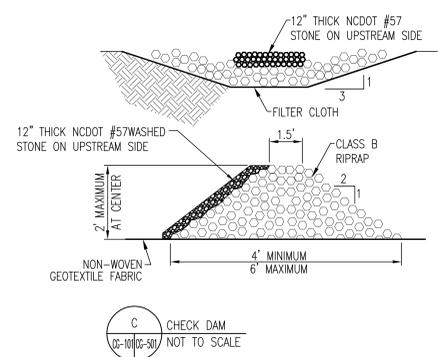
REVISIONS		
SYM	DATE	APPROVED



**TEMPORARY VEGETATIVE SEEDING (PRIOR TO ESTABLISHING PERMANENT VEGETATION)**  
 AFTER COMPLETION OF GRADING ACTIVITIES AND THE CONSTRUCTION OF SWALES, ALL EXPOSED AREAS SHALL BE SEED TO THE FOLLOWING SPECIFICATIONS:  
**SEED BED**  
 LIME 1-1/2 TON PER ACRE  
 FERTILIZER 1/2-TON PER ACRE  
**SEED**  
 RYE GRAIN 50 LBS PER ACRE  
 TALL FESCUE 100 LBS PER ACRE  
**SUPPLEMENTAL SEED**  
 MAY THROUGH AUGUST:  
 CENTPEDE 5 LBS PER ACRE  
**PROCEDURE**  
 STRAW MULCH SHALL BE APPLIED AT A RATE WHICH WILL INSURE APPROXIMATELY 75% COVERAGE OF THE SEED AREA. THE STRAW AND SOWN SEED WILL BE LIGHTLY DISCED INTO THE BED TO GIVE IT FURTHER RESISTANCE TO BLOWING AND WASHING.  
 THE CONTRACTOR SHALL GUARANTEE A FULL STAND OF GRASS OVER THE ENTIRE DISTURBED AREA. IF NECESSARY THE CONTRACTOR WILL WET DOWN THE AREAS TO ASSIST IN SEED GERMINATION OR AID IN GROWTH IN TIMES OF EXCESSIVELY DRY WEATHER. A STAND OF GRASS WILL BE CONSIDERED ACCEPTABLE WHEN THE ENTIRE STAND OF GRASS IS AT LEAST FOUR INCHES HIGH AND HAS ACHIEVED AT LEAST 95% COVERAGE OF DISTURBED AREAS. RESEEDING WILL BE REQUIRED AS NECESSARY BY THE CONTRACTOR TO OBTAIN THE SPECIFIED STAND OF GRASS.

**PERMANENT VEGETATION**  
 ALL DISTURBED AREAS NOT COVERED WITH BUILDINGS, PAVEMENTS, OR OTHER IMPERMEABLE SURFACES SHALL BE SOODED AS THE FINAL/PERMANENT VEGETATION.

**SPECIAL SEEDING NOTE:**  
 CUT & FILL SLOPES WILL, WITHIN 7 CALENDAR DAYS DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED AND PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

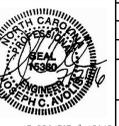


**MAINTENANCE**  
 1. CONSTRUCT CHECK DAM OF RIP RAP STONE PLACED IN ACCORDANCE WITH DETAIL.  
 2. SEDIMENT BEHIND THE CHECK DAM SHALL BE REMOVED PRIOR TO THE LEVEL REACHING WITHIN 6" OF THE CENTERLINE CREST OF THE DAM.  
 3. SHOULD SCOUR DEVELOP AT THE DOWNSTREAM END, IT SHALL BE REPAIRED IMMEDIATELY.



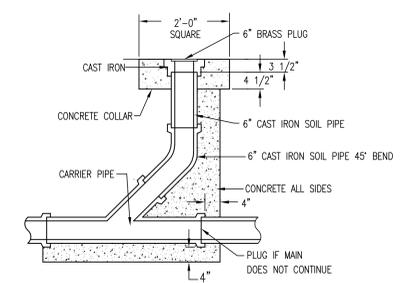
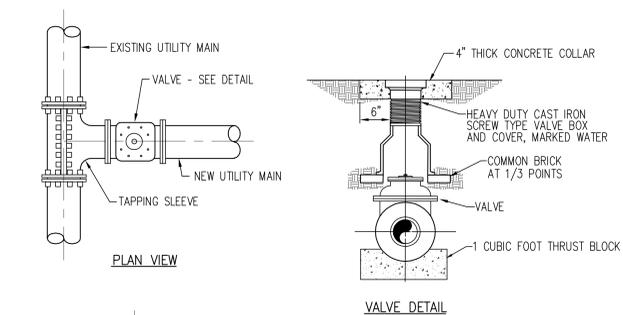
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DEPARTMENT OF THE NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP, MCAS-2 "DET B" MARINE CORPS BASE CAMP LEJEUNE GRADING DETAILS		NAVIFAC DRAWING NO. 60016620 CONSTR. CONTR. NO. N40085-16-B-0058	
APPROVED: PWO OR OICC DATE:	SIZE: F CODE IDENT. NO: 80091	DATE:	NAVIFAC DRAWING NO. 60016620 CONSTR. CONTR. NO. N40085-16-B-0058
SATISFACTORY TO:	DATE:	SCALE: NOTED SPEC: 05-16-0058	SHEET 06 OF 32

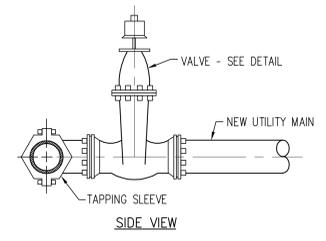


AE PROJECT # 15045

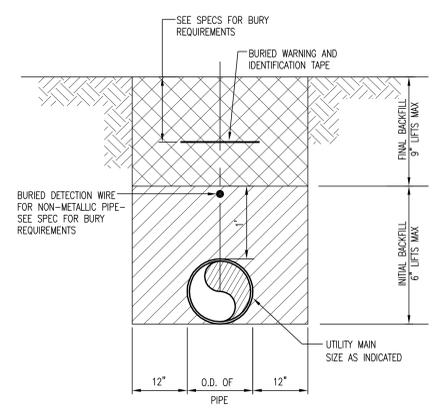
REVISIONS		
SYM	DATE	APPROVED



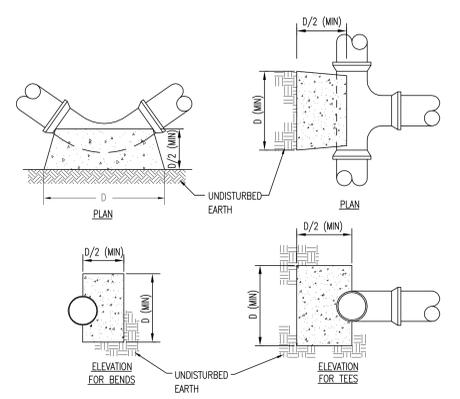
C SEWER CLEANOUT  
(S-10)(QI-50)  
NOT TO SCALE



A TAPPING SLEEVE/VALVE  
(S-10)(QI-50)  
NOT TO SCALE

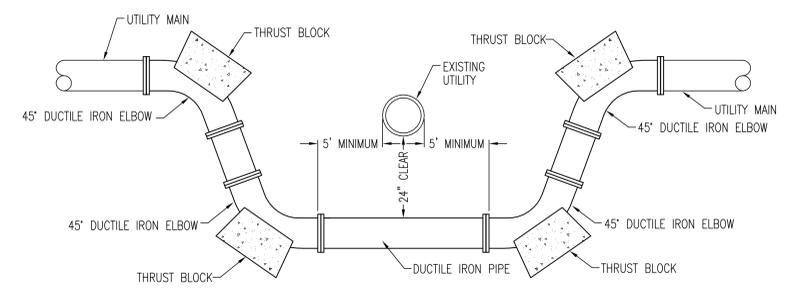


D PIPE TRENCH SECTION  
(S-10)(QI-50)  
NOT TO SCALE



THRUST BLOCK DIMENSION D (IN FEET)					
NOM. PIPE DIA.	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
2"	1.0	1.2	1.0	0.7	0.7
4"	1.3	1.6	1.2	0.9	0.8
6"	2.1	2.3	1.7	1.2	0.8
8"	2.5	2.8	2.2	1.5	1.0

B THRUST BLOCK  
(S-10)(QI-50)  
NOT TO SCALE



E UTILITY CROSSING DETAIL  
(S-10)(QI-50)  
NOT TO SCALE

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F 80091	DATE SCALE: NOTED	CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 60016621 CONSTR. CONTR. NO. N46085-16-B-0058 SHEET 07 OF 32

**LEGEND**

- F FIRE ALARM PULL STATION
- S SMOKE DETECTOR
- FACP FIRE ALARM CONTROL PANEL
- FE FIRE EXTINGUISHER
- DOOR
- XX EGRESS WIDTH (CLEAR, IN.)
- XXX EXIT WIDTH PER PERSON (IN.)
- XXX CAPACITY (PEOPLE)
- XXX ACTUAL (PEOPLE)
- TD=XX / TD TRAVEL DISTANCE TO AN EXIT
- CP=XX / CP COMMON PATH TO POINT WHERE TWO PATHS OF EGRESS AVAILABLE
- DE=XX / DE DEAD END CORRIDOR
- WALL MOUNT LIGHTED EXIT SIGN

**KEY NOTES:**

- 1 THIS EXTERIOR DOOR IS NOT BEING CONSIDER AS PART OF THE REQUIRED MEANS OF EGRESS.

REVISIONS		
SYM	DATE	APPROVED

**CODE ANALYSIS - INTERNATIONAL BUILDING CODE, NFPA 101, UFC**

OCCUPANCY CLASSIFICATION: NON SEPARATED MIXED USE  
 MODERATE HAZARD STORAGE (S-1)  
 IBC 2012-311.1 - STORAGE  
 NFPA 101 2015 - CHAPTER 42 STORAGE OCCUPANCIES  
 BUSINESS (B)  
 IBC 2012 - 304.1 BUSINESS  
 NFPA 101 2012 - CHAPTER 38 NEW BUSINESS OCCUPANCIES  
 THE MOST RESTRICTIVE OCCUPANCY REQUIREMENT SHALL GOVERN (NFPA 101 6.14.3.2)  
 TYPE OF CONSTRUCTION  
 TYPE II-B, UNPROTECTED, NON RATED, NON-COMBUSTIBLE

**ALLOWABLE HEIGHT CALCULATION (TYPE II-B CONSTR.)**

GROUP S-1  
 1.1 ALLOWABLE HEIGHT CALCULATION-STORIES  
 1.1.1 ALLOWABLE TABULAR HEIGHT:  
 2 STORY (TABLE 503)  
 1.1.2 HEIGHT INCREASE-SPRINKLER:  
 N/A (SECTION 504.2)  
 1.1.3 TOTAL ALLOWABLE HEIGHT:  
 2 STORY

1.2 ALLOWABLE HEIGHT CALCULATION-FEET  
 1.2.1 ALLOWABLE TABULAR HEIGHT:  
 55 FEET (TABLE 503)  
 1.2.2 HEIGHT INCREASE SPRINKLER:  
 N/A (SECTION 504.2)  
 1.2.3 TOTAL ALLOWABLE HEIGHT:  
 55 FEET

**ALLOWABLE AREA CALCULATION (TYPE II-B CONSTRUCTION)**

GROUP S-1  
 1.1 ALLOWABLE AREA CALCULATION  
 1.1.1 TABULAR AREA PER FLOOR:  
 17,500 SF (TABLE 503)  
 1.1.2 AREA INCREASE-SPRINKLER:  
 N/A (SECT. 506.3)  
 1.1.3 AREA INCREASE-FRONTAGE:  
 25%, 4,375 SF (SECT. 506.2)  
 1.1.4 TOTAL ALLOWABLE AREA:  
 43,750 SF (SECT. 506.1)

**DETAILED ALLOWABLE AREA CALCULATION**

1.  $A_a = A_i + [(A_i \times I_f) / 100 + (A_i \times I_s) / 100]$
  2.  $A_i =$  ALLOWABLE TABULAR AREA PER FLOOR (SF)
  3.  $I_f =$  AREA INCREASE DUE TO FRONTAGE
  4.  $I_s =$  AREA INCREASE DUE TO SPRINKLER PROTECTION
  5.  $I_f = 100[F / P - 0.25] \times W / 30$
- WHERE:  
 6.  $I_f =$  AREA INCREASE DUE TO FRONTAGE  
 7.  $F =$  BUILDING PERIMETER WHICH FRONTS ON A PUBLIC WAY OR OPEN SPACE HAVING 20 FEET OPEN MINIMUM (FT)  
 8.  $P =$  PERIMETER OF ENTIRE BUILDING (FT)  
 9.  $W =$  WIDTH OF PUBLIC WAY OR OPEN SPACE (FT)

**ALLOWABLE BUILDING AREA CALCULATION (GROUP S-1)**

$A_i = 17,500$  SF (TYPE II-B CONSTRUCTION)  
 $I_f = 25\%$   
 $A_a = 17,500 + [(17,500 \times 25) \times 1] = 21,875$  SF PER FLOOR (SECTION 506.1)  
 21,875 SF X 2 FLOORS = 43,750 SF PER BUILDING

**BUILDING FRONTAGE CALCULATION (GROUP S-1)**

$F = 100$  FT  
 $P = 200$  FT  
 $W = 30$  FT  
 $I_f = 100 [100 / 200 - 0.25] \times 30 / 30 = 25.0\%$

AREA RATIO  
 GROUP S-1(B) = 4,502 SF ACTUAL AREA  
 GROUP S-1 = 43,750 SF ALLOWABLE AREA  
 RATIO = 4,502 / 43,750 = 0.10  
 TOTAL = 0.10 < 1.0  
 COMPLIANT = YES

**STRUCTURAL FIRE RESISTANCE RATINGS**

1. BEARING AND NONBEARING EXTERIOR WALLS WITH 10' OR MORE FIRE SEPARATION DISTANCE:  
 0 - HOUR (TABLE 601 / TABLE 602)
2. NONBEARING WALLS - INTERIOR:  
 0 - HOUR (TABLE 601)
3. STRUCTURAL FRAME:  
 0 - HOUR (TABLE 601)
4. FLOOR CONSTRUCTION:  
 0 - HOUR (TABLE 601)
5. ROOF CONSTRUCTION:  
 0 - HOUR (TABLE 601)

**CODE ANALYSIS - GENERAL**

**BASIC BUILDING DESCRIPTION**

1. FIRST FLOOR - (OCCUPIED) 4,502 SF
2. BUILDING HEIGHT - APPROX. 19'-7"

**APPLICABLE CODES**

1. 2012 EDITION OF THE INTERNATIONAL BUILDING CODE
2. 2012 EDITION OF THE INTERNATIONAL FIRE CODE
3. NFPA 70, NATIONAL ELECTRICAL CODE - 2014 EDITION
4. NFPA 72, NATIONAL FIRE ALARM CODE - 2013 EDITION
5. NFPA 101, LIFE SAFETY CODE - 2015 EDITION

**OCCUPANT LOAD INFORMATION**

1. STORAGE: 300 GROSS SF PER PERSON
2. BUSINESS/OFFICE 100 GROSS SF PER PERSON

**OCCUPANT LOAD**

STORAGE	3,342	300	12
BUSINESS	1,160	100	12
			TOTAL 24

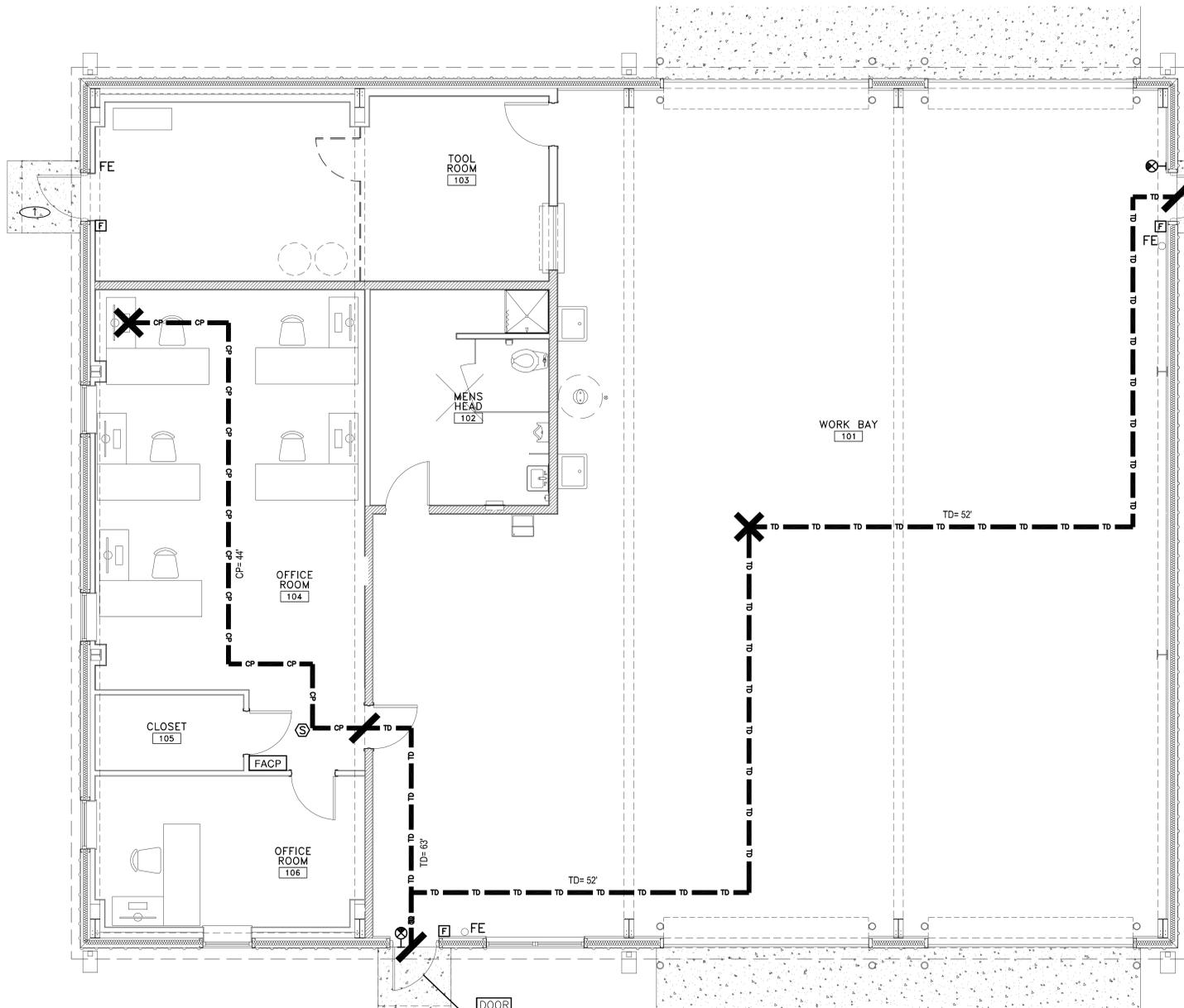
**ALLOWABLE & ACTUAL EGRESS DISTANCES (FT):**

	ALLOWABLE	ACTUAL
TRAVEL DISTANCE	200'	63'
COMMON PATH	50'	44'
DEAD END CORRIDOR	20'	NA

EXITS (REQUIRED/PROVIDED): 2 / 2  
 (BASED ON TABLE 1021.2(2))

NO FIRE SPRINKLER PROTECTION REQUIRED  
 PER UFC 3-600-01 SECTION 4.2.2- TYPE II CONSTRUCTION  
 NO AUTOMATIC SPRINKLER PROTECTION IS REQUIRED FOR BUILDING < 15,000 SF

FIRE EXTINGUISHER TABLE					
TYPE	RATING	HAZARD	QTY	ROOM #	ROOM NAME
DRY CHEMICAL	4A:80B-C	CLASS A/B/C	2	101	WORK BAY
			TOTAL	2	



DOOR
3.3
0.2
1.65
8

DOOR
3.3
0.2
1.65
1.6

**A LIFE SAFETY PLAN**  
 1/4"=1'-0"

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**GRAPHIC SCALE**  
 0 1 2 3 4 5 6 7 8  
 Scale: 1/4"=1'-0"

**LS-1**

AVOLIS ENGINEERING, P.A. LICENSE NO. C-2076  
 P.O. BOX 15564  
 NEW BERN, NC 28561  
 PH (252) 633-0068, FAX (252) 633-6507

DEPT. OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND  
**MARINE CORPS BASE**  
 CAMP LEJEUNE, NORTH CAROLINA

16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP  
 MACS-2, "DET B"

**LIFE SAFETY PLAN & CODE ANALYSIS**

DESIGNED BY: J. C. AVOLIS, P.E.  
 CHECKED BY: D. NAM  
 SUBMITTED BY: J. C. AVOLIS, P.E.  
 DESIGN DIR.: T. H. BURTON

APPROVED: PWO OR OIC

DATE: 7-21-16

SIZE: F  
 CODE IDENT. NO: 80091  
 NAVFAC DRAWING NO: 60016622  
 CONSTR. CONTR. NO. N40085-16-B-0058

SATISFACTORY TO: DATE: SCALE: NOTED SPEC: 05-16-0058 SHEET 8 OF 32

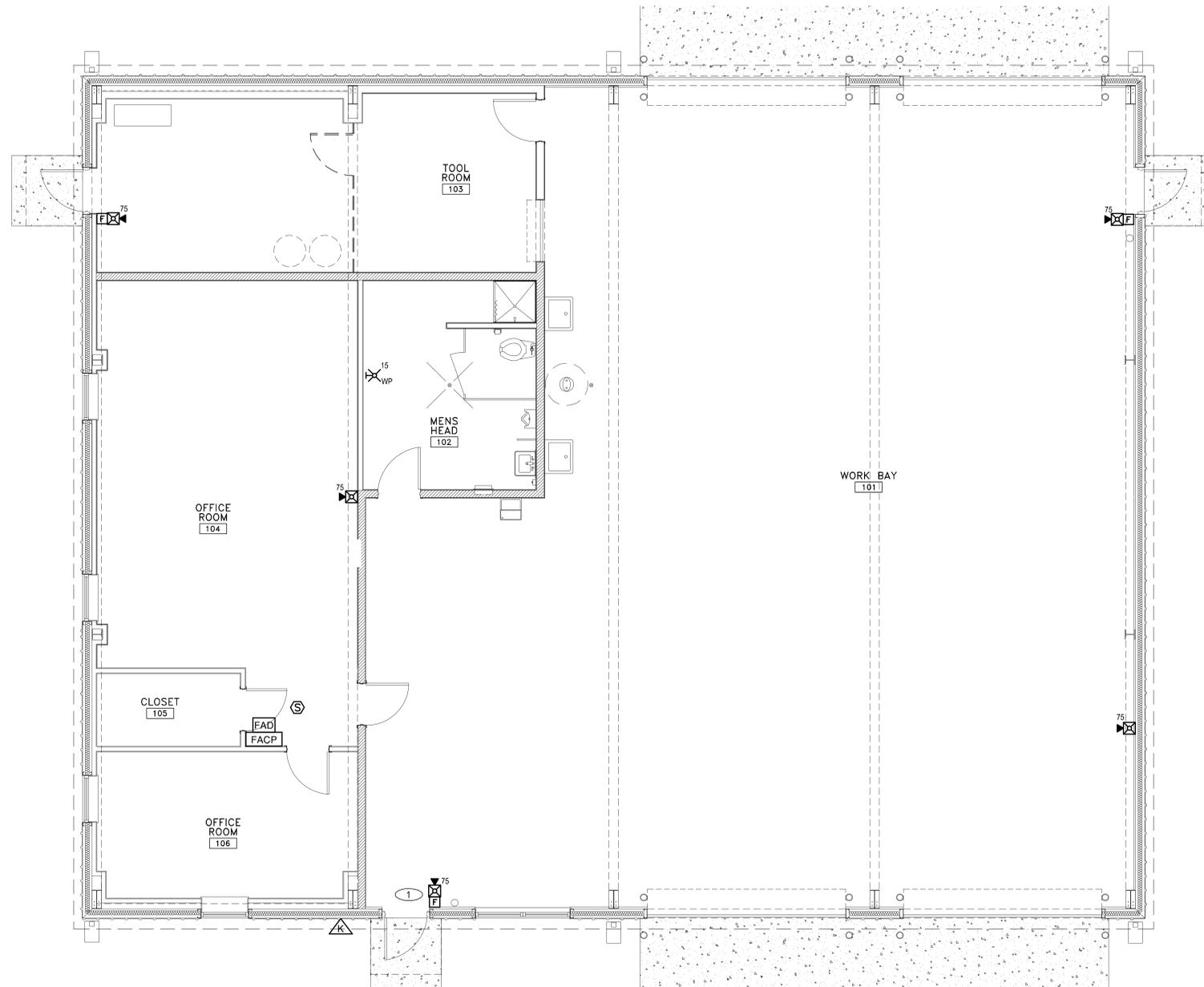
Lovent Consultants  
 4405 Morris Park Dr. Suite 111  
 Miami, FL 33157  
 PH: 771-345-8383  
 NC Fire License No: F-02396  
 Fire Protection & Building Code Specialists



REVISIONS			
SYM		DATE	APPROVED

**KEY NOTES:**

- 1 PROVIDE A MANUAL STATION CONNECTED TO A SEPARATE CIRCUIT THAT IS NOT PLACED "ON TEST" WHEN THE FIRE ALARM SYSTEM IS PLACED "ON TEST".



**LEGEND**

- [E] MANUAL PULL STATION
- [S] SMOKE DETECTOR
- [X#] STROBE; # INDICATES CANDELA RATING
- [X#] SPEAKER STROBE; # INDICATES CANDELA RATING
- [FACP] FIRE ALARM CONTROL PANEL
- [RTS] REMOTE TEST STATION
- [FAD] FIRE ALARM DOCUMENTS
- [K] FIRE DEPARTMENT KNOX BOX
- [BATT] BATTERY CABINET
- [DACT] DIGITAL ALARM COMMUNICATOR TRANSMITTER
- [EOL] END OF LINE RESISTOR
- [MIC] MICROPHONE
- [S/P] SURGE PROTECTOR
- [S] IN DUCT SMOKE DETECTOR

**SUBSCRIPTS**

WP - WEATHERPROOF

**GENERAL NOTES:**

- INSTALL A NEW COMPLETE ADDRESSABLE FIRE ALARM SYSTEM IN COMPLIANCE WITH NFPA 72-2013 EDITION AND NFPA 70-2014 EDITION FOR AN EMERGENCY VOICE ALARM COMMUNICATION SYSTEM. THE SYSTEM SHALL INTEGRATE WITH THE INSTALLATION BASE-WIDE MASS NOTIFICATION SYSTEM (WAVES).
- ALL CONDUIT, WIRE AND CABLES SHALL BE CONCEALED IN WALLS, CEILING SPACES, ELECTRICAL SHAFTS OR CLOSETS. CONDUIT MAY BE EXPOSED IN UNFINISHED AREA. PAINTED SURFACE WIRE MOLD MAY BE USED IN FINISHED AREAS WHERE IT IS NOT FEASIBLE TO CONCEAL CONDUIT AND WIRING. RUN ALL WIRE IN METAL CONDUIT.
- RUN TWO CAT 6 LINES IN 1" CONDUIT FROM THE DACT TO THE TERMINAL BLOCK. COORDINATE WITH CONTRACTING OFFICER THE LOCATION OF THE TERMINAL BLOCK. LABEL FA-1 AND FA-2.
- ALL CIRCUITS TO BE CLASS "B".
- THE FIRE ALARM SYSTEM IS TO BE FULLY COMPLIANT WITH THE CURRENT EDITION OF NFPA 72.
- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS THAT MAY AFFECT THE SYSTEM INSTALLATION OR COMPLIANCE WITH NFPA 72, AND NOTIFY THE CONTRACTING OFFICER PRIOR TO BEGINNING WORK.
- THE DEVICE LOCATIONS SHOW THE INTENT OF COVERAGE. FINAL DEVICE PLACEMENT SHALL BE DETERMINED BY THE CONTRACTOR AND CONVEYED THROUGH THE SHOP DRAWINGS.
- CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR REQUIRED TO CONNECT THE NEW FIRE ALARM AND DETECTION SYSTEM TO THE BASE'S SUPERVISING STATION. ALL FIRE ALARM PANEL POINTS MUST BE PROGRAMMED AS INDIVIDUAL POINTS AT THE HEAD END. THE CONTRACTOR IS RESPONSIBLE FOR PROGRAMMING THE FIRE ALARM AND REPORTING SETTINGS AND HEAD END EQUIPMENT.
- CONTRACTOR TO ENSURE THAT SPEAKERS IN THE VICINITY OF THE FACP WILL NOT CREATE ACOUSTICAL FEED BACK OR OTHERWISE INTERFERE WITH THE ABILITY TO DELIVER LIVE VOICE MESSAGES.
- MINIMUM CANDELA SHOWN. CONTRACTOR SHALL DETERMINE FINAL STROBE CANDELA RATING IN ACCORDANCE WITH THE CURRENT EDITION OF NFPA 72 AND FINAL DEVICE PLACEMENT.
- CONTRACTOR SHALL DRESS AND SECURE ALL WIRES, CONDUIT, CABLES AND EQUIPMENT IN A NEAT AND PROFESSIONAL MANNER.
- FACP TO BE COMPATIBLE WITH A SUR-GUARD SYSTEM III MULTI-PLATFORM DIGITAL TELEPHONE RECEIVER.
- PROVIDE REMOTE TEST STATION FOR ALL INDUCT SMOKE DETECTORS.
- COORDINATE LOCATION OF INDUCT DETECTORS WITH MECHANICAL. REFERENCE DETAILS C&E / FA-2 FOR REQUIREMENTS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WORK WITH OTHER TRADES.

**A FIRE ALARM PLAN**  
 1/4"=1'-0"  
 NORTH

DISCLOSURE OF INFORMATION  
 CONTRACTOR SHALL COMPLY AS FOLLOWS:  
 (A) THE CONTRACTOR SHALL NOT RELEASE TO ANYONE OUTSIDE THE CONTRACTOR'S ORGANIZATION ANY UNCLASSIFIED INFORMATION, REGARDLESS OF MEDIUM (E.G., FILM, TAPE, DOCUMENT), PERTAINING TO ANY PART OF THIS CONTRACT OR ANY PROGRAM RELATED TO THIS CONTRACT, UNLESS:  
 (1) THE CONTRACTING OFFICER HAS GIVEN PRIOR WRITTEN APPROVAL, OR  
 (2) THE INFORMATION IS OTHERWISE IN THE PUBLIC DOMAIN BEFORE THE DATE OF RELEASE.  
 (B) REQUESTS FOR APPROVAL SHALL IDENTIFY THE SPECIFIC INFORMATION TO BE RELEASED, THE MEDIUM TO BE USED, AND THE PURPOSE FOR THE RELEASE. THE CONTRACTOR SHALL SUBMIT ITS REQUEST TO THE CONTRACTING OFFICER AT LEAST 45 DAYS BEFORE THE PROPOSED DATE FOR RELEASE.  
 (C) THE CONTRACTOR AGREES TO INCLUDE A SIMILAR REQUIREMENT IN EACH SUBCONTRACT UNDER HIS CONTRACT. SUBCONTRACTORS SHALL SUBMIT REQUESTS FOR AUTHORIZATION TO RELEASE THROUGH THE PRIME CONTRACTOR TO THE CONTRACTING OFFICER.

<b>GRAPHIC SCALE</b> 0 1 2 3 4 5 6 7 8 Scale: 1/4"=1'-0"		<b>FA-1</b>
AVOLIS ENGINEERING, P.A. LICENSE NO. C-20708 P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0068, FAX: (252) 633-6507 DES. J. LOVETT DR. D. NAM CHK. B. LOVETT SUBMITTED BY: J. C. AVOLIS, P.E. DESIGN DIR.: T. H. BURTON APPROVED: PWO OR OIC		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP</b> <b>MACS-2, "DET B"</b>		<b>FIRE ALARM PLAN</b> NAVFAC DRAWING NO. <b>60016623</b> CONSTR. CONTR. NO. N40085-16-B-0058
SATISFACTORY TO:	DATE:	SCALE: NOTED SPEC. 05-16-0058 SHEET 9 OF 32

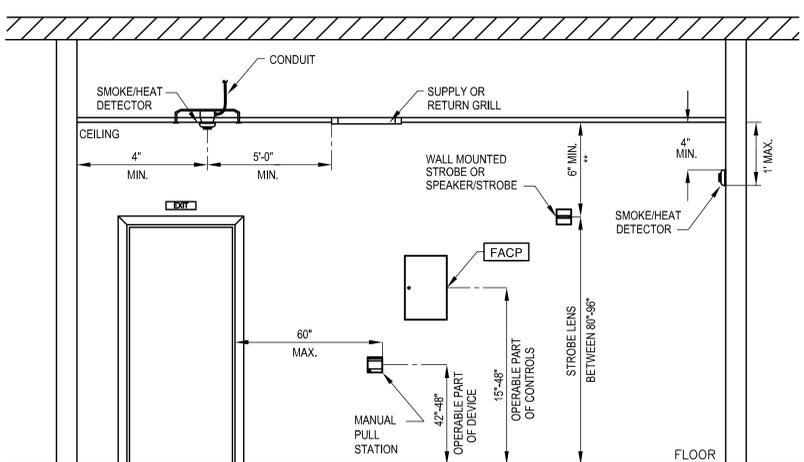


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 Tel: 252-633-0068  
 NC Fire License No: F-0298  
 Fire Protection & Building Code Specialists

REVISIONS		
SYM	DATE	APPROVED

**KEY NOTES:**

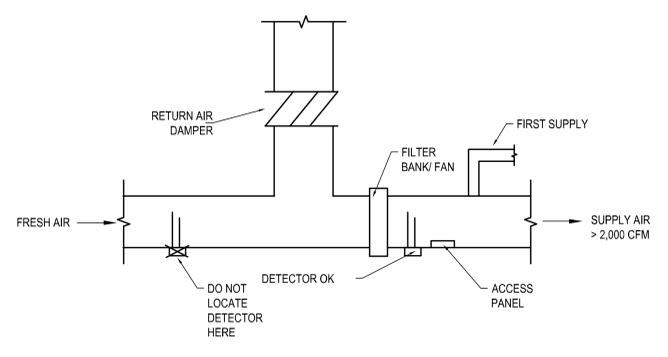
- 1 PROVIDE A MANUAL STATION CONNECTED TO A SEPARATE CIRCUIT THAT IS NOT PLACED 'ON TEST' WHEN THE FIRE ALARM SYSTEM IS PLACED 'ON TEST'.



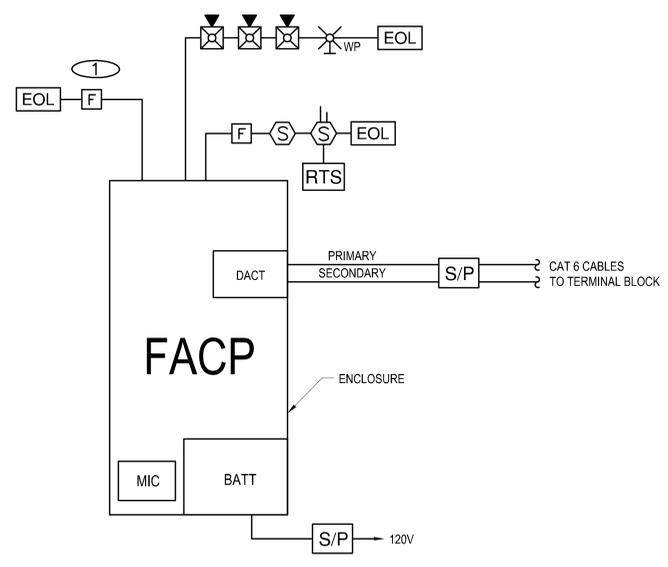
**A MOUNTING HEIGHTS**  
FA 2 FA 2 NTS

ACTION TO BE INITIATED	ACTION TO BE INITIATED											
	ACTIVATE AUDIBLE & VISUAL ALARM SIGNAL INDICATOR & ALARM @ FACP	ACTIVATE AUDIBLE & VISUAL SUPERVISORY SIGNAL INDICATOR & ALARM @ FACP	ACTIVATE AUDIBLE & VISUAL TROUBLE SIGNAL INDICATOR & ALARM @ FACP	DISPLAY/PRINT CHANGE OF STATUS ON FACP	TRANSMIT SIGNAL TO SUPERVISING STATION	ACTIVATE AUDIBLE & VISUAL APPLIANCES	OVERRIDE / SILENCE BUILDING PA SYSTEM, IF PROVIDED	OVERRIDE PRE-RECORDED DIGITIZED VOICE MESSAGE	SHUTDOWN ASSOCIATED AHU	ACTIVATE FIRE ALARM AUDIBLE MESSAGE		
MANUAL PULL STATION	X			X	X	X	X			X		
SMOKE DETECTOR	X			X	X	X	X					X
IN-DUCT SMOKE DETECTOR		X		X	X					X		
FIRE ALARM AC POWER FAILURE			X	X	X							
FIRE ALARM SYS LOW BATTERY			X	X	X							
OPEN CIRCUIT/ GROUND FAULT			X	X	X							
NOTIFICATION APPLIANCE SHORT			X	X	X							
LIVE VOICE MESSAGE		X		X	X	X	X	X				

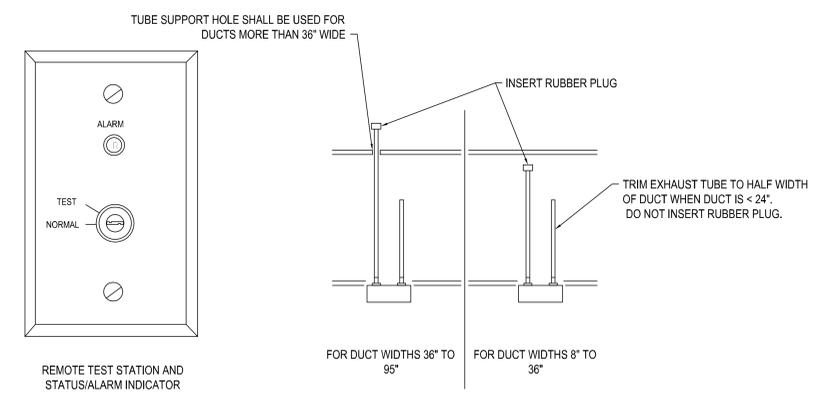
**B OPERATIONAL MATRIX**  
FA 2 FA 2 NTS



**C IN-DUCT SMOKE DETECTOR LOCATION**  
FA 2 FA 2 NTS



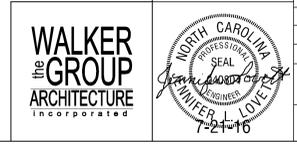
**D RISER DIAGRAM**  
FA 2 FA 2 NTS  
SEE FLOOR PLAN FOR EXACT NUMBER AND LOCATION OF DEVICES. COORDINATE NUMBER AND LOCATION OF IN-DUCT DETECTORS WITH MECHANICAL SYSTEMS.



**E IN-DUCT SMOKE DETECTOR**  
FA 2 FA 2 NTS

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<b>FA-2</b>	
AVOLIS ENGINEERING, P.A. P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0068, FAX: (252) 633-6507 DES. J. LOVETT DR. D. NAM CHK. B. LOVETT SUBMITTED BY: J. C. AVOLIS, P.E. DESIGN DIR. T. H. BURTON	DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MACS-2, "DET B"</b> <b>FIRE ALARM DETAILS</b> NAVFAC DRAWING NO. <b>60016624</b> CONSTR. CONTR. NO. N40085-16-B-0058
APPROVED: PWO OR OIC DATE: <b>F 80091</b> SCALE: NOTED	DATE: <b>7-24-10</b> SPEC. 05-16-0058 SHEET <b>10 OF 32</b>



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Fire Protection & Building Code Specialists

**WALKER GROUP ARCHITECTURE**  
INCORPORATED

REVISIONS		
SYM	DATE	APPROVED

**FOUNDATION NOTES:**

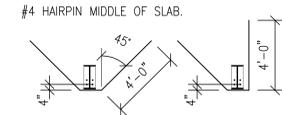
- DATUM FOR ALL ELEVATIONS GIVEN ON PLAN IS TOP OF CONCRETE SLAB ELEVATION = 0'-0". REFER TO CIVIL DRAWINGS FOR ACTUAL ELEVATION.
- TOP OF EXTERIOR PERIMETER COLUMN FOOTINGS ARE AT (-2'-0") UNLESS OTHERWISE NOTED THUS: (\_\_\_\_\_) ON PLAN INDICATING DISTANCE BELOW DATUM.
- FOR DOOR SILL LOCATIONS AND DETAILS, REFER TO ARCH. DWGS.
- BOTTOM OF SLAB TURN-DOWN ELEVATIONS ARE AT TOP OF FOOTING.
- ALL COLUMN DIMENSIONS SHALL BE VERIFIED AND SET BY PRE-ENGINEERED BUILDING MANUFACTURER.
- END WALL AND FRAME COLUMNS SHALL BE SET AS REQUIRED BY PRE-ENGINEERED BUILDING MANUFACTURER, AND ARCH. DETAILS.
- SLAB CONTROL JOINTS ARE INDICATED THUS: ( C.J. ) ON PLAN. CONTROL JOINTS MAY BE CONSTRUCTION JOINTS OR SAW JOINTS. REFER TO TYPICAL DETAILS.
- FOR GENERAL NOTES, REFER TO SHEET S-2.
- FOR BUILDING REACTION SCHEDULE, REFER TO THIS SHEET
- FOR TYPICAL DETAILS, REFER TO SHEET S-2.
- FOR FOOTING SCHEDULES, REFER TO THIS SHEET.

**PRE-ENGINEERED METAL BUILDING SYSTEM NOTES:**

- DESIGN PRE-ENGINEERED BUILDING SYSTEM IN ACCORDANCE WITH THE PRE-ENGINEERED METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) "DESIGN PRACTICES MANUAL".
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR THE DESIGN OF THE PRE-ENGINEERED METAL BUILDING SYSTEMS INCLUDING ROOF FRAMING AND COLUMNS / RIGID FRAMES, ANCHOR BOLT LAYOUT AND COLUMN REACTIONS APPLIED TO THE SUPPORTING STRUCTURE.
- SHOP DRAWINGS APPROVAL SHALL BE OBTAINED PRIOR TO FABRICATION OF ANY REINFORCING STEEL OR PLACING ANY FOUNDATIONS.
- DESIGN THE PRE-ENGINEERED METAL BUILDING SYSTEMS AS FOLLOWS:  
A. ROOF DEAD LOAD: WEIGHT OF ALL EQUIPMENT INDICATED (HUNG OR SUPPORTED), AS INDICATED IN MECHANICAL AND PLUMBING DRAWINGS, PLUS WEIGHT OF THE BUILDING AND A COLLATERAL DEAD LOAD OF 10 PSF.  
B. ROOF PURLINS SHALL BE DESIGNED TO WITHSTAND AN ADDITIONAL POINT LOAD OF 200 LBS.  
C. ROOF SNOW LOAD: AS INDICATED IN DESIGN CRITERIA.  
D. ROOF LIVE LOAD: AS INDICATED IN DESIGN CRITERIA.  
E. LATERAL LOAD: AS INDICATED IN DESIGN CRITERIA.
- THE COLUMNS SHALL BE DESIGNED TO HAVE PINNED BASES AND SHALL TRANSFER NO MOMENTS TO THE FOUNDATIONS. THE COLUMN BASE PLATES SHALL NOT EXTEND PAST THE BOUNDARIES OF THE STRUCTURAL SLAB.
- LIMIT DEFLECTION AS FOLLOWS:  
A. LATERAL DRIFT: H/180  
B. DEFLECTION OF COLUMNS, PURLINS, GIRTS, ETC.: L/240
- ANCHOR BOLTS HAVE NOT BEEN LOCATED. CONTRACTOR SHALL COORDINATE LAYOUT AND DESIGN WITH METAL BUILDING SUPPLIER BEFORE CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TO BE HUNG FROM THE STRUCTURE WITH THE METAL BUILDING SUPPLIER BEFORE CONSTRUCTION BEGINS.
- FOUNDATIONS HAVE BEEN DESIGNED BASED UPON PRELIMINARY LOADING AND COLUMN LOCATIONS. STRUCTURAL ENGINEER OF RECORD SHALL REVIEW SHOP DRAWINGS AND ISSUE REVISED DRAWINGS, AS REQUIRED TO SUPPORT ANY CHANGES, PRIOR TO FOUNDATION WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ANY REVISIONS AS A RESULT OF A CHANGE IN THE BUILDING DESIGN.

**SHEET KEY NOTES:**

- A UNLESS OTHERWISE NOTED PROVIDE A 6" CONCRETE SLAB ON GRADE OVER 10 MIL VAPOR RETARDER ON 6" POROUS FILL MATERIAL. REINF. SLAB W/ 6x6 - W2.9 x W2.9 W.W.F. PLACED 1/2" FROM TOP OF SLAB
- B FOR SIDEWALK AND CONCRETE PADS REFER TO CIVIL DRAWINGS.
- C RIGID FRAME COLUMN BY PEMB MFG.
- D EDGE OF CONCRETE
- E CENTERLINE OF FOOTING.
- F #4 HAIRPIN MIDDLE OF SLAB.
- G END WALL COLUMN BY PEMB. MFG.
- K FACE OF COLUMN
- L CROSS BRACING BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- M THICKEN SLAB AT PLATFORM BEARING WALL. FOR WALL LOCATION REFER TO ARCH DRAWINGS. FOR THICKENED SLAB DETAIL REFER TO TYPICAL DETAIL SHEET S-2



MARK	SIZE (LxWxTHICKNESS)	REINFORCEMENT (TOP & BOTTOM)
F5.5	5'-6" x 5'-6" x 1'-6"	6-#5 EA. WAY
F6.5	6'-6" x 6'-6" x 1'-6"	7-#5 EA. WAY

COLUMNS	DIRECTION	DL	LL	WL
A-1, E-1	HORIZONTAL	1	1	4
A-4, E-4	VERTICAL	1	1	-4
A-2, E-2, A-3, E-3	HORIZONTAL	1	1	8
	VERTICAL	4	5	-15
B-1, C-1, D-1	HORIZONTAL	2	5	8
B-3, C-3, D-3	VERTICAL	6	17	-17

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**GRAPHIC SCALE**

1/4" = 1'-0"  
0 2' 4' 8'

**S-1**

AVOLIS ENGINEERING, P.A.  
P.O. BOX 15564  
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DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND  
**MARINE CORPS BASE**  
CAMP LEJEUNE, NORTH CAROLINA

16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP  
MACS-2, "DET B"

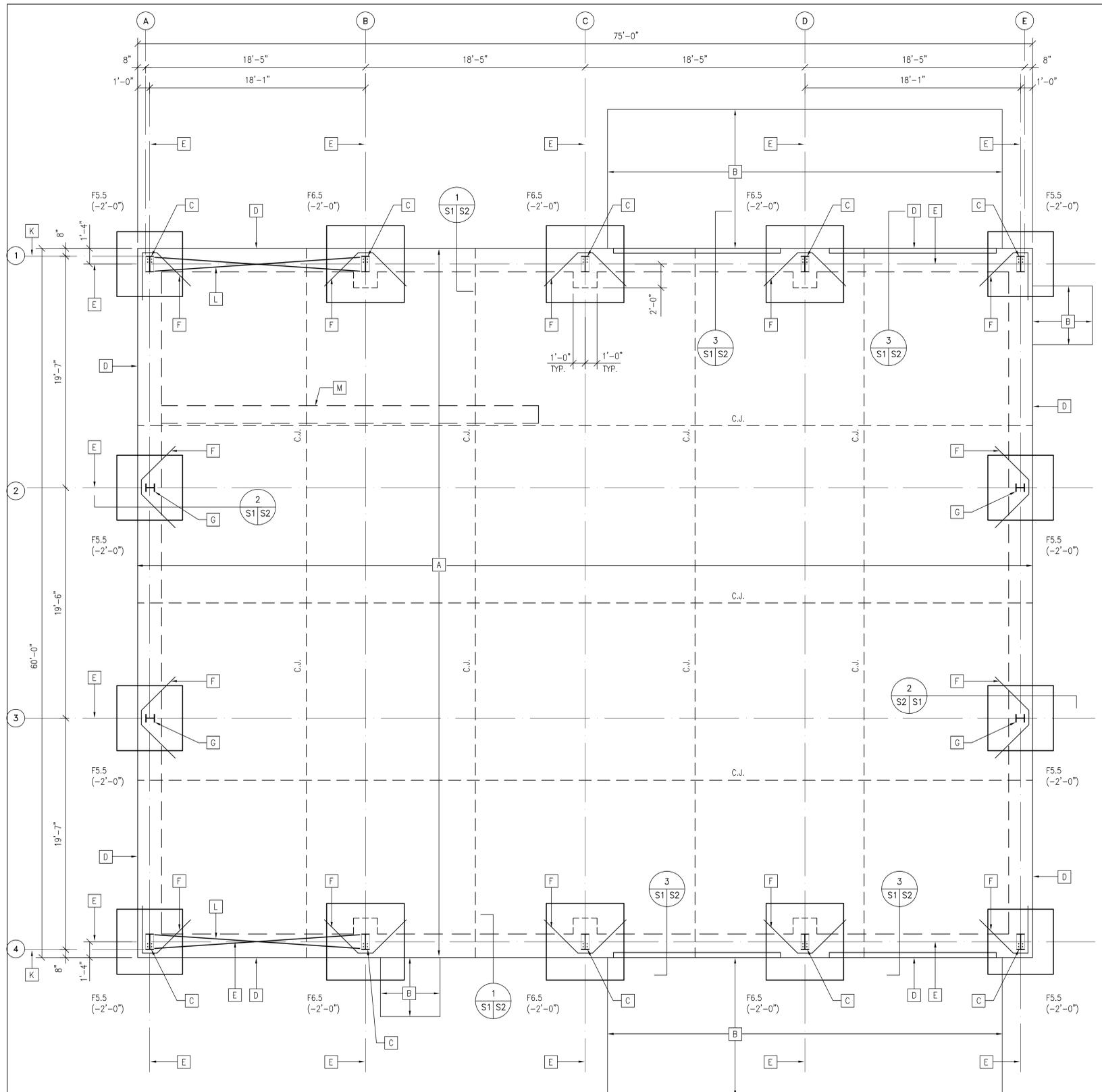
**FOUNDATION PLAN**

DESIGN DIR. T. H. BURTON  
APPROVED: PWO OR OICC  
DATE: 8/21/16  
SIZE: F  
CODE IDENT. NO: 80091  
NAVFAC DRAWING NO: 60016625  
CONSTR. CONTR. NO. N40085-16-B-0058

SATISFACTORY TO: DATE: SCALE: NOTED SPEC: 05-16-0058 SHEET 11 OF 32



**NRW**  
CONSULTING ENGINEERS  
740 LENOX SQUARE DRIVE, SUITE 101  
WESTON, MA 02456  
PHONE: (508) 471-0612 FAX: (508) 471-0919



**A FOUNDATION PLAN**  
1/4"=1'-0"



REVISIONS		
SYM	DATE	APPROVED

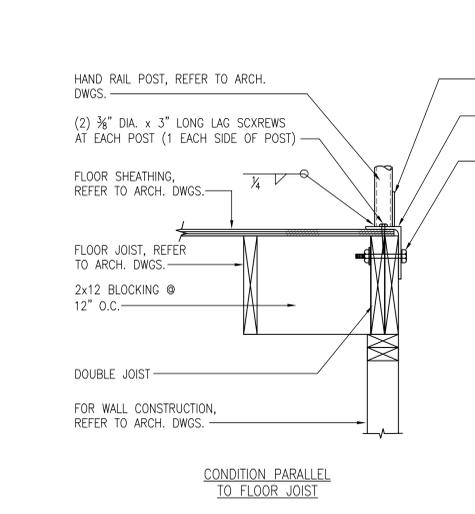
- GENERAL:**
- ALL WORK SHALL COMPLY WITH THE CODES LISTED BELOW AND THE SPECIFICATIONS.
  - THE CONTRACTOR SHALL VERIFY ALL DRAWINGS FOR COORDINATION BETWEEN TRADES, LOCATE SLOTS, SLEEVES AND TRENCHES AS REQUIRED FOR MECHANICAL TRADES. PROVIDE AND INSTALL ANCHORS, INSERTS, HANGERS, AS REQUIRED FOR VARIOUS TRADES.
  - UNDER NO CIRCUMSTANCES SHALL REPRODUCTION OF CONTRACT DRAWINGS BE USED AS SHOP DRAWINGS.
  - THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION AND ERECTION OF STRUCTURAL MEMBERS.
  - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF REINFORCEMENT DETAILS, STRUCTURAL STEEL, ETC. FOR APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND ACCEPT FULL RESPONSIBILITY FOR DIMENSIONAL CORRECTNESS.
  - TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED OTHERWISE.
  - STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL FRAMING. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS WHICH REQUIRE SPECIAL PROVISIONS DURING THE CONSTRUCTION OF THE STRUCTURAL FRAME.

- DESIGN CRITERIA:**
1. REFERENCED CODES: UFC-3-301-01 DESIGN: STRUCTURAL ENGINEERING. INTERNATIONAL BUILDING CODE, 2012 EDITION
- ACI 318 & COMMENTARY AISC, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN
- DESIGN LOADS:**
- LIVE LOADS: ROOF 20 PSF  
SLAB ON GRADE 250 PSF
  - ROOF SNOW LOADS: GROUND SNOW LOAD: P<sub>g</sub> = 10 PSF  
SNOW EXPOSURE FACTOR: C<sub>e</sub> = 1.0  
SNOW LOAD IMPORTANCE FACTOR: I = 1.0
  - WIND LOADS: ULTIMATE WIND SPEED 140 MPH, EXPOSURE C  
RISK CATEGORY II  
INTERNAL PRESSURE COEFFICIENT: +/- 0.18
  - COLLATERAL ROOF DEAD LOAD: 10 PSF

- FOUNDATION:**
- ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS INDICATED IN THE GEOTECHNICAL PREPARED BY ECS CAROLINAS, LLP, DATED JULY 15, 2015.
  - THE ENTIRE STRUCTURE SHALL BE FOUNDED ON VERY WELL COMPACTED (STRUCTURAL) FILL OR UNDISTURBED SOIL. ASSUMED DESIGN BEARING PRESSURE = 2000 P.S.F.
  - NO FOUNDATION WORK SHALL BE INSTALLED UNTIL ALL FOOTING WORK HAS BEEN COORDINATED WITH ADJACENT UNDERGROUND UTILITIES.

- SEISMIC LOADS:**
- SEISMIC USE GROUP: I  
SITE CLASS: D  
MAPPED ACCELERATION PERIMETERS:  
S<sub>ds</sub> = 0.15g  
S<sub>d1</sub> = 0.07g
- SEISMIC DESIGN CATEGORY: B  
RESPONSE MODIFICATION, R: 3.0  
DESIGN BASE SHEAR: V=0.053W

- CONCRETE WORK:**
- UNLESS OTHERWISE NOTED OR DETAILED ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE CODE (A.C.I. 318) AND ITS LATEST AMENDMENTS AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (A.C.I. 301).
  - FLOOR SLAB CONCRETE SHALL BE NORMAL WEIGHT AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT THE AGE OF 28 DAYS. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED. FOUNDATION CONCRETE SHALL BE NORMAL WEIGHT AGGREGATE CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT THE AGE OF 28 DAYS.
  - ALL REINFORCING SHALL CONFORM TO ASTM A-615, GRADE 60.
  - WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185, PROVIDED IN FLAT SHEETS.
  - REINFORCING STEEL MARKED CONTINUOUS (CONT.) SHALL BE LAPPED 48" (MINIMUM) AT SPLICES.
  - ALL REINFORCING STEEL SHALL BE HELD SECURELY IN PLACE TO PREVENT DISLOCATION DURING THE POURING OPERATION. SLAB REINFORCING BARS SHALL BE SUPPORTED ON HIGH CHAIRS AND BAR SPACERS OF SUITABLE DESIGN. "HOOKING" OF WELDED WIRE FABRIC SHALL NOT BE PERMITTED.
  - DETAILING OF ALL CONCRETE STEEL REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (A.C.I. 315).
  - NO CONCRETE SHALL BE PLACED UNTIL ALL EMBEDDED WORK HAS BEEN INSTALLED, TESTED AND INSPECTED.
  - EXCEPT AS OTHERWISE SHOWN MINIMUM PROTECTION (CONCRETE COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

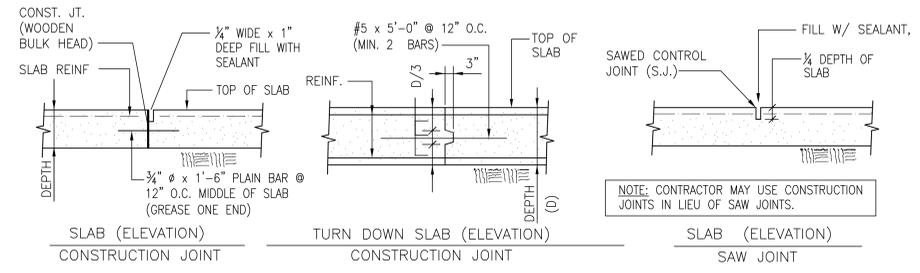


**TYPICAL HAND RAIL SUPPORT DETAILS**  
N.T.S.

- CONCRETE SURFACES EXPOSED TO SOIL OR VAPOR RETARDER:
- 1 1/2" FOR SLABS
  - 3" FOR FOOTINGS

- INTERIOR CONCRETE SURFACES:
- 3/4" FOR SLABS

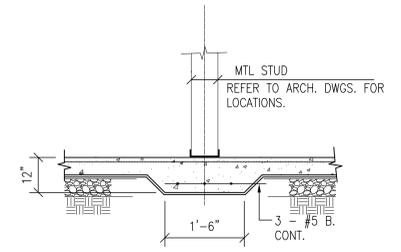
- CONCRETE SURFACES EXPOSED TO WEATHER:
- 2" FOR SLABS



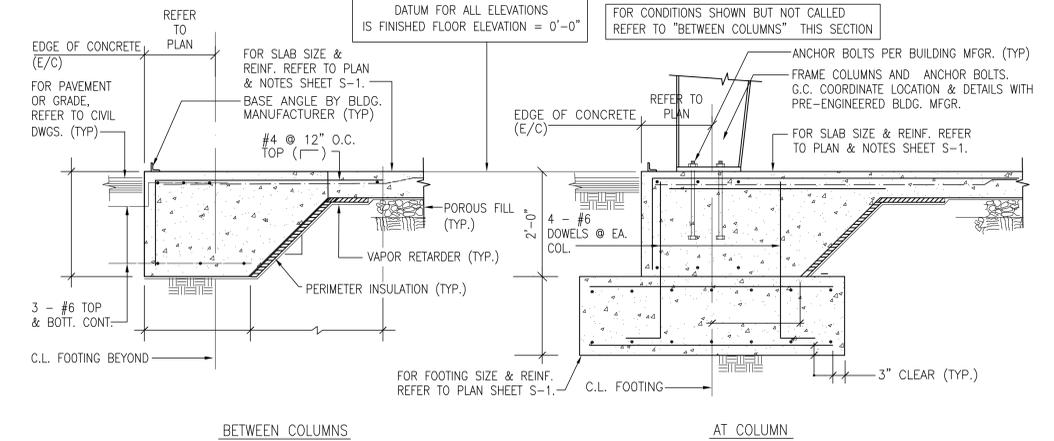
**TYPICAL JOINT DETAILS**  
N.T.S.

**CONTROL AND CONSTRUCTION JOINT NOTES**

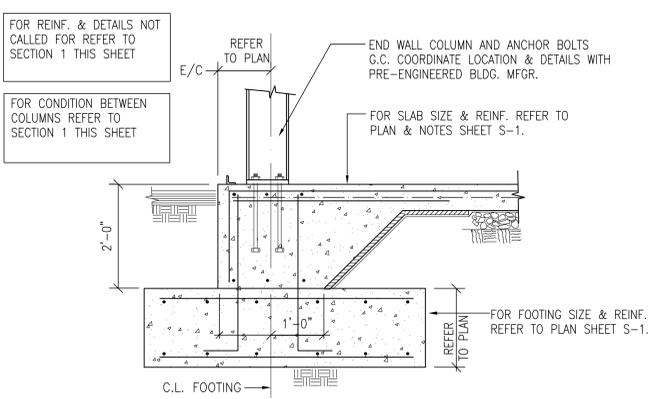
- SAWCUT JOINTS AT CONTROL JOINTS SHALL BE MADE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING OUT OF THE AGGREGATE AND DAMAGE TO THE EDGES, BUT NO LATER THAN 12 HOURS AFTER THE FINISHING OF THE SLAB SURFACE HAS BEEN COMPLETED.
- SAWCUT JOINTS SHALL BE MADE AT ALL CONSTRUCTION JOINTS. JOINTS MAY BE SAWCUT WHEN CONTROL JOINTS ARE SAWCUT OR AT ANY TIME PRIOR TO THE TIME THAT SEALANTS ARE TO BE INSTALLED IN THE CONSTRUCTION JOINT.
- IMMEDIATELY AFTER SAWCUTTING, CLEAN THE JOINT AND SLAB SURFACE WITH A HIGH PRESSURE WATER BLASTER (1000 PSI MIN.). WATER BLASTING SHALL REMOVE ALL LAITANCE AND OTHER CONTAMINANTS FROM THE JOINT AND SLAB SURFACE.
- CONTINUE CURING THE SLAB SURFACES AND JOINT AS SPECIFIED.
- NEAR THE COMPLETION OF THE PROJECT, (BUT AS A MINIMUM, 60 DAYS AFTER THE JOINTS ARE SAWCUT) RECLEAN ALL JOINTS WITH A WATER BLASTER AND BLOW CLEAN WITH COMPRESSED AIR.
- IMMEDIATELY AFTER BLOWING SURFACE DRY, PRIME THE SURFACES TO RECEIVE THE SEALANT, PLACE SEALANT FULL DEPTH OF JOINT.
- SEALANT FOR JOINTS SHALL BE 2-PART SELF LEVELING SEMI-RIGID EPOXY TYPE. SEALANT SHALL BE LEVEL WITHIN 1/8" BELOW THE SURFACE. REMOVE ANY EXCESS SEALANT THAT IS ABOVE THE FINISH FLOOR SURFACE ON EITHER SIDE OF THE JOINT. MAINTAIN A UNIFORM THICKNESS OF SEALANT THE FULL LENGTH OF ALL JOINTS.



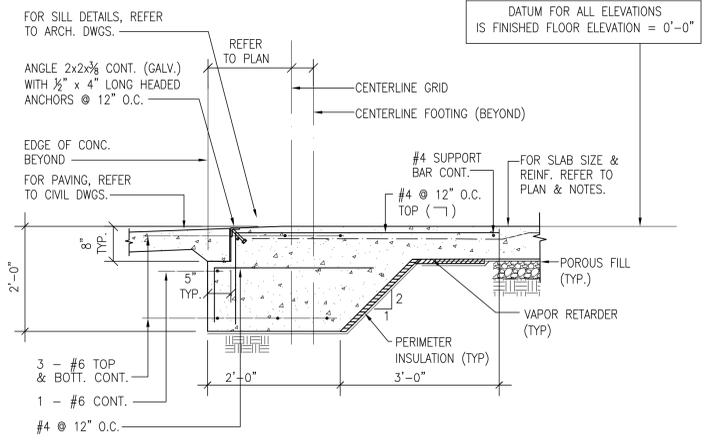
**TYPICAL THICKENED SLAB DETAIL**  
NOT TO SCALE



**SECTION 1**  
S-1(S-2)

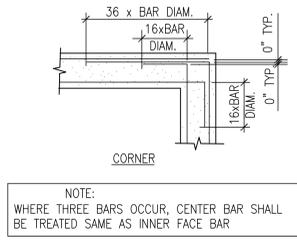


**SECTION 2**  
S-1(S-2)



**SECTION 3**  
S-1(S-2)

**TYPICAL DETAIL SHOWING CONTINUOUS REINFORCING AT CORNERS**  
N.T.S.



NOTE: WHERE THREE BARS OCCUR, CENTER BAR SHALL BE TREATED SAME AS INNER FACE BAR

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**GRAPHIC SCALE**  
3/4" = 1'-0"

**AVOLIS ENGINEERING, P.A.**  
P.O. BOX 15564  
NEW BERN, NC 28561  
PH: (252) 633-0088, FAX: (252) 633-6507

**MARINE CORPS BASE**  
CAMP LEJUNE, NORTH CAROLINA

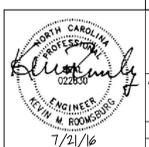
16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP  
MACS-2, "DET B"

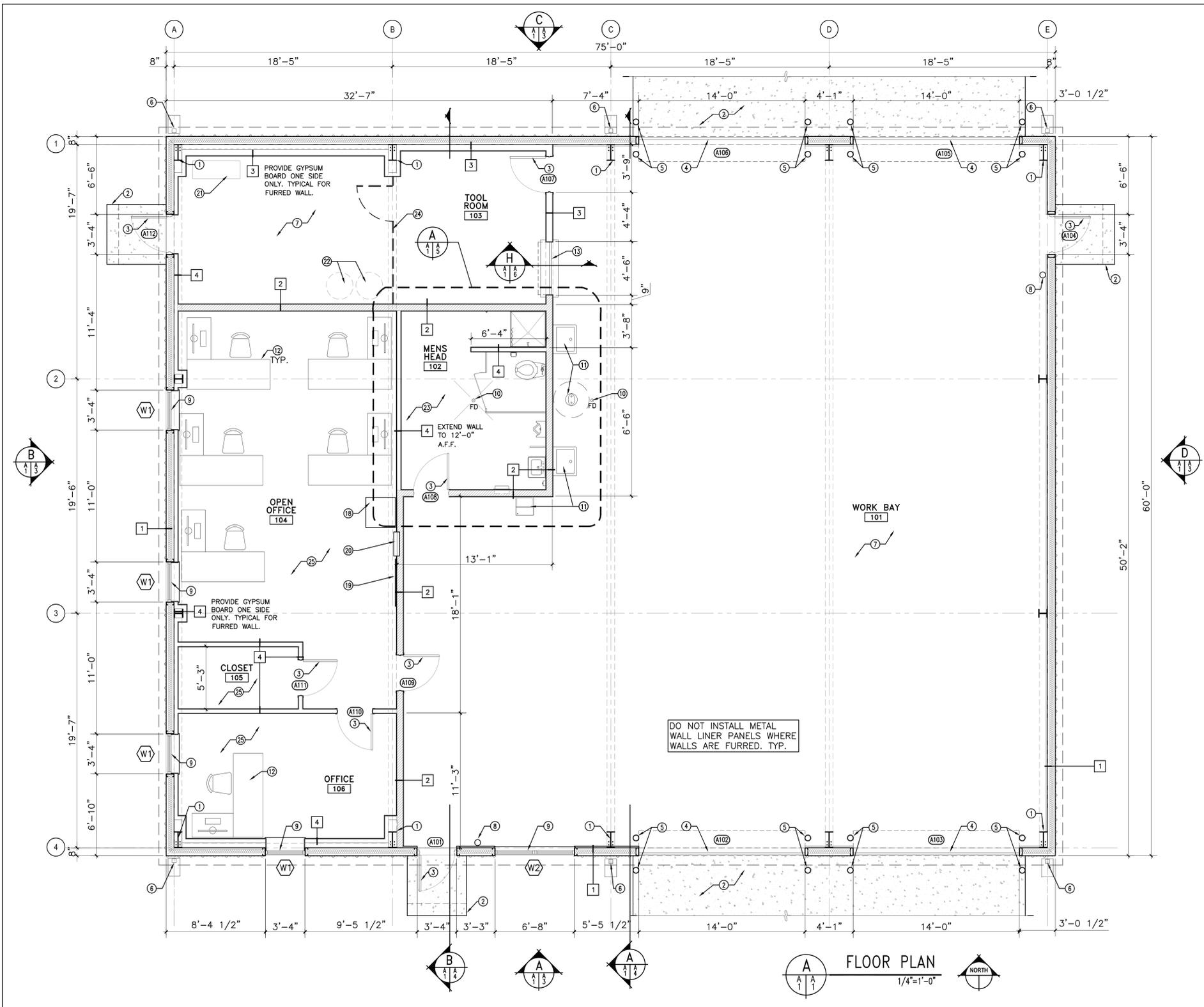
**TYPICAL DETAILS, GENERAL NOTES & SECTIONS**

DESIGN DIR. T. H. BURTON  
APPROVED: PWO OR OICD

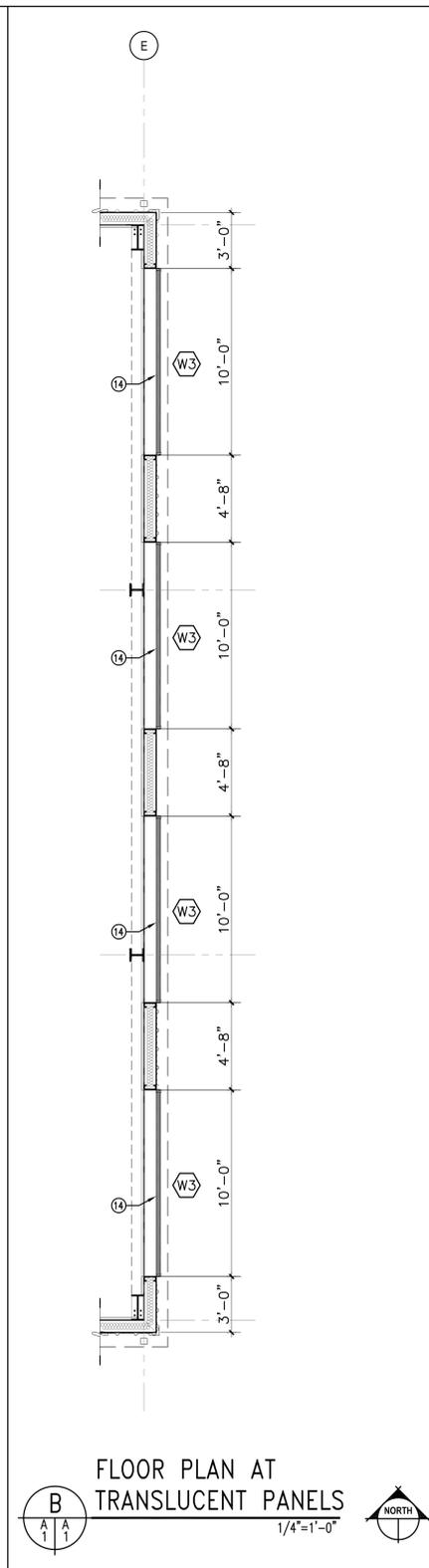
DATE SIZE CODE IDENT. NO. NAVFAC DRAWING NO.  
F 80091 60016626

SATISFACTORY TO: DATE DATE DATE  
SCALE: NOTED SPEC: 05-16-0058 SHEET 12 OF 32





**FLOOR PLAN**  
1/4"=1'-0"



**FLOOR PLAN AT TRANSLUCENT PANELS**  
1/4"=1'-0"

REVISIONS		
SYM	DATE	APPROVED

**GENERAL NOTES**

- CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE FEATURES BEFORE COMMENCING WORK.
- SEE CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES.

**CONSTRUCTION NOTES**

**MARK DESCRIPTION**

1	PRE-ENGINEERED STEEL BENT, BY METAL BUILDING MANUFACTURER, PAINT WHERE EXPOSED.
2	CONCRETE PORCH/APRON, SEE CIVIL FOR ADDITIONAL NOTES.
3	STEEL DOOR AND HOLLOW METAL FRAME. SEE DOOR SCHEDULE, PAINT.
4	14'-0"W X 16'-0"H MANUAL COILING DOOR. SEE DOOR SCHEDULE.
5	6" CONCRETE FILLED PIPE BOLLARD. SEE CIVIL FOR ADDITIONAL NOTES, PAINT.
6	METAL GUTTER AND DOWNSPOUTS W/ CONCRETE SPLASH BLOCK.
7	PROVIDE WATER BOURNE SEALER ON CONCRETE SLAB. SEE FINISH SCHEDULE.
8	FIRE EXTINGUISHER, SEE SHEET LS-1.
9	ALUMINUM WINDOW WITH 1" INSULATED GLAZING. PROVIDE 3/4" SOLID SURFACE WINDOW SILL. SEE WINDOW SCHEDULE.
10	FLOOR DRAIN, SEE PLUMBING FOR ADDITIONAL NOTES.
11	PLUMBING FIXTURE. SEE PLUMBING FOR ADDITIONAL NOTES.
12	FURNITURE PROVIDED BY GOVERNMENT.
13	4'-6"W X 4'-0"H METAL COILING PASS THRU WINDOW. SEE DETAIL H/A-6.
14	TRANSLUCENT WALL PANEL. SEE DETAIL G/A-6. SEE WINDOW SCHEDULE. SEE ELEVATIONS.
15	1 1/2" DIAMETER GALVANIZED PIPE GUARD RAIL, 42"H. SEE D/A-6.
16	CHAIN CLOSURE FOR PLATFORM ACCESS IN PIPE GUARD RAIL.
17	3/4" T&G SHEATHING OVER 2X12 FLOOR JOISTS @ 16" O.C. FINISH UNDERSIDE WITH 5/8" GYPSUM WALL BOARD.
18	LOCKABLE IT DATA/COM CABINET, SEE ELECTRICAL.
19	PHONE BOARD, SEE ELECTRICAL.
20	ELECTRICAL PANEL, SEE ELECTRICAL.
21	AIR COMPRESSOR, SEE SHEET P-101.
22	HYDRAULIC OIL, TANKS SUPPLIED BY OTHERS, SEE PLUMBING.
23	PROVIDE CERAMIC TILE FLOOR, COVE BASE, AND TILE WAINSCOT TO 5'-0" A.F.F. SEE FINISH SCHEDULE. PAINT GYPSUM ABOVE.
24	PROVIDE NEW PRE-FINISHED STEEL CAGE WITH LOCKABLE GATE. FULL HEIGHT TO 9'-0" A.F.F.

**BID OPTION 4**

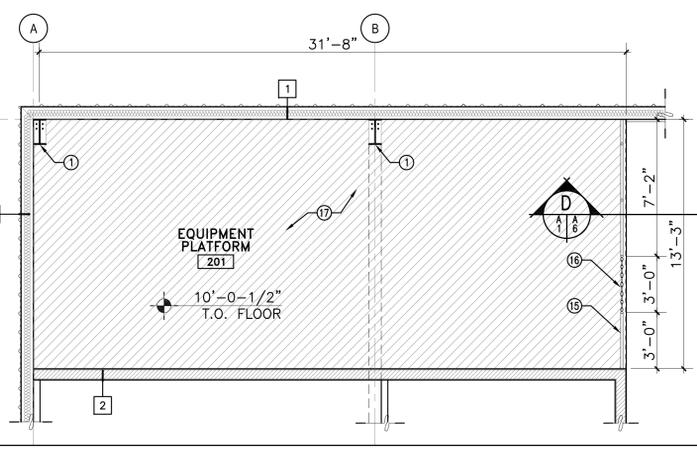
26	PROVIDE EPOXY FLOOR WITH INTEGRAL COVE BASE. SEE FINISH SCHEDULE. BASE BID SHALL BE SEALED CONCRETE FLOOR.
----	--

**WALL TYPES**

1	26GA. PRE-ENGINEERED METAL BUILDING WALL PANELS, BY-PASS WALL GIRTS, R-19 VINYL REINFORCED BATT INSULATION. 26GA METAL WALL LINER TO 10'-0" A.F.F. (UNLESS NOTED OTHERWISE).
2	6" 20GA. METAL STUDS @16" O.C WITH 5/8" GYPSUM BOARD BOTH SIDES. EXTEND GYPSUM BOARD TO 6" ABOVE FINISH CEILING IN ROOMS 102, 104, & 106. EXTEND GYPSUM BOARD TO ROOF DECK IN ROOMS 101 & 103. (UNLESS NOTED OTHERWISE). FINISH & PAINT.
3	6" 20GA. METAL STUDS @ 16" O.C. WITH 5/8" GYPSUM BOARD BOTH SIDES. (UNLESS NOTED OTHERWISE). FINISH & PAINT. EXTEND TO BOTTOM OF WOOD JOIST. APPROXIMATELY 9'-0"H.
4	3 5/8" 26GA. METAL STUDS @16" O.C WITH 5/8" GYPSUM BOARD BOTH SIDES. (UNLESS NOTED OTHERWISE). FINISH & PAINT. EXTEND GYPSUM BOARD TO 6" ABOVE FINISH CEILING (UNLESS NOTED OTHERWISE).



**FLOOR PLAN EQUIPMENT PLATFORM**  
1/4"=1'-0"



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<b>GRAPHIC SCALE</b> 0 1 2 3 4 5 6 7 8 Scale: 1/4"=1'-0"		<b>A-1</b>	
AVOLIS ENGINEERING, P.A. P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0988, FAX: (252) 633-6507 DES. G.NIEVES DR. G.NIEVES CHK. J.C. AVOLIS, P.E. SUBMITTED BY: J.C. AVOLIS, P.E. DESIGN DIR. T.H. BURTON APPROVED: PWO OR DICG SATISFACTORY TO:		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MAGS-2, "DET B" FLOOR PLAN NAVFAC DRAWING NO. 60016627 CONSTR. CONTR. NO. N40085-16-B-0058 SCALE: NOTED SPEC. 05-16-0058	
<b>WALKER GROUP ARCHITECTURE</b> INCORPORATED 		SHEET 13 OF 32	

REVISIONS

SYM	DATE	APPROVED

GENERAL NOTES

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CONSTRUCTION NOTES

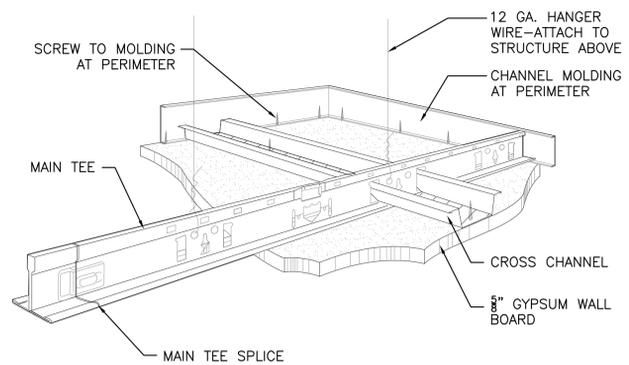
MARK	DESCRIPTION
1	PRE-ENGINEERED STEEL BENT, BY METAL BUILDING MANUFACTURER, PAINT WHERE EXPOSED.
2	METAL GUTTER AND DOWNSPOUTS W/ CONCRETE SPLASH BLOCK.
3	STEEL PURLIN, BY PRE-ENGINEERED METAL BUILDING MANUFACTURER, PAINT.
4	26 GA. PRE-ENGINEERED METAL BUILDING ROOF PANELS.
5	PROVIDE NEW METAL CANOPY BY PRE-ENGINEERED BUILDING MANUFACTURER, SLOPE 1/4" MIN.
6	PROVIDE NEW LIGHTING. SEE CEILING LEGEND. SEE ELECTRICAL FOR ADDITIONAL NOTES.
7	PROVIDE NEW R-30 VINYL REINFORCED BATT INSULATION.
8	PROVIDE NEW 5/8" GYPSUM BOARD CEILING SYSTEM. SEE A/A-2.
9	PROVIDE NEW 5/8" GYPSUM BOARD CEILING. ATTACH DIRECTLY TO 2X12 JOIST FRAMING. SEE CEILING LEGEND.
10	PROVIDE COMPRESSED AIR AND HYDRAULIC OIL REEL AND DROP DOWN HOSES. SEE MECHANICAL FOR LOCATIONS.
11	PROVIDE MECHANICAL SUPPLY/RETURN AIR DIFFUSER. SEE MECHANICAL FOR ADDITIONAL NOTES.
12	PROVIDE INFRARED HEATER. SEE MECHANICAL FOR ADDITIONAL NOTES.
13	PROVIDE NEW EXHAUST FAN. SEE MECHANICAL FOR ADDITIONAL NOTES.

CEILING LEGEND

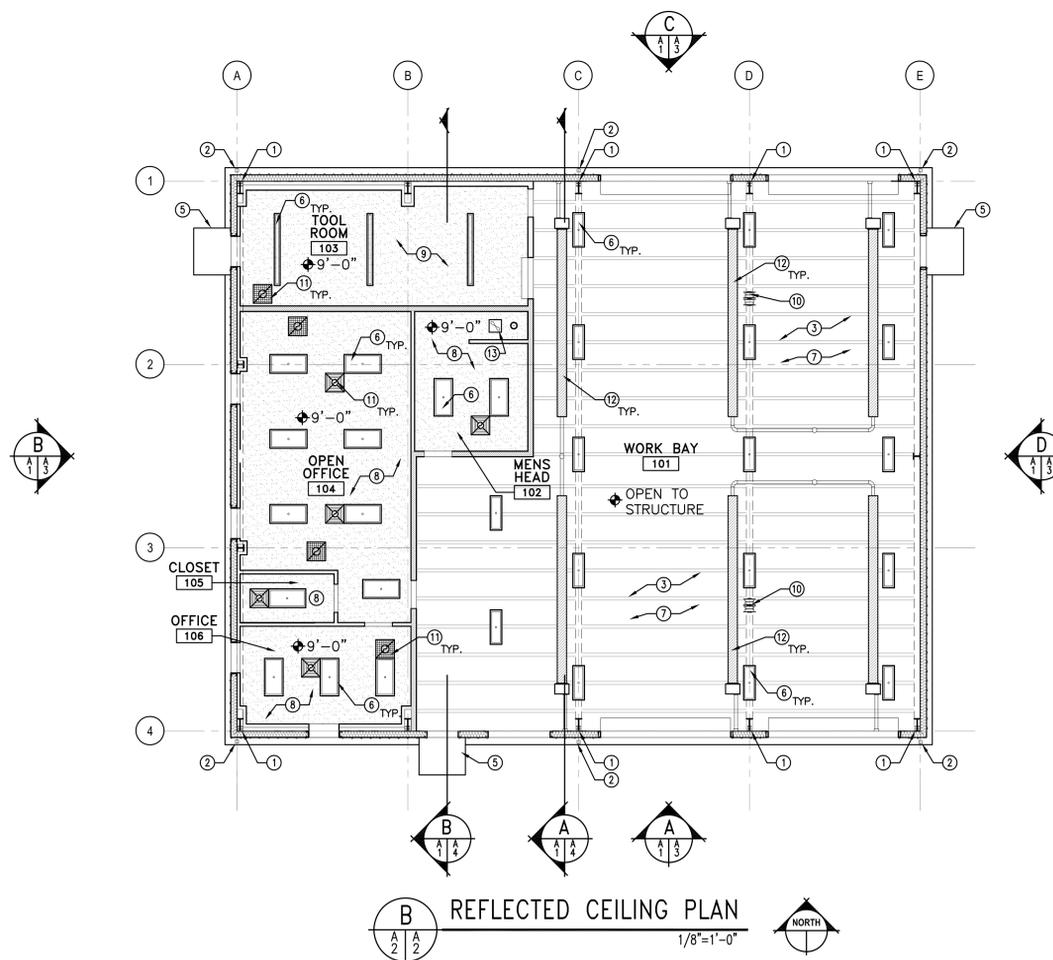
◆ 0'-0"	CEILING HEIGHT
[Pattern]	GYPSUM BOARD CEILING FINISH & PAINT
[Pattern]	EXPOSED ROOF PURLINS AND VINYL REINFORCED INSULATION.
[Symbol]	FLUORESCENT LUMINAIRE*
[Symbol]	FLUORESCENT LUMINAIRE*
[Symbol]	HIGH BAY FLUORESCENT LUMINAIRE*
[Symbol]	RECESSED CAN LUMINAIRE*
[Symbol]	SUPPLY AIR DIFFUSER*
[Symbol]	RETURN AIR DIFFUSER*
[Symbol]	CEILING MOUNT EXHAUST FAN*
[Symbol]	INFRARED HEATER*
*SEE MECHANICAL/ ELECTRICAL PLANS	

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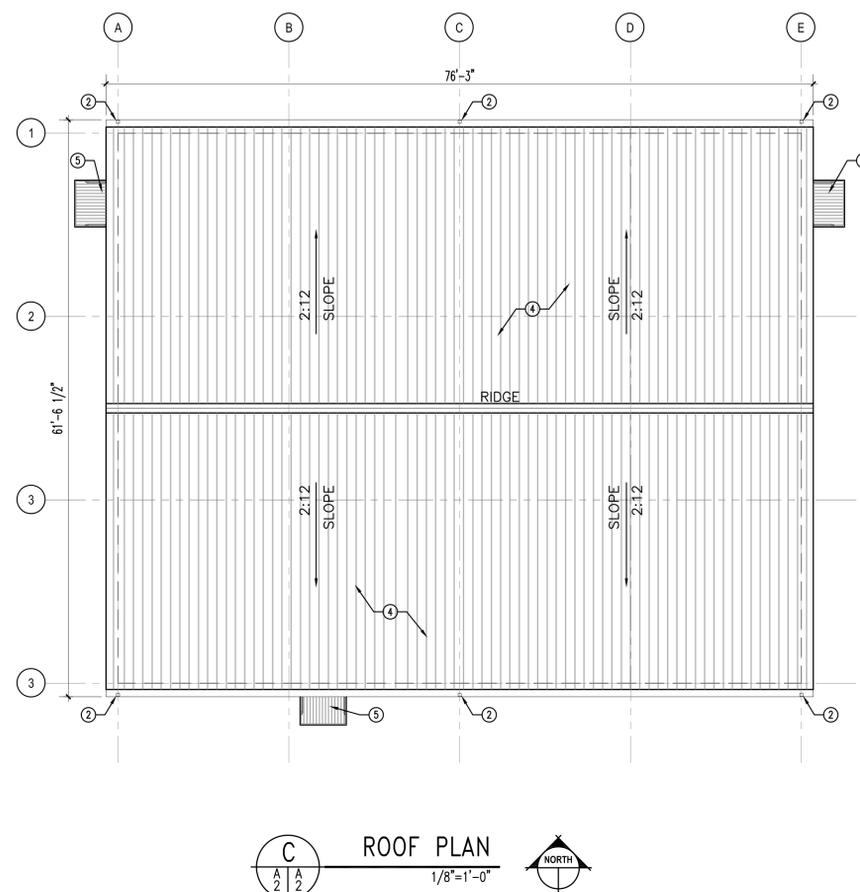
<b>GRAPHIC SCALE</b> 0 1 2 3 4 5 6 7 8 16 Scale: 1/8"=1'-0"		<b>A-2</b>
AVOLIS ENGINEERING, P.A. P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0088, FAX: (252) 633-6507 DES. G.NIEVES DR. G.NIEVES CHK. J.C. AVOLIS, P.E. SUBMITTED BY: J.C. AVOLIS, P.E. DESIGN DIR. T.H. BURTON APPROVED: PWO OR DICCC SATISFACTORY TO:		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MACS-2, "DET B" REFLECTED CEILING PLAN AND ROOF PLAN NAVFAC DRAWING NO. 60016628 CONSTR. CONTR. NO. N40085-16-B-0058 SCALE: NOTED SPEC. 05-16-0058
WALKER the GROUP ARCHITECTURE INCORPORATED 0161 7-2-16 NEW BERN, NC		SHEET 14 OF 32



SUSPENDED  
GYPSUM BOARD CEILING  
NTS



REFLECTED CEILING PLAN  
1/8"=1'-0"



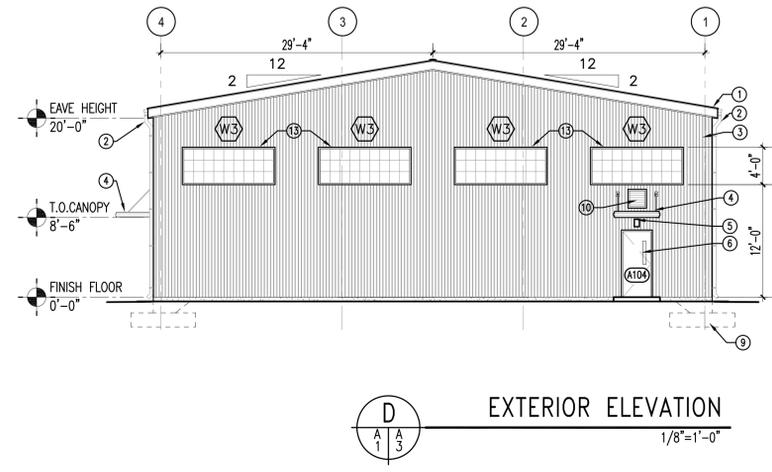
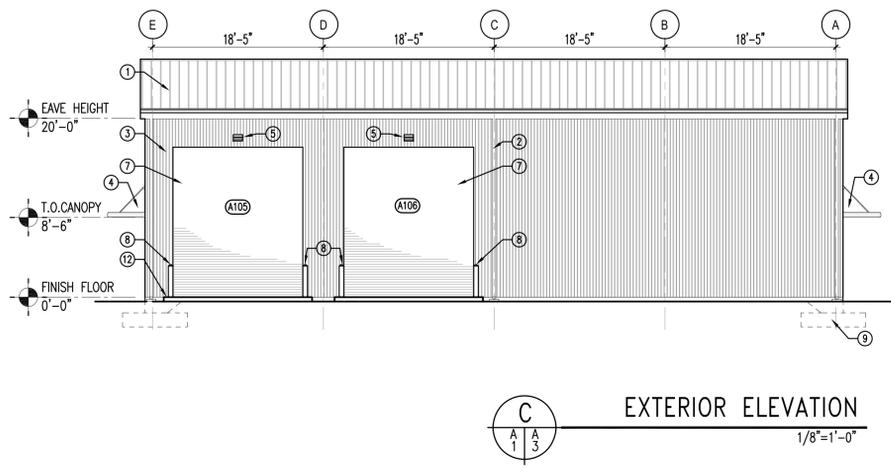
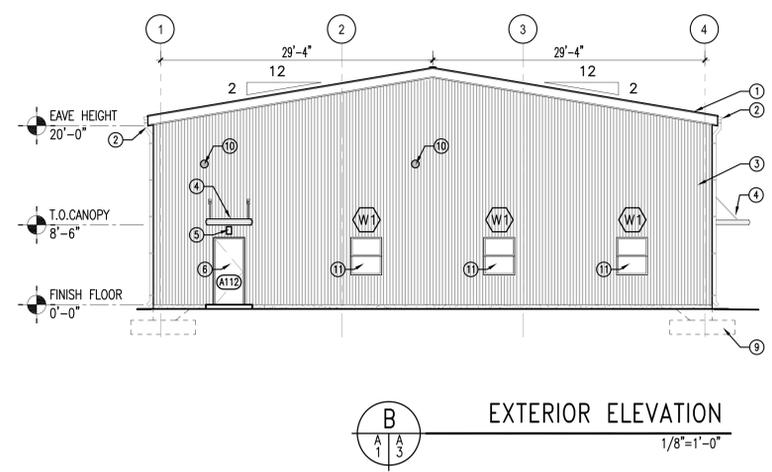
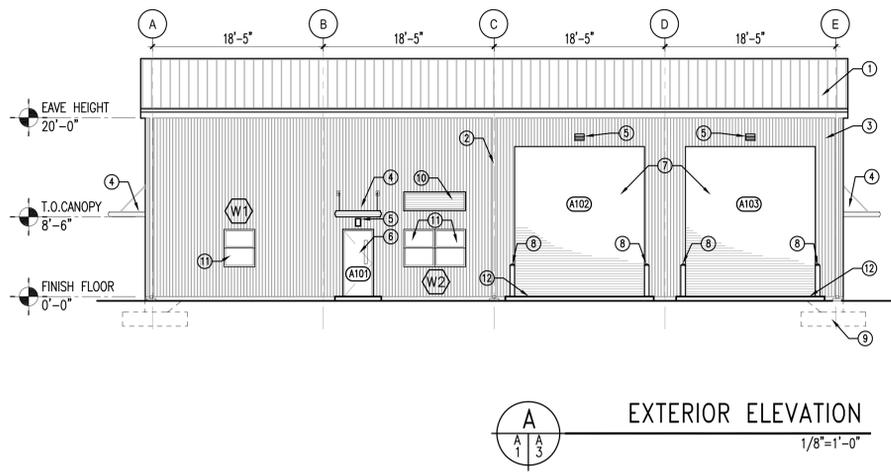
ROOF PLAN  
1/8"=1'-0"



REVISIONS		
SYM	DATE	APPROVED

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  - SEE CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES.
  - ALL WALL LOUVER OPENINGS SHALL BE PROVIDED BY MANUFACTURER. REFERENCE MECHANICAL PLANS FOR DETAILS AND EXACT LOCATIONS.

- CONSTRUCTION NOTES**
- | MARK | DESCRIPTION  |
|------|--|
| ①    | 26 GA. PRE-ENGINEERED METAL BUILDING ROOF PANELS.  |
| ②    | METAL GUTTER AND DOWNSPOUTS W/ CONCRETE SPLASH BLOCK.  |
| ③    | 26 GA. PRE-ENGINEERED METAL BUILDING WALL PANELS.  |
| ④    | METAL CANOPY BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. SLOPE: 1/4" / FT, MIN.           |
| ⑤    | EXTERIOR LIGHTING, SEE ELECTRICAL  |
| ⑥    | STEEL DOOR AND HOLLOW METAL FRAME. SEE DOOR SCHEDULE, PAINT.                                 |
| ⑦    | 14'-0"W X 16'-0"H MANUAL COILING DOOR. SEE DOOR SCHEDULE.                                    |
| ⑧    | 6" CONCRETE FILLED PIPE BOLLARD. SEE CIVIL FOR ADDITIONAL NOTES, PAINT.                      |
| ⑨    | CONCRETE SLAB AND FOOTING, SEE STRUCTURAL  |
| ⑩    | INSTALL NEW LOUVER AT MINIMUM OF 10'-0" A.F.G. SEE MECHANICAL DRAWINGS FOR ADDITIONAL NOTES. |
| ⑪    | ALUMINUM WINDOW WITH 1" INSULATED GLAZING. SEE WINDOW SCHEDULE.                              |
| ⑫    | CONCRETE APRON, SEE CIVIL FOR ADDITIONAL NOTES.  |
| ⑬    | PROVIDE TRANSLUCENT PANEL. SEE DETAIL G/A-6.   |



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<b>GRAPHIC SCALE</b> 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Scale: 1/8"=1'-0"		<b>A-3</b>
AVOLIS ENGINEERING, P.A. LICENSE NO. C-27096 P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0088, FAX: (252) 633-6507		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MACS-2, "DET B"
DES. G.NIEVES DR. G.NIEVES CHK. J. C. AVOLIS, P.E. SUBMITTED BY: J. C. AVOLIS, P.E. DESIGN DIR. T. H. BURTON		EXTERIOR ELEVATIONS NAVFAC DRAWING NO. 60016629 CONSTR. CONTR. NO. N40085-16-B-0058
APPROVED: PWO OR OICC SATISFACTORY TO:	DATE: _____ DATE: _____	SIZE: <b>F</b> CODE IDENT. NO: <b>80091</b> SCALE: NOTED SPEC: 05-16-0058



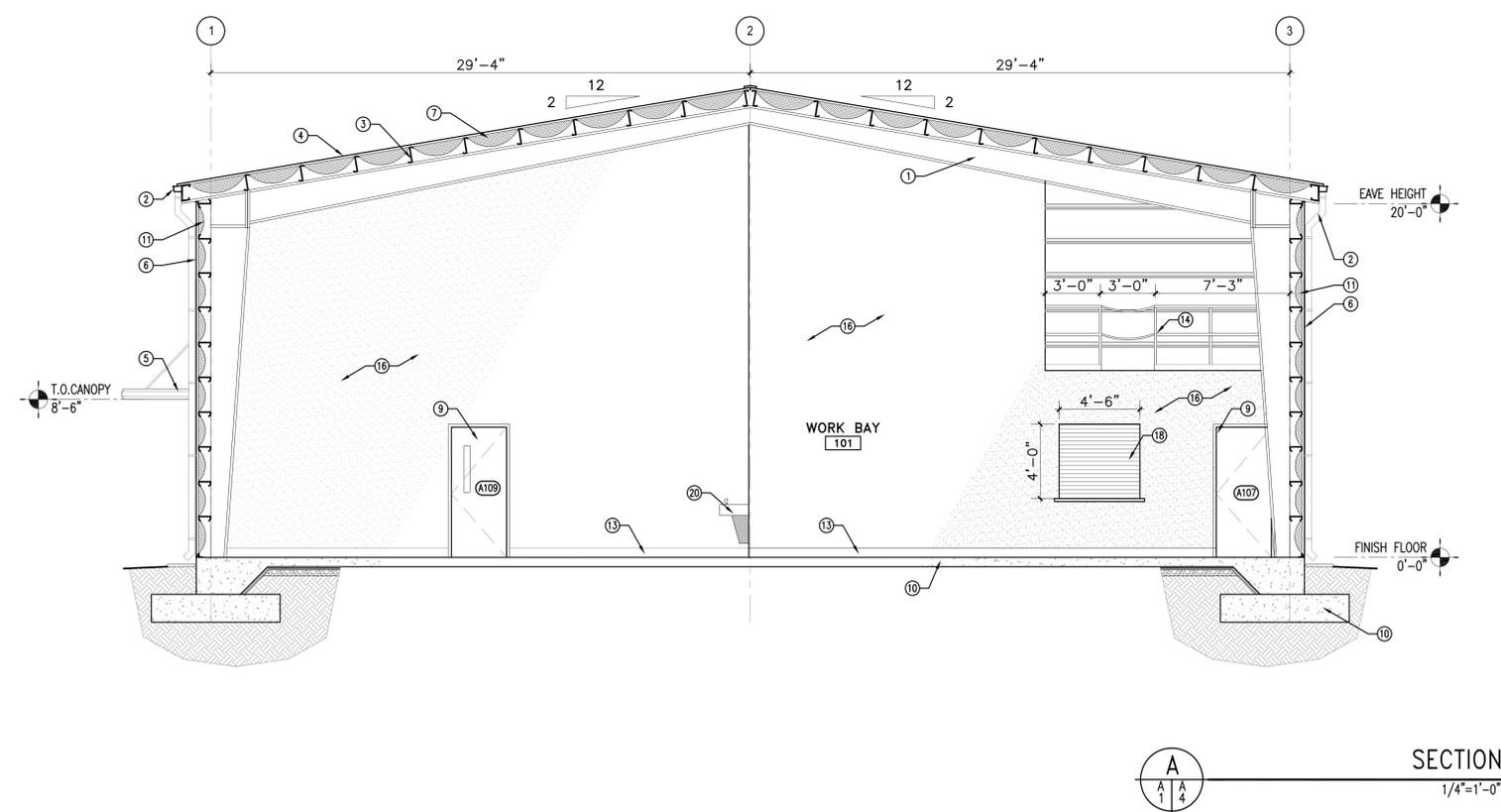
REVISIONS		
SYM	DATE	APPROVED

### GENERAL NOTES

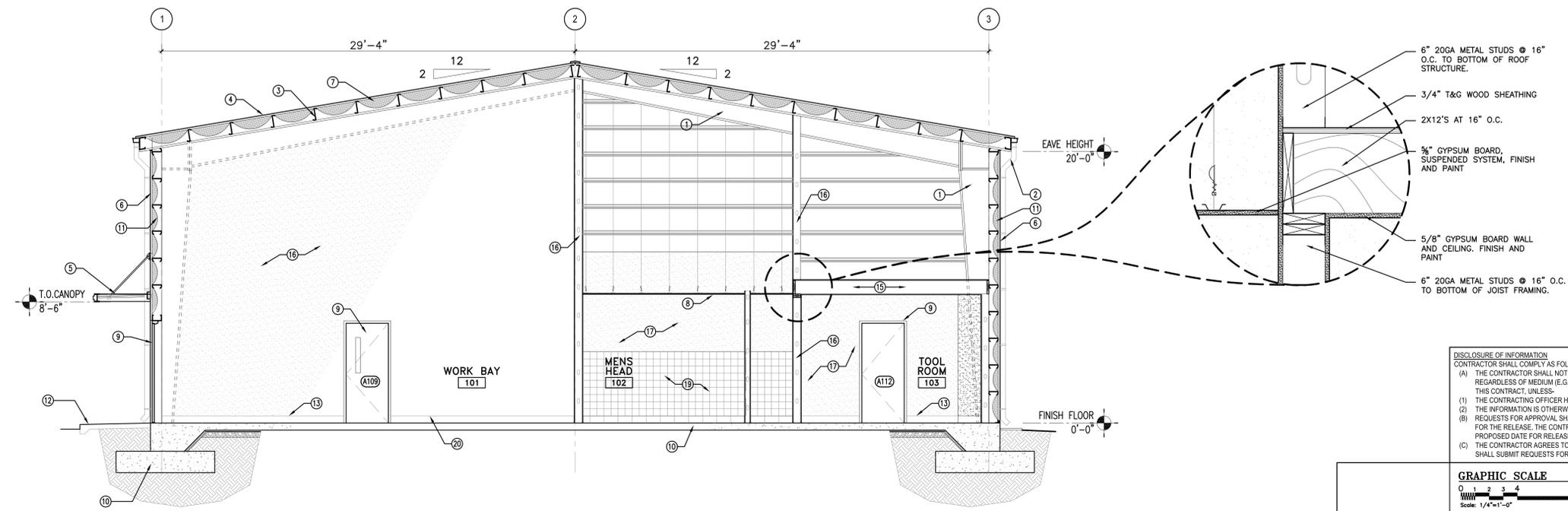
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### CONSTRUCTION NOTES

MARK	DESCRIPTION
1	PRE-ENGINEERED STEEL BENT, BY METAL BUILDING MANUFACTURER, PAINT WHERE EXPOSED.
2	METAL GUTTER AND DOWNSPOUTS W/ CONCRETE SPLASH BLOCK.
3	STEEL PURLIN, BY PRE-ENGINEERED METAL BUILDING MANUFACTURER, PAINT.
4	26 GA. PRE-ENGINEERED METAL BUILDING ROOF PANELS.
5	PROVIDE NEW METAL CANOPY BY PRE-ENGINEERED BUILDING MANUFACTURER, SLOPE 1/4" MIN.
6	26 GA. PRE-ENGINEERED METAL BUILDING WALL PANELS.
7	PROVIDE NEW R-30 VINYL REINFORCED BATT INSULATION.
8	PROVIDE NEW 5/8" SUSPENDED GYPSUM BOARD CEILING, SEE REFLECTED CEILING PLAN, A-2.
9	STEEL DOOR AND HOLLOW METAL FRAME. SEE DOOR SCHEDULE, PAINT.
10	CONCRETE SLAB AND FOOTING, SEE STRUCTURAL
11	PROVIDE NEW R-19 VINYL REINFORCED INSULATION.
12	CONCRETE APRON, SEE CIVIL FOR ADDITIONAL NOTES.
13	4" VINYL COVE BASE.
14	1-1/2" DIAMETER GALVANIZED PIPE GUARD RAIL, 42"H. SEE D/A-6. SEE STRUCTURAL.
15	EQUIPMENT PLATFORM FLOOR FRAMING: 3/4" T&G SHEATHING OVER 2X12 FLOOR JOISTS @ 16" O.C.
16	6" 20GA. METAL STUDS @ 16" O.C WITH GYPSUM BOARD BOTH SIDES (UNLESS NOTED OTHERWISE). FINISH & PAINT.
17	3 5/8" 26GA. METAL STUDS @ 16" O.C WITH GYPSUM BOARD BOTH SIDES (UNLESS NOTED OTHERWISE). FINISH & PAINT.
18	4'-6"W X 4'-0"H METAL COILING PASS THRU WINDOW. SEE DETAIL H/A-6.
19	6" X 6" WALL TILE WAINSCOT AND 6" COVE BASE TO 5'-0" A.F.F., SEE FINISH SCHEDULE.
20	NEW ELECTRIC WATER COOLER. SEE PLUMBING FOR ADDITIONAL NOTES.



**SECTION A**  
1/4"=1'-0"

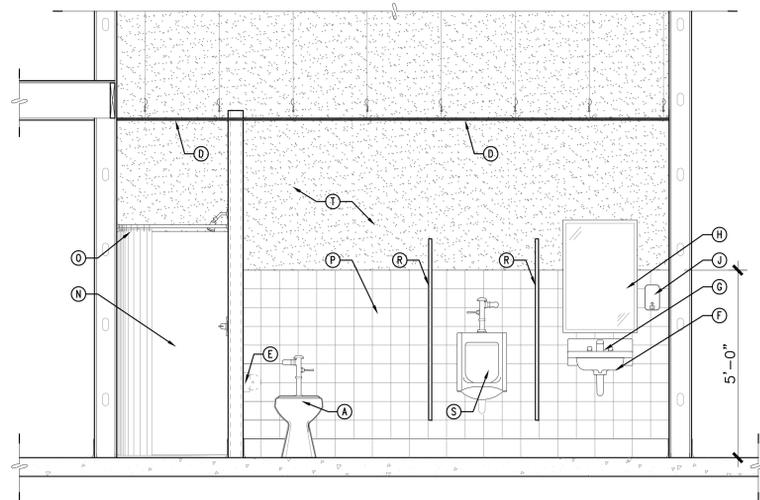


**SECTION B**  
1/4"=1'-0"

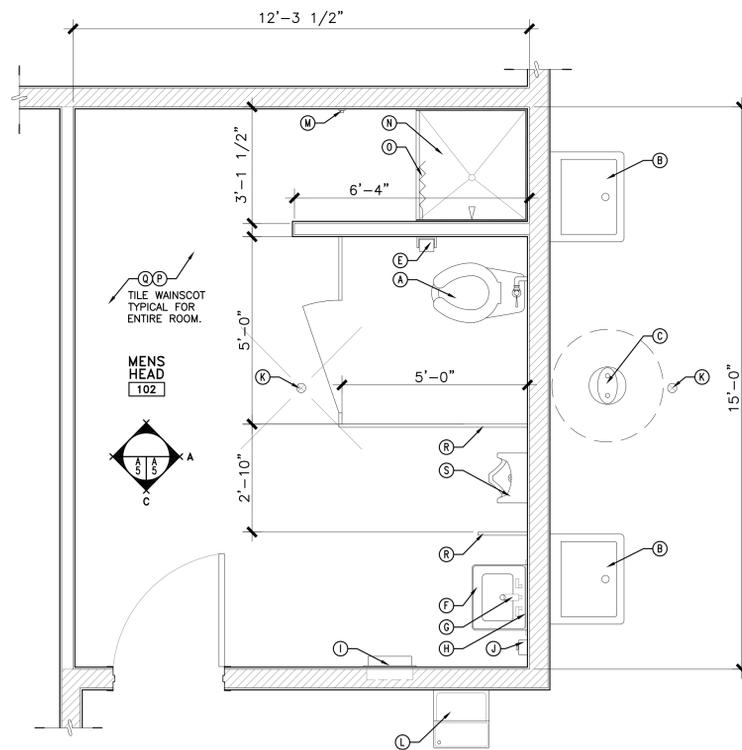
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<b>GRAPHIC SCALE</b> 0 1 2 3 4 5 6 7 8 Scale: 1/4"=1'-0"		<b>A-4</b>
AVOLIS ENGINEERING, P.A. P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0988, FAX: (252) 633-6507 DES. G.NIEVES DR. G.NIEVES CHK. J.C. AVOLIS, P.E. SUBMITTED BY: J.C. AVOLIS, P.E. DESIGN DIR. T.H. BURTON		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MACS-2, "DET B" SECTIONS
APPROVED: PWO OR DICG SATISFACTORY TO:	DATE: _____ DATE: _____	SIZE: <b>F</b> CODE IDENT. NO: <b>80091</b> NAVFAC DRAWING NO. <b>60016630</b> CONSTR. CONTR. NO. <b>N40085-16-B-0058</b> SCALE: NOTED SPEC. 05-16-0058 SHEET 16 OF 32

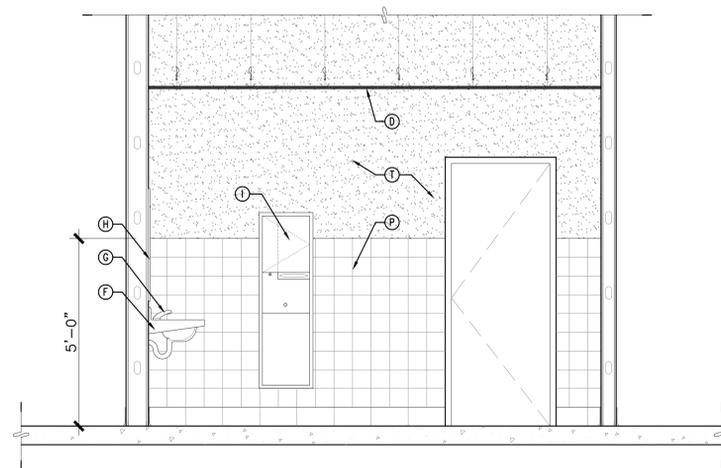




**A** INTERIOR ELEVATION  
1/2"=1'-0"



**B** ENLARGED PLAN  
1/2"=1'-0" NORTH



**C** INTERIOR ELEVATION  
1/2"=1'-0"

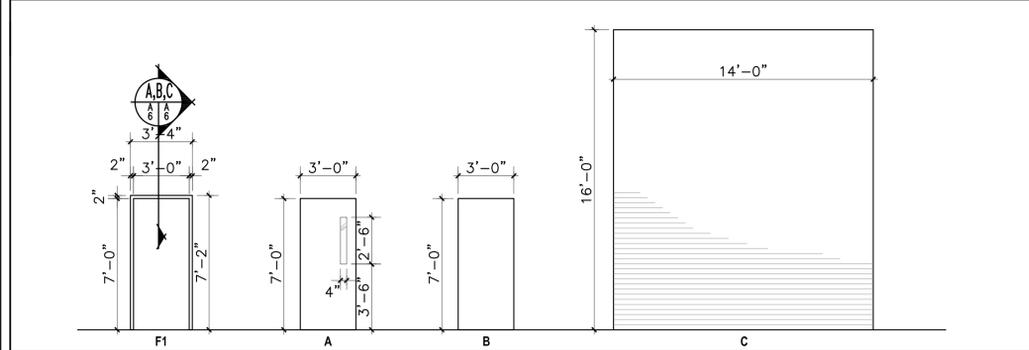
REVISIONS		
SYM	DATE	APPROVED
<b>TOILET ACCESSORIES SCHEDULE</b>		
MARK	DESCRIPTION	MOUNTING INSTRUCTIONS
A	ADA TOILET	CENTERLINE OF TOILET SHALL BE 18" FROM ADJACENT SIDEWALL
B	UTILITY SINK	SEE PLUMBING DRAWINGS
C	EYEWASH/DELUGE SHOWER COMBO	SEE PLUMBING DRAWINGS
D	5/8" GYPSUM BOARD CEILING, FINISH AND PAINT.	SEE REFLECTED CEILING PLAN
E	TOILET TISSUE DISPENSER	MINIMUM 19" A.F.F., MAXIMUM 36" FROM REAR WALL OF STALL.
F	WALL MOUNTED SINK	MOUNT RIM AT 34" A.F.F.
G	LEVER ACTION FAUCET	PER SINK TYPE
H	24" X 36" MIRROR W/ STAINLESS STEEL FRAME	MOUNT WITH BOTTOM OF MIRROR AT 40" A.F.F.
I	RECESSED PAPER TOWEL/WASTE COMBO	WALL MOUNT TOWEL DISPENSER AT MAXIMUM 48" A.F.F.
J	WALL MOUNTED PLASTIC SOAP DISPENSER	MOUNT DISPENSER SPOUT AT 48" A.F.F. (MAX.)
K	FLOOR DRAIN	SEE PLUMBING DRAWINGS
L	ELECTRIC WATER COOLER	SEE PLUMBING DRAWINGS
M	CLOTHES HOOK	MOUNT HOOK AT 48" A.F.F.
N	FIBERGLASS SHOWER INSERT	SEE PLUMBING DRAWINGS
O	SHOWER CURTAIN AND ROD	
P	NEW WALL TILE WAINSCOT TO 5'-0" A.F.F.	SEE FINISH SCHEDULE.
Q	NEW CERAMIC FLOOR TILE AND COVE BASE	SEE FINISH SCHEDULE.
R	NEW TOILET/URINAL PARTITIONS	SOLID PHENOLIC PANELS CLEAR WIDTH AS SHOWN.
S	NEW WALL MOUNTED URINAL	CENTERLINE OF URINAL SHALL BE MIN. 15" FROM ADJACENT SIDEWALL. MOUNT RIM 17" A.F.F. MAX.
T	5/8" GYPSUM BOARD. FINISH AND PAINT.	FROM 5'-0" A.F.F. TO CEILING

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(1) THE CONTRACTING OFFICER HAS GIVEN PRIOR WRITTEN APPROVAL; OR  
(2) THE INFORMATION IS OTHERWISE IN THE PUBLIC DOMAIN BEFORE THE DATE OF RELEASE.  
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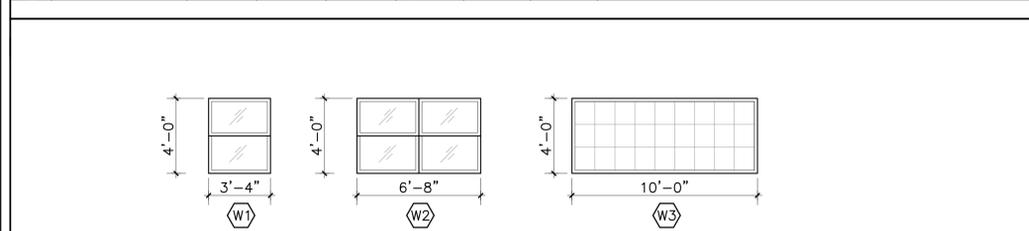
<b>GRAPHIC SCALE</b>  Scale: 1/2"=1'-0"		<b>A-5</b>
AVOLIS ENGINEERING, P.A. P.O. BOX 15564 NEW BERN, NC 28561 PH: (252) 633-0088, FAX: (252) 633-6507 DES. G.NIEVES DIR. G.NIEVES CHK. J. C. AVOLIS, P.E. SUBMITTED BY: J. C. AVOLIS, P.E. DESIGN DIR. T. H. BURTON APPROVED: PWO OR OICC SATISFACTORY TO:		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA 16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP MACS-2, "DET B" ENLARGED PLAN & INTERIOR ELEVATIONS NAVFAC DRAWING NO. 60016631 CONSTR. CONTR. NO. N40085-16-B-0058 SCALE: NOTED SPEC. 05-16-0058 SHEET 17 OF 32



DOOR SCHEDULE											
NOTE: CONTRACTOR SHALL FIELD VERIFY ALL DOOR AND FRAME DIMENSIONS IN FIELD PRIOR TO ORDERING UNITS. SEE PLAN LOCATIONS FOR SPECIFIC HANDING AND ORIENTATION.											
DOOR DATA		FRAME DATA DETAILS									
NUM.	TYPE	SIZE	THK.	MAT.	TYPE	MAT.	HEAD	JAMB	SILL	HARDWARE	REMARKS
101	A	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	A/A-6	A/A-6	-	HW-1	4"x30" GLAZED PANEL; INSULATED
102	C	14'-0"-16'-0"	1-3/4"	METAL	-	-	E/A-6	E/A-6	-	MANUF.	COILING DOOR
103	C	14'-0"-16'-0"	1-3/4"	METAL	-	-	E/A-6	E/A-6	-	MANUF.	COILING DOOR
104	A	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	A/A-6	A/A-6	-	HW-1	4"x30" GLAZED PANEL; INSULATED
105	C	14'-0"-16'-0"	1-3/4"	METAL	-	-	E/A-6	E/A-6	-	MANUF.	COILING DOOR
106	C	14'-0"-16'-0"	1-3/4"	METAL	-	-	E/A-6	E/A-6	-	MANUF.	COILING DOOR
107	B	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	C/A-6	C/A-6	-	HW-2	
108	B	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	B/A-6	B/A-6	-	HW-4	
109	A	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	B/A-6	B/A-6	-	HW-1	4"x30" GLAZED PANEL
110	A	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	B/A-6	B/A-6	-	HW-2	4"x30" GLAZED PANEL
111	B	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	B/A-6	B/A-6	-	HW-3	
112	B	3'-0"x7'-0"	1-3/4"	METAL	F1	H.M.	A/A-6	A/A-6	-	HW-1	INSULATED



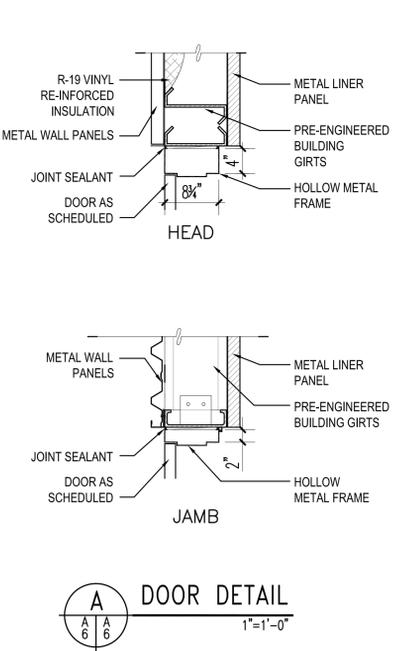
WINDOW SCHEDULE										
NOTE: CONTRACTOR SHALL FIELD VERIFY ALL WINDOW DIMENSIONS IN FIELD PRIOR TO ORDERING UNITS. SEE PLAN LOCATIONS FOR SPECIFIC HANDLING AND ORIENTATION.										
WINDOW DATA		DETAILS								
MARK	SIZE (wxh)	MATERIAL	FINISH	GLASS	HEAD	JAMB	SILL	REMARKS		
W1	3'-4" X 4'-0"	ALUM		1" INSUL.	F/A-6	F/A-6	F/A-6	SINGLE HUNG. SEE SPECIFICATIONS.		
W2	(2) 3'-4" X 4'-0"	ALUM		1" INSUL.	F/A-6	F/A-6	F/A-6	SINGLE HUNG. SEE SPECIFICATIONS.		
W3	4'-0" X 10'-0"				G/A-6		G/A-6	TRANSLUCENT PANEL		



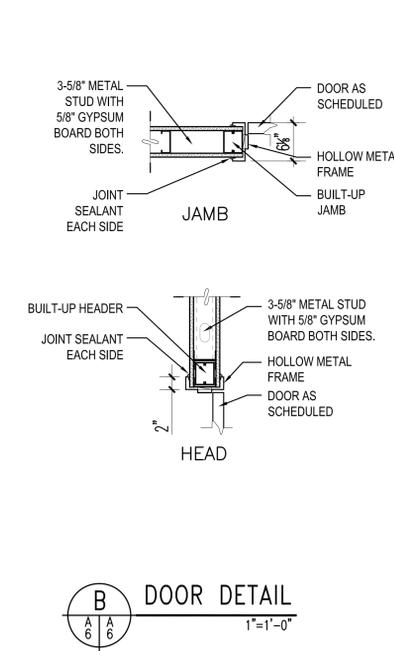
FINISH SCHEDULE											
NOTE: SEE PLAN LOCATIONS FOR ADDITIONAL INFORMATION.											
NO.	ROOM	FLOOR	BASE	WALLS				DOOR	DOOR FRAME	CEILING	NOTES
				NORTH	EAST	SOUTH	WEST				
101	WORK BAY	SEALED CONC.	RB	PT	PT	PT	PT	PT	PT	-	RUBBER BASE ON GYPSUM WALLS ONLY
102	MENS HEAD	CERAMIC TILE	CT-B	CT-W	CT-W	CT-W	CT-W	PT	PT	GYP	TILE WAINSCOT TO 5'-0" A.F.F
103	TOOL ROOM	SEALED CONC.	RB	PT	PT	PT	PT	PT	PT	GYP	RUBBER BASE ON GYPSUM WALLS ONLY
104	OPEN OFFICE	EPOXY	EPOXY	PT	PT	PT	PT	PT	PT	GYP	
105	CLOSET	EPOXY	EPOXY	PT	PT	PT	PT	PT	PT	GYP	
106	OFFICE	EPOXY	EPOXY	PT	PT	PT	PT	PT	PT	GYP	

NOTE: EPOXY FLOOR SHALL BE BID ALTERNATE 0002. BASE BID IS SEALED CONCRETE FLOOR.

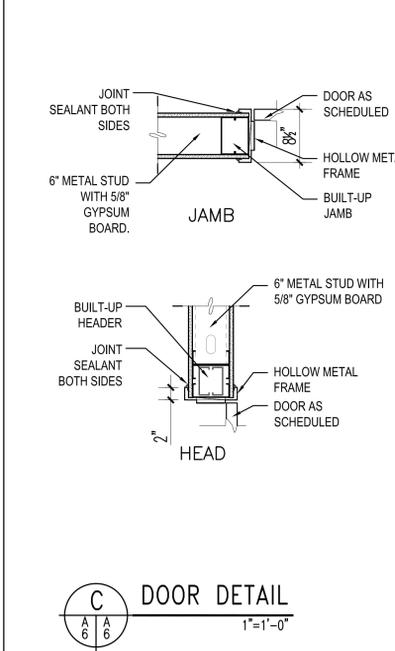
RB- RUBBER BASE  
 CT-B- CERAMIC TILE WALL BASE  
 CT-W- CERAMIC TILE WAINSCOT  
 PT- PAINT  
 GYP- GYPSUM BOARD



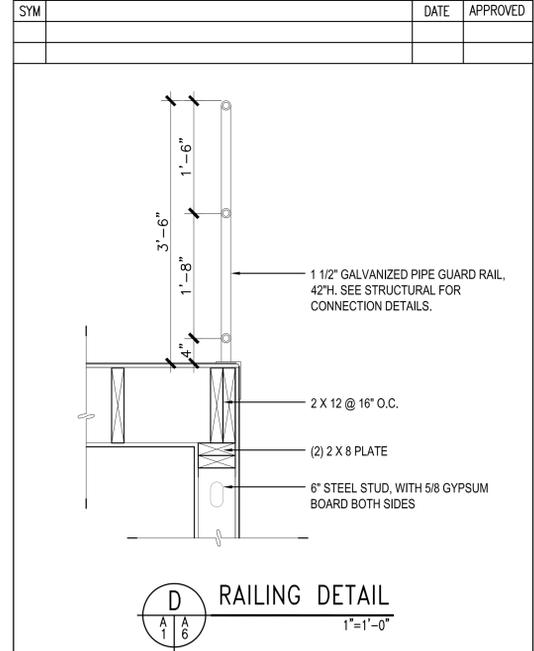
**A** DOOR DETAIL  
 1"=1'-0"



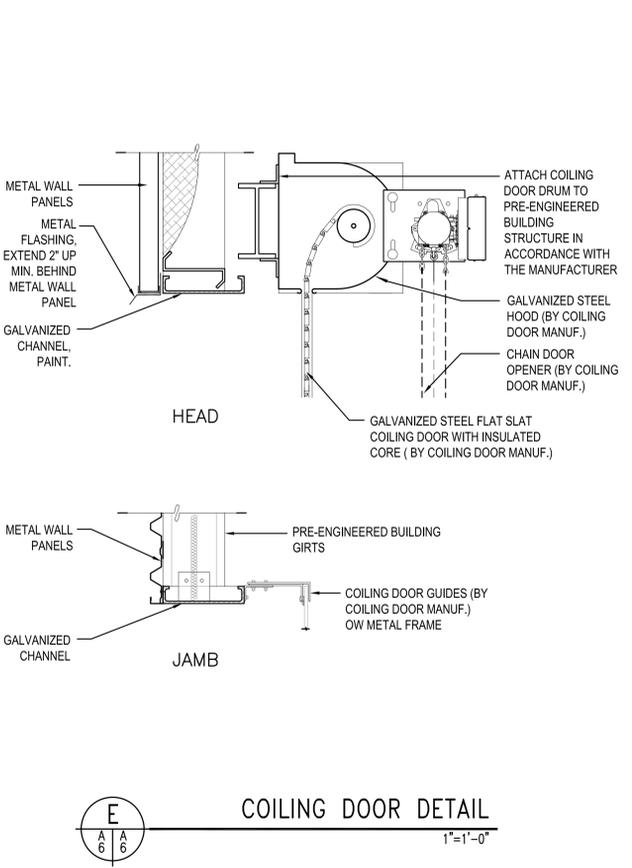
**B** DOOR DETAIL  
 1"=1'-0"



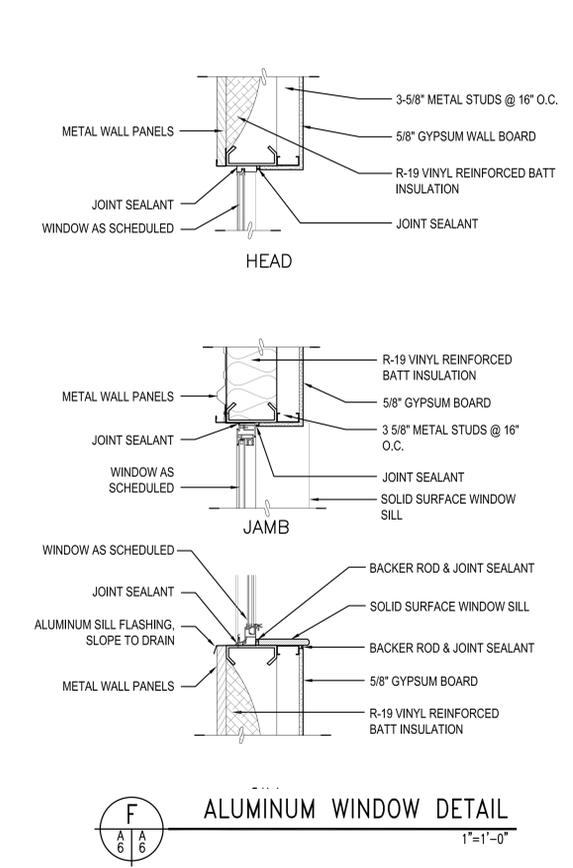
**C** DOOR DETAIL  
 1"=1'-0"



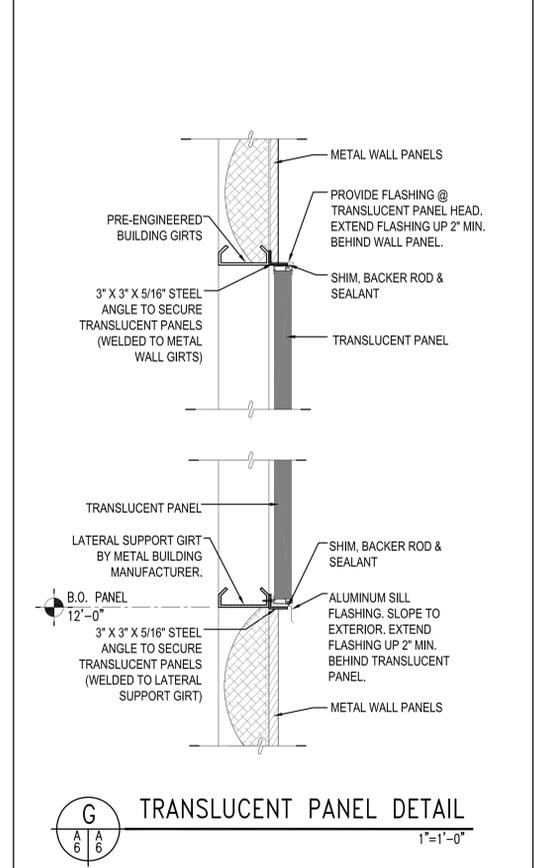
**D** RAILING DETAIL  
 1"=1'-0"



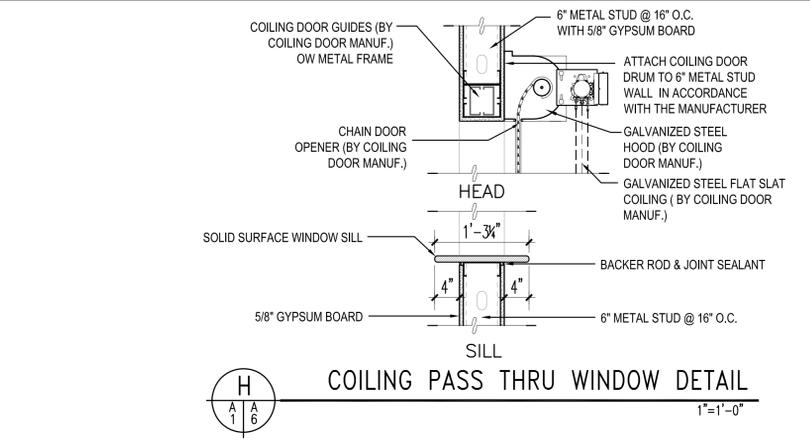
**E** COILING DOOR DETAIL  
 1"=1'-0"



**F** ALUMINUM WINDOW DETAIL  
 1"=1'-0"



**G** TRANSLUCENT PANEL DETAIL  
 1"=1'-0"



**H** COILING PASS THRU WINDOW DETAIL  
 1"=1'-0"

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**GRAPHIC SCALE**  
 0 1 2 3  
 Scale: 1"=1'-0"

**A-6**

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DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND  
**MARINE CORPS BASE**  
 CAMP LEJEUNE, NORTH CAROLINA

16-0058 CONSTRUCT AUTOMOTIVE ORGANIZATION SHOP  
 MACS-2, "DET B"

DES. G.NIEVES  
 DR. G.NIEVES  
 CHK. J. C. AVOLIS, P.E.  
 SUBMITTED BY: J. C. AVOLIS, P.E.  
 DESIGN DIR. T. H. BURTON

APPROVED: PWO OR DICC  
 DATE: \_\_\_\_\_

SATISFACTORY TO: \_\_\_\_\_ DATE: \_\_\_\_\_

SIZE: **F** CODE IDENT. NO: 80091 NAVFAC DRAWING NO. 60016632  
 CONSTR. CONTR. NO. N40085-16-B-0058

SCHEDULES AND DETAILS

SCALE: NOTED SPEC: 05-16-0058 SHEET 18 OF 32

