

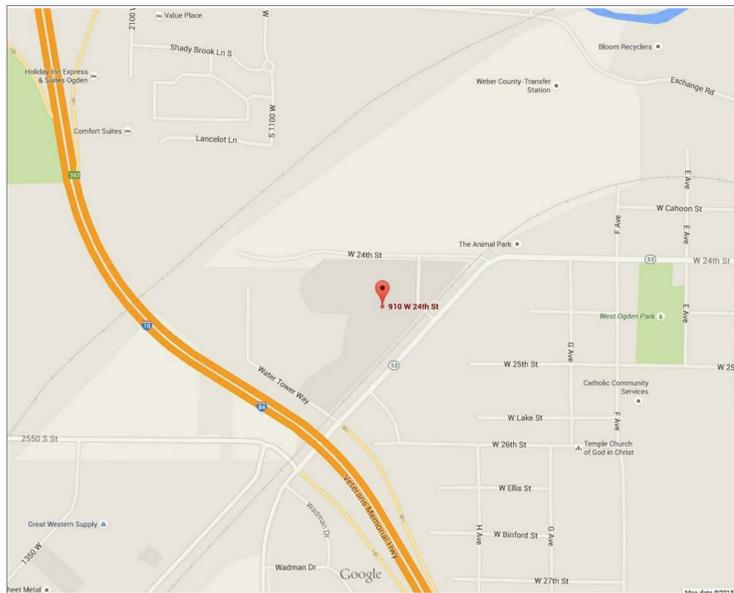
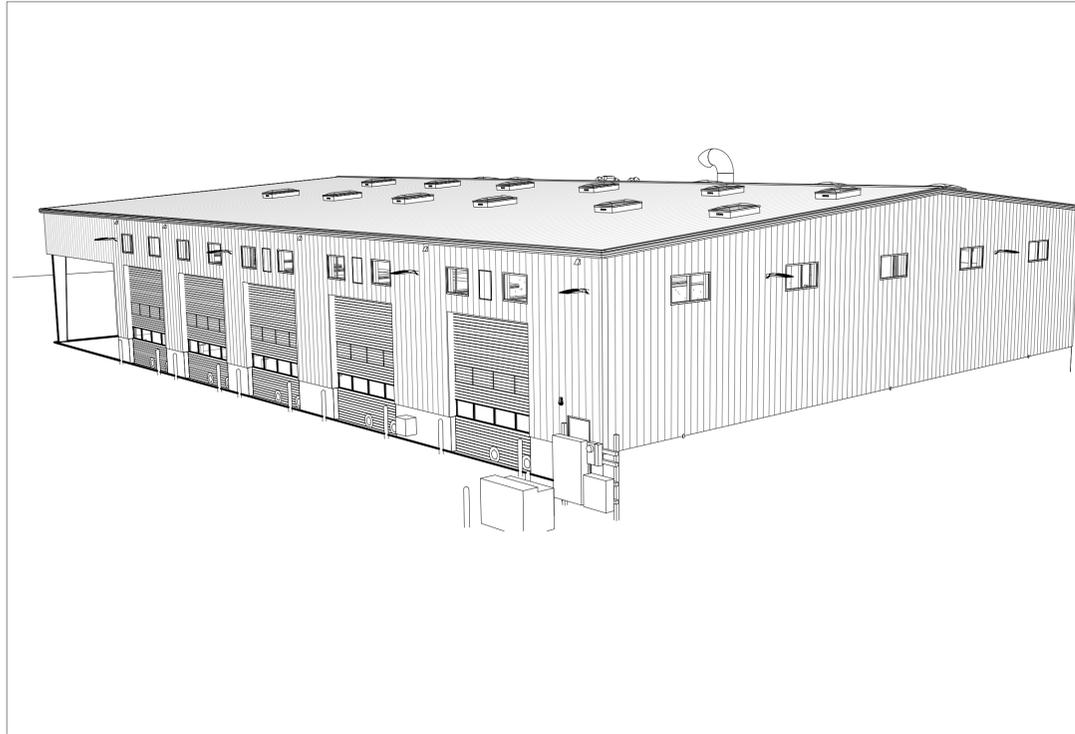


# GRANT TRUCKING MAINTENANCE SHOP 910 W 24th STREET OGDEN, UTAH 84401

Case, Lowe and Hart, Inc.  
2484 Washington Blvd. Ste 510  
Ogden, Utah 84401

ARW Engineers  
1594 West Park Circle  
Ogden, Utah 84404

Great Basin Engineers  
5746 S 1475 E  
South Ogden, Utah 84403

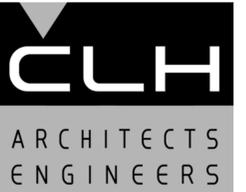


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FA102	FIRE ALARM PLAN SECOND FLOOR
FA501	FIRE ALARM DIAGRAMS AND DETAILS

### DEFERRED SUBMITTALS

- 1- PROVIDE DESIGN STRUCTURAL AND FINISH DESIGN FOR ALL STAIRS.
- 2- PROVIDE DESIGN FOR FIRE PROTECTION SYSTEM
- 3- PROVIDE DESIGN FOR SECOND FLOOR MEZZANINE FLOOR SYSTEM. LOADS TO BE 125 SF
- 4- PROVIDE DESIGN FOR METAL BUILDING SYSTEM



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STAMP



GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SJP

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

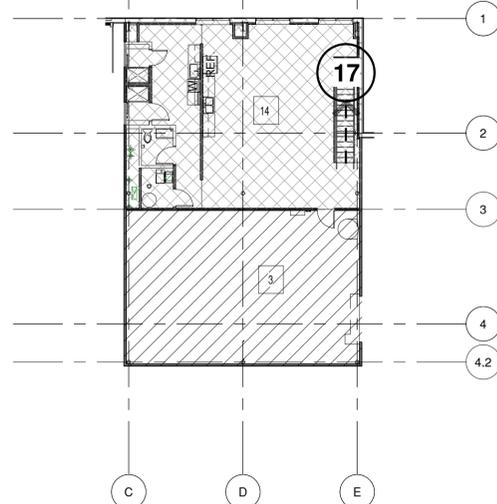
TITLE SHEET

SHEET NO:

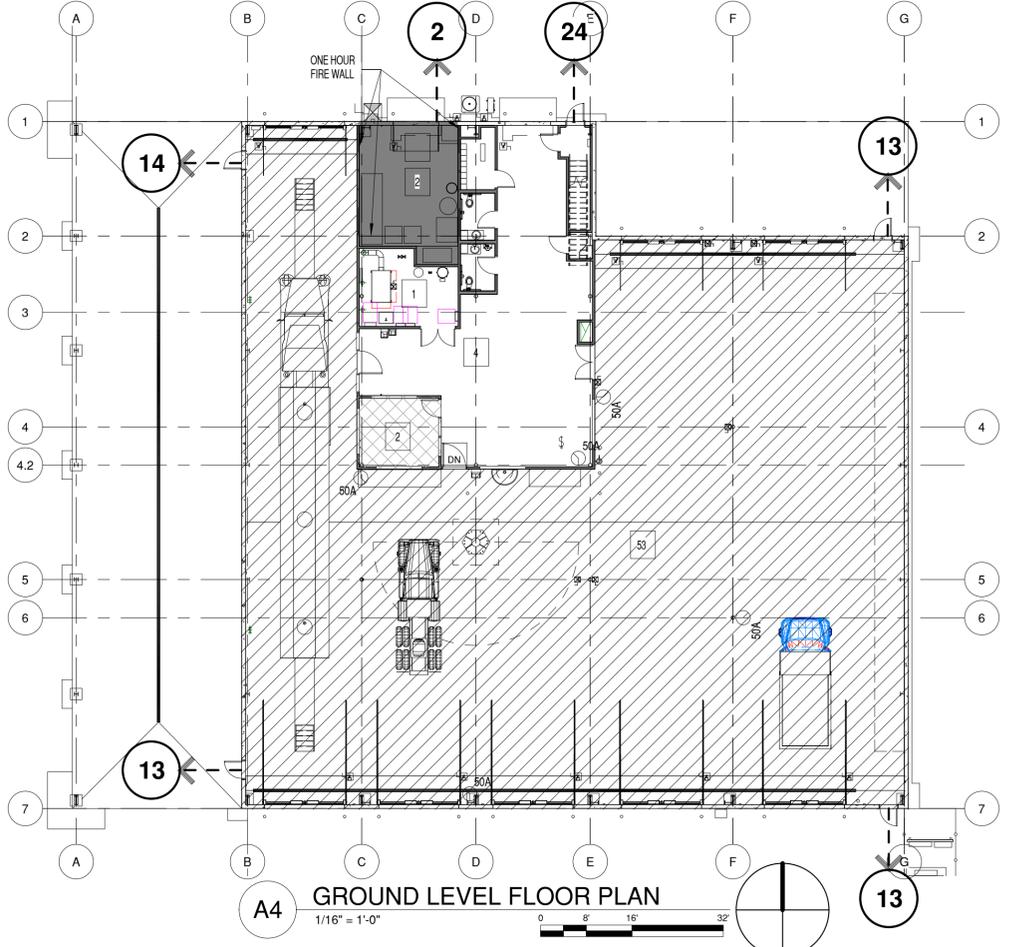
G001

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APPLICABLE CODES:	2015 INTERNATIONAL BUILDING CODE 2014 NATIONAL ELECTRICAL CODE 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2015 INTERNATIONAL FUEL GAS CODE				
Occupancy:	S-1				
CONSTRUCTION TYPE:	IIIb  BUILDING WILL BE SERVED BY AS AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13. REQUIRED PER IBC SECTION 406.8.6				
ALLOWABLE FLOOR AREA:	S-1 (IIIb)=	SF 9000	Sprinkler Increase Per IBC 507.4	Total Unlimited	
ACTUAL FLOOR AREA:	Building 18,907 Includes Main floor, canopy and mezzanine.				
BREAK DOWN OF OCCUP.	S-1	13,361			
	Canopy	3,589			
	B	1,589			
	H-3	368			
	Total	18907			
REQUIRED FIRE WALLS:	ONE HOUR FIRE WALL BETWEEN H-2 AND S-1 FOR THE OIL STORAGE				
FIRE EXTINGUISHERS	CLASS A FIRE- 20A/120BC ALLOWED 11,250sf (1,500sf FOR EACH "A"- 11,250sf MAX AREA) 75' MAX TRAVEL DIST	B		S-1	
ALLOWABLE STORIES:	IIIb=2				
ACTUAL STORIES:	1				
ALLOWABLE BUILDING HEIGHT:	IIIb=55				
ACTUAL BUILDING HEIGHT:	29'-0"				
ALLOWABLE EGRESS TRAVEL DISTANCE:	250 ft				
ACTUAL LONGEST EGRESS TRAVEL DISTANCE:	78 ft				
EXITING REQUIREMENTS:	AREA FUNCTION	FLOOR AREA	FLOOR AREA PER OCC.	OCCUPANTS	
	B- MAIN FLR	189	100	2	
	B- MEZZANINE	1,400	100	14	
	H-3	368	300	2	
	S-1- STORAGE	2,539	500	6	
	S-1- WORK AREA	10,822	200	55	
			TOTAL	79	
		OCCUPANTS	EXITS	WIDTH IN INCHES	
	GROUND FLOOR	79	3	16	
	MEZZANINE	14	1	3	
	TOTAL		4	19	
EXITING PROVIDED:		OCCUPANTS	EXITS	WIDTH IN INCHES	
	GROUND FLOOR	79	5	160	
	MEZZANINE	14	1	32	
	TOTAL		6	192	
PLUMBING REQUIREMENTS:	OCCUPANCY	FIXTURE	OCCUPANTS REQUIRED	TOTAL REQUIRED	PROVIDED
	B	WATER CLOSET FACTOR 1/25- to 50	16	1	
	B	WATER CLOSET FACTOR 1/50 above 50	0	0	
	S-1	WATER CLOSET FACTOR 1/100	63	1	3
	B	LAVATORIES FACTOR 1/40- to 80	16	1	
	B	LAVATORIES FACTOR 1/80- over 80	0	0	
	S-1	LAVATORIES FACTOR 1/100	63	1	3
		SERVICE SINK		1	1



C4 MEZZANINE LEVEL FLOOR PLAN  
1/16" = 1'-0"

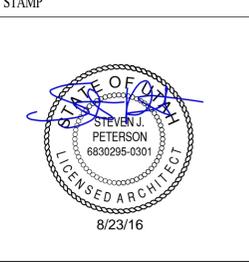


A4 GROUND LEVEL FLOOR PLAN  
1/16" = 1'-0"



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**  
910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

**CODE REVIEW & LIFE SAFETY**

SHEET NO:  
**G002**

8/23/2016 2:57:18 PM

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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION
------	------	-------------

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SIP

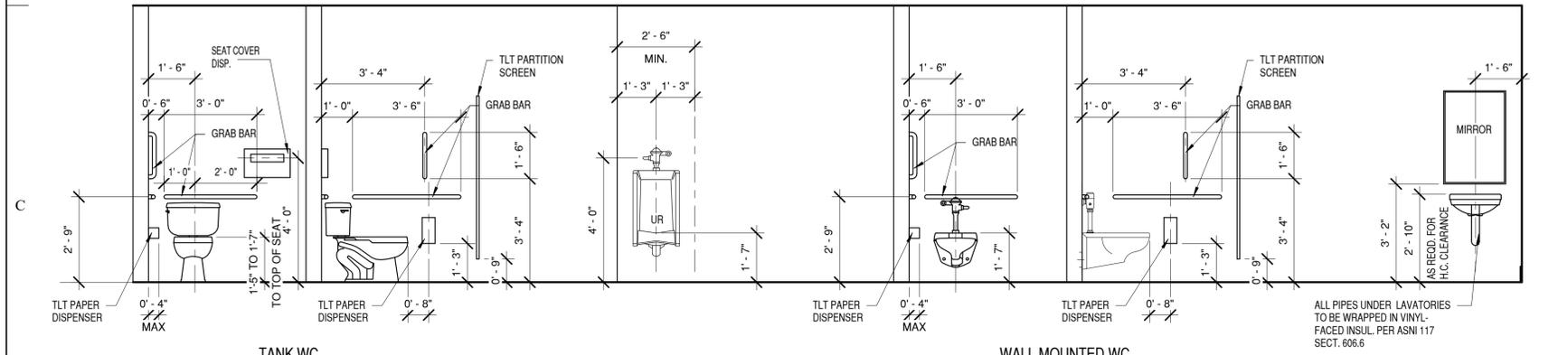
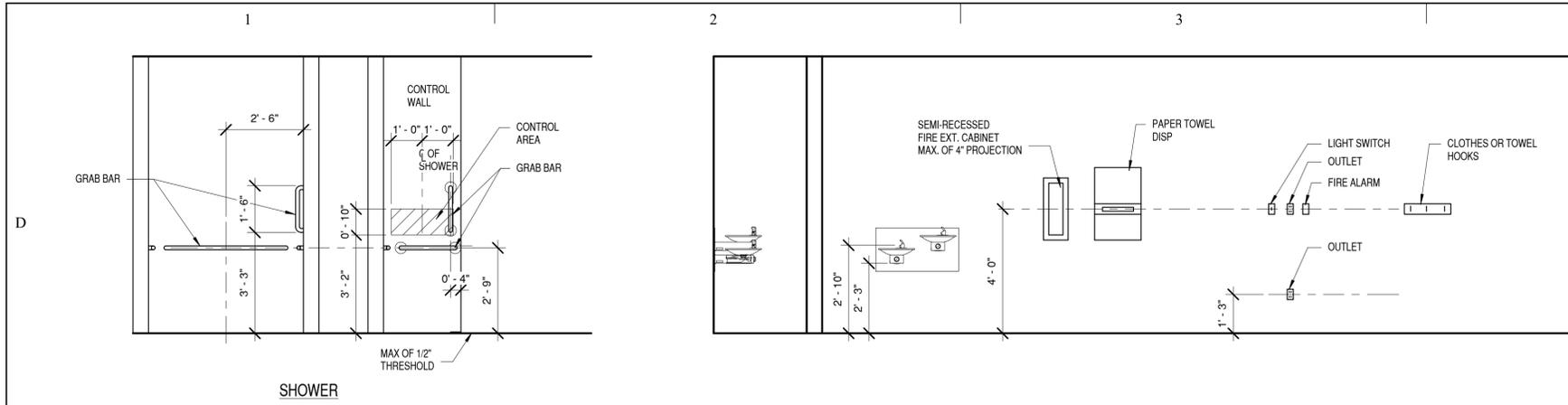
PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

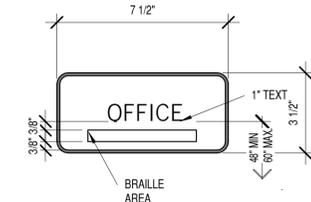
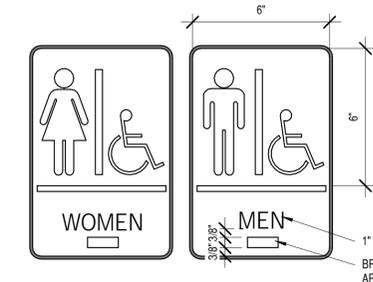
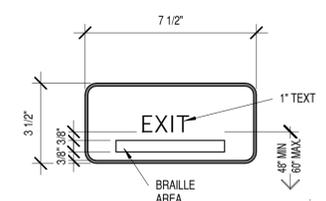
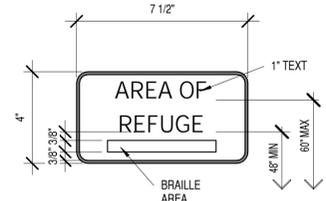
**ADA HEIGHTS**

SHEET NO:

**G003**



**C1 ADA TOILET MOUNTING HEIGHT**  
3/8" = 1'-0"



**C4 ADA SIGNS**  
3" = 1'-0"

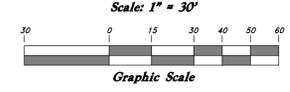
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**General Demolition Notes:**

- Demolition and site clearing for this contract are to include all areas shown within demolition limits or by note.
- Refer to site improvement plans for more details on limits of removal.
- Demolish existing buildings and clear from site. (including removal of all footings and foundations.)
- All curbs, gutters, walks, slabs, walls, fences, flatwork, asphalt, waterlines and meters, gas lines, sewer lines, light poles, buried cables, storm drain piping and structures to be cleared from site unless otherwise shown.
- All utilities, sewer, water, gas, telephone and electrical services to be disconnected and capped. According to city, county and utility company requirements, unless otherwise shown.
- Basements and other excavated areas to be backfilled with clean granular material compacted to 95% of maximum lab density as determined by ASTM D 1557-78. (Test results to be given to owner)
- Clear and grub trees, shrubs, and vegetation within construction limits, disposal to be off-site. Except where noted otherwise.
- DO NOT interrupt any services or disrupt the operation of any businesses shown outside the demolition limits.
- If ASBESTOS is found in existing structures, the Asbestos must be removed in a legal manner by a contractor licensed to handle asbestos materials. (Not a part of contract)
- Remove debris, rubbish, and other materials resulting from the demolition and site clearing operations from the site and dispose of in a legal manner.
- The location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete. Contractor shall contact authorities having jurisdiction for field locations. Contractor shall be responsible for protection of in place and relocated utilities during construction.
- Stockpiles shall be graded to maintain slopes not greater than 3 horizontal to 1 vertical. Provide erosion control as needed to prevent sediment transport to adjacent drainage ways.
- Contractor shall be responsible for disposal of all waste material. Disposal shall be at an approved site for such material. Burning onsite is not permitted.
- Contractor shall verify with city any street removal, curb cuts, and any restoration required for utility line removal.
- Install traffic warning devices as needed in accordance with local standards.
- Contractor shall obtain all permits necessary for demolition from City, County, State or Federal Agencies as required.

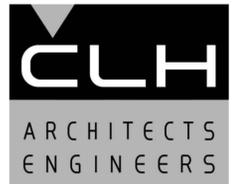
**CAUTION NOTICE TO CONTRACTOR**  
 The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

**ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY**



**Legend**

- (Note: All items may not appear on drawing)
- San. Sewer Manhole
  - Water Manhole
  - Storm Drain Manhole
  - Cleanout
  - Electrical Manhole
  - Catch Basins
  - Exist. Fire Hydrant
  - Exist. Water Valve
  - Water Valve
  - Sanitary Sewer
  - Culinary Water
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  - Telephone Line
  - Secondary Waterline
  - Power Line
  - Fire Line
  - Land Drain
  - Power pole w/guy
  - Light Pole
  - Fence
  - Flowline of ditch
  - Overhead Power line
  - Corrugated Metal Pipe
  - Concrete Pipe
  - Reinforced Concrete Pipe
  - Ductile Iron
  - Polyvinyl Chloride
  - Top of Asphalt
  - Edge of Asphalt
  - Centerline
  - Flowline
  - Finish Floor
  - Top of Curb
  - Top of Wall
  - Top of Walk
  - Top of Concrete
  - Natural Ground
  - Finish Grade
  - Match Existing
  - Fire Department Connection
  - Finish Contour
  - Exist. Contour
  - Finish Grade
  - Exist. Grade
  - Ridge Line
  - Direction of Flow
  - Existing Asphalt
  - New Asphalt
  - Heavy Duty Asphalt
  - Existing Concrete
  - New Concrete
  - Spill Curb & Gutter
  - Demol Tree



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**

910 W 24th STREET  
 OGDEN, UTAH 84401

MARK DATE DESCRIPTION

ISSUE DATE: AUG 28, 2015  
 PROJECT NO: 15460  
 CAD DWG FILE:  
 DRAWN BY:  
 CHK'D BY:

PERMIT SET  
 AUG 19, 2016

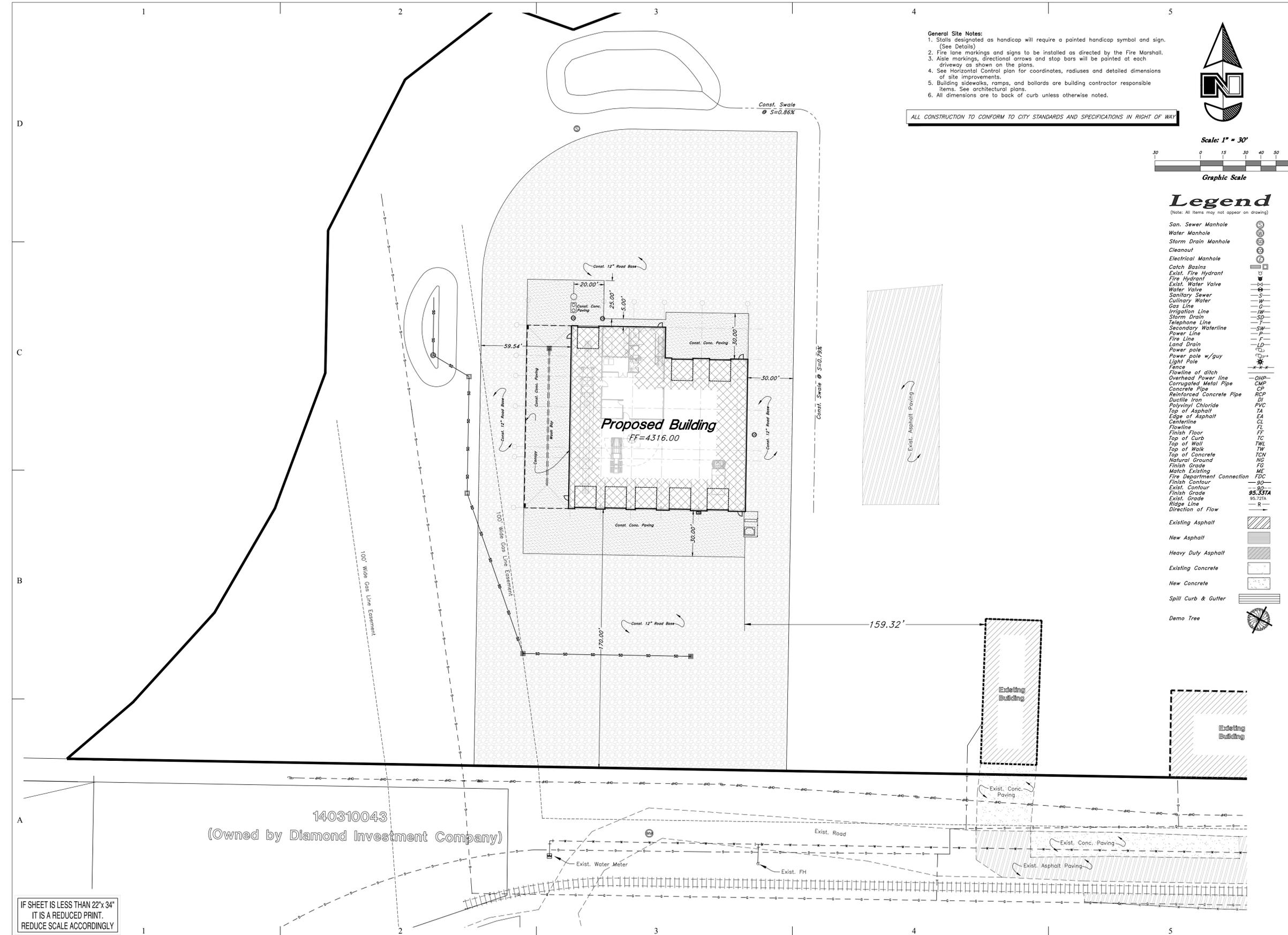
SHEET TITLE

**Demolition Plan**

SHEET NO:

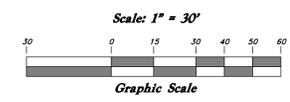
**CD101**

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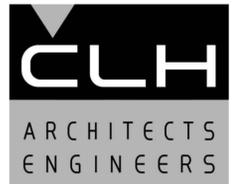
- General Site Notes:**
1. Stalls designated as handicap will require a painted handicap symbol and sign. (See Details)
  2. Fire lane markings and signs to be installed as directed by the Fire Marshall.
  3. Aisle markings, directional arrows and stop bars will be painted at each driveway as shown on the plans.
  4. See Horizontal Control plan for coordinates, radiuses and detailed dimensions of site improvements.
  5. Building sidewalks, ramps, and bollards are building contractor responsible items. See architectural plans.
  6. All dimensions are to back of curb unless otherwise noted.

ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY



**Legend**

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  - Cleanout
  - Electrical Manhole
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  - Exist. Water Valve
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**MAINTENANCE SHOP**

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PROJECT NO: 15460  
CAD DWG FILE:  
DRAWN BY:  
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AUG 19, 2016

SHEET TITLE

Site Plan

SHEET NO:

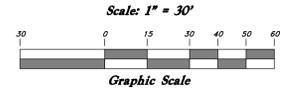
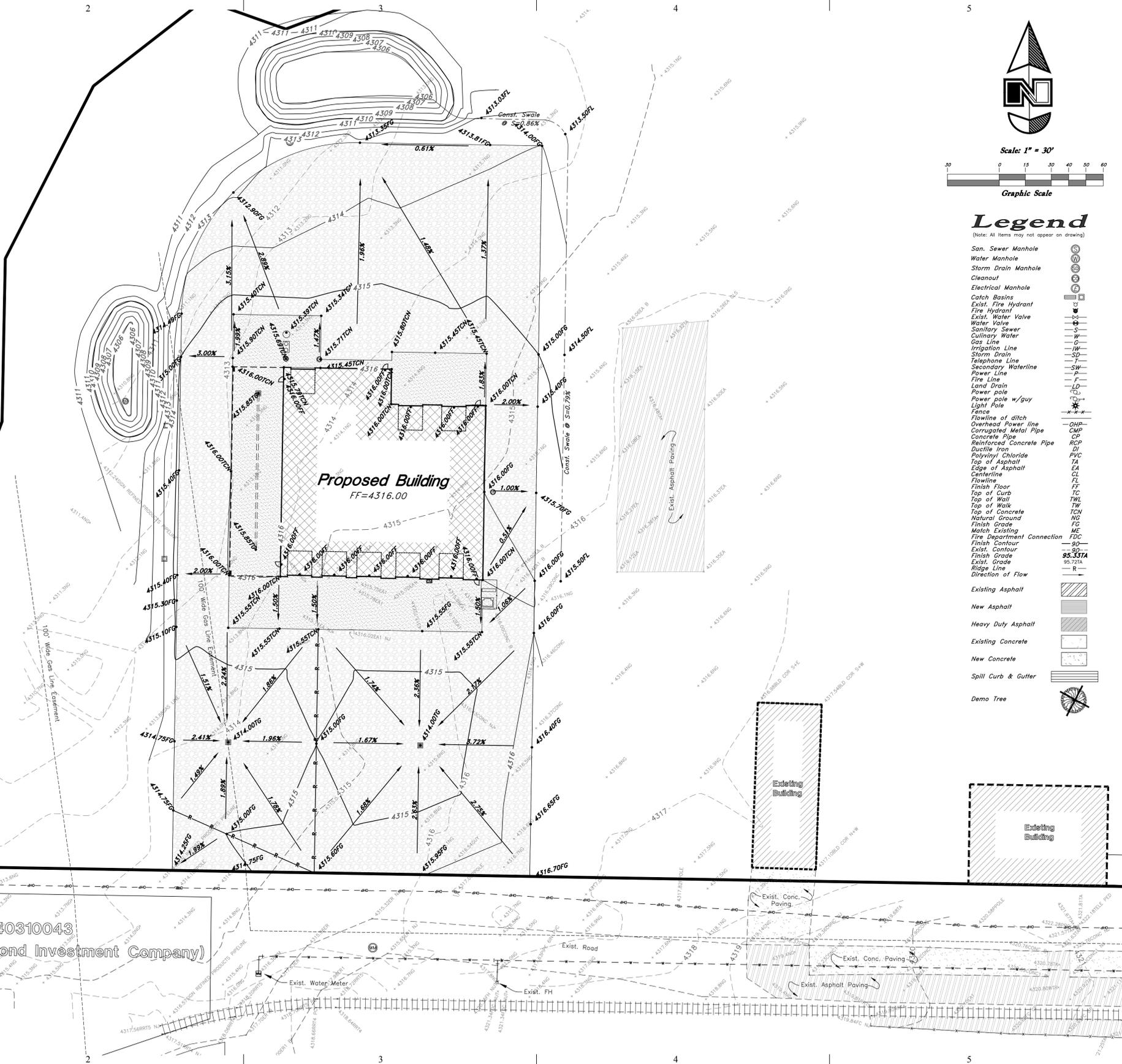
CS101

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- General Grading Notes:**
- All work shall be in accordance with the City Public Works Standard.
  - Cut slopes shall be no steeper than 2 horizontal to 1 vertical.
  - Fill slopes shall be no steeper than 2 horizontal to 1 vertical.
  - Fills shall be compacted per the recommendations of the geotechnical report prepared for the project and shall be certified by the geotechnical engineer.
  - Areas to receive fill shall be properly prepared and approved by the City Inspector and Geotechnical Engineer prior to placing fill.
  - Fills shall be benched into compact material as per specifications and geotechnical report.
  - All trench backfills shall be tested and certified by the site geotechnical engineer per the grading code.
  - A geotechnical engineer shall perform periodic inspections and submit a complete report and map upon completion of the rough grading.
  - The final compaction report and certification from the geotechnical engineer shall contain the type of field testing performed. Each test shall be identified with the method of obtaining the in-place density, whether sand cone or drive ring and shall be so noted for each test. Sufficient maximum density determinations shall be performed to verify the accuracy of the maximum density curves used by the field technician.
  - Dust shall be controlled by watering.
  - The location and protection of all utilities is the responsibility of the permittee.
  - Approved protective measures and temporary drainage provisions must be used to protect adjoining properties during the grading project.
  - All public roadways must be cleared daily of all dirt, mud and debris deposited on them as a result of the grading operation. Cleaning is to be done to the satisfaction of the city engineer.
  - The site shall be cleared and grubbed of all vegetation and deleterious matter prior to grading.
  - The contractor shall provide shoring in accordance with OSHA requirements for trench walls.
  - Aggregate base shall be compacted per the geotechnical report prepared for the project.
  - Elevations shown on this plan are finish grades. Rough grades are the subgrades of the improvements shown herein.
  - The recommendations in the following Geotechnical Engineering Report by xxxx are included in the requirements of grading and site preparation.  
The report is titled "GEOLOGICAL INVESTIGATION"  
Job No: \_\_\_\_\_  
Address \_\_\_\_\_  
Dated: \_\_\_\_\_
  - As part of the construction documents, owner has provided contractor with a topographic survey performed by manual or aerial means. Such survey was prepared for project design purposes and is provided to the contractor as a courtesy. It is expressly understood that such survey may not accurately reflect existing topographic conditions.
  - Erosion Control: Protect all inlet boxes, catch basins, etc. with straw bales or other approved method to strain the storm water during construction. Protect surrounding properties and streets from site runoff with sandbags and earth berms.
- Curb and Gutter Construction Notes:**
- Open face gutter shall be constructed where drainage is directed away from curb.
  - Open face gutter locations are indicated by shading and notes on site and grading plan.
  - It is the responsibility of the surveyor to adjust top of curb grades at the time construction staking.
  - Refer to the typical details for a standard and open face curb and gutter for dimensions.
  - Transitions between open face and standard curb and gutter are to be smooth. Form these areas if necessary.
- ADA Notes:**
- Contractor must maintain a running slope on Accessible routes no steeper than 5.0% (1:20). The cross slope for Accessible routes must be no steeper than 2.0% (1:50). All Accessible routes must have a minimum clear width of 36". If grades on plans do not meet this requirement notify Consultants immediately.
- The Client, Contractor, and Subcontractor should immediately notify the Consultant of any conditions of the project that they believe do not comply with the current state of the ADA and/or FMAA.

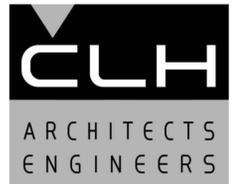
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  - Existing Concrete
  - New Concrete
  - Spill Curb & Gutter
  - Demo Tree



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**TRUCK**  
**MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK DATE DESCRIPTION

ISSUE DATE: AUG 28, 2015  
PROJECT NO: 15460  
CAD DWG FILE:  
DRAWN BY:  
CHK'D BY:

PERMIT SET  
AUG 19, 2016

SHEET TITLE  
**Grading & Drainage Plan**

SHEET NO:  
**CG101**

- General Utility Notes:**
- Coordinate all utility connections to building with plumbing plans and building contractor.
  - Verify depth and location of all existing utilities prior to constructing any new utility lines. Notify Civil Engineer of any discrepancies or conflicts prior to any connections being made.
  - All catch basin and inlet box grates are to be bicycle proof.
  - All inlet boxes located in curb and gutter are to be placed parallel to the curb and gutter and set under the frame and grate. Improperly placed boxes will be removed and replaced at no additional cost to the owner. Precast or cast in place boxes are acceptable.
  - Refer to the site electrical plan for details and locations of electrical lines, transformers and light poles.
  - Gas lines, telephone lines, and cable TV lines are not a part of these plans unless otherwise noted.
  - Water meters are to be installed per city standards and specifications. It will be the contractor's responsibility to install all items required.
  - Water lines, valves, fire hydrants, fittings etc. are to be constructed as shown. Contractor is responsible to construct any vertical adjustments necessary to clear sewer, storm drain or other utilities as necessary including valve boxes and hydrant spools to proper grade.
- D**
- Field verify all existing and/or proposed Roof Drain/Roof Drain down spout connections to Storm Water System with Civil, Plumbing & Architectural plans. Notify Engineer of any discrepancies.

**Utility Piping Materials:**  
All piping to be installed per manufacturers recommendations. Refer to project specifications for more detailed information regarding materials, installation, etc.

- Culinary Service Laterals**
- 3/4" to 2" diameter pipe - copper tube ASTM B, Type K, Soft Temper
  - Over 2" diameter pipe - AWWA C-900 Class 150 pipe

**Water Main Lines and Fire Lines**  
1. Pipe material as shown on utility plan view or to meet city standards.

**Sanitary Sewer Lines**  
1. All sewer piping to be Polyvinyl Chloride (PVC) sewer pipe, ASTM D 3034, Type PSM, SDR 35

- Storm Drain Lines**
- 10" pipes or smaller - Polyvinyl Chloride (PVC) sewer pipe, ASTM D3034, Type PSM, SDR 35
  - 12" to 21" pipes - Concrete Pipe, ASTM C14, Class III up to 13' of cover. For greater than 13' feet of cover, use reinforced concrete pipe and classes listed below.
  - 24" pipes or larger - Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover, Class IV for 13' to 21' of cover, Class V for 21' to 32' of cover, and Special Design for cover greater than 32 feet.

**CAUTION NOTICE TO CONTRACTOR**  
The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

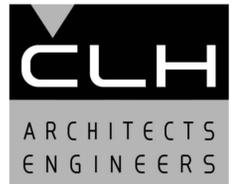
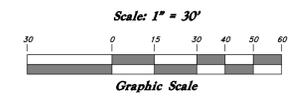
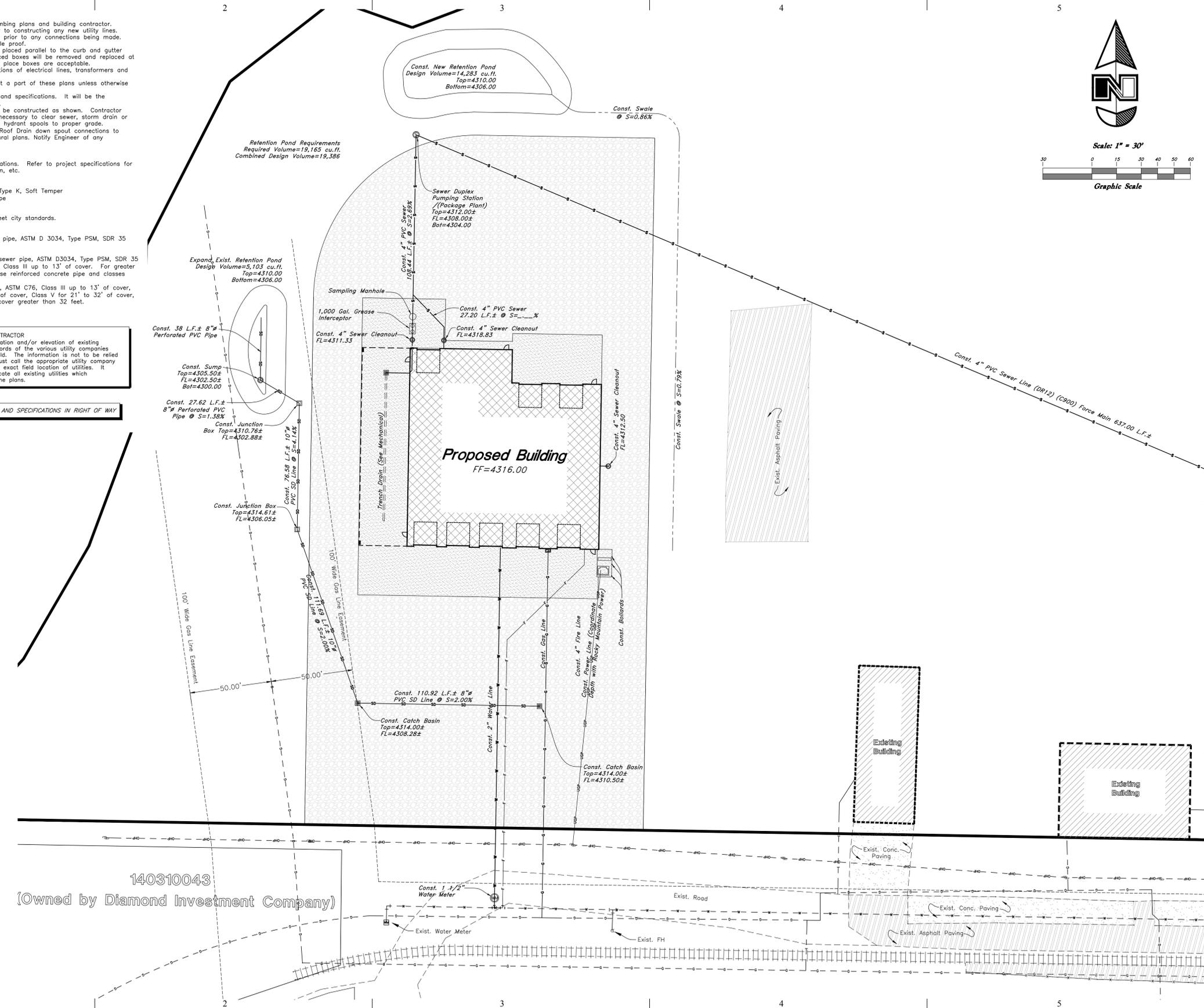
ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY

**Legend**

(Note: All items may not appear on drawing)

- San. Sewer Manhole
- Water Manhole
- Storm Drain Manhole
- Cleanout
- Electrical Manhole
- Catch Basins
- Exist. Fire Hydrant
- Fire Hydrant
- Exist. Water Valve
- Water Valve
- Sanitary Sewer
- Culinary Sewer
- Gas Line
- Irrigation Line
- Storm Drain
- Telephone Line
- Secondary Waterline
- Power Line
- Fire Line
- Land Drain
- Power pole
- Power pole w/guy
- Light Pole
- Fence
- Flowline of ditch
- Overhead Power line
- Corrugated Metal Pipe
- Concrete Pipe
- Reinforced Concrete Pipe
- Ductile Iron
- Polyvinyl Chloride
- Top of Asphalt
- Edge of Asphalt
- Centerline
- Flowline
- Finish Floor
- Top of Curb
- Top of Wall
- Top of Walk
- Top of Concrete
- Natural Ground
- Finish Grade
- Match Existing
- Fire Department Connection
- Finish Contour
- Exist. Contour
- Finish Grade
- Exist. Grade
- Ridge Line
- Direction of Flow
- Existing Asphalt
- New Asphalt
- Heavy Duty Asphalt
- Existing Concrete
- New Concrete
- Spill Curb & Gutter
- Demo Tree

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MARK DATE DESCRIPTION

ISSUE DATE: AUG 28, 2015  
PROJECT NO: 15460  
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DRAWN BY:  
CHK'D BY:

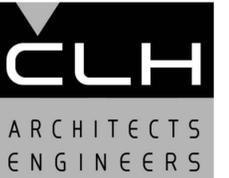
PERMIT SET  
AUG 19, 2016

SHEET TITLE

Utility Plan

SHEET NO:

CU101



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ISSUE DATE: AUG 28, 2015 PROJECT NO: 15460 CAD DWG FILE: DRAWN BY: CHK'D BY:

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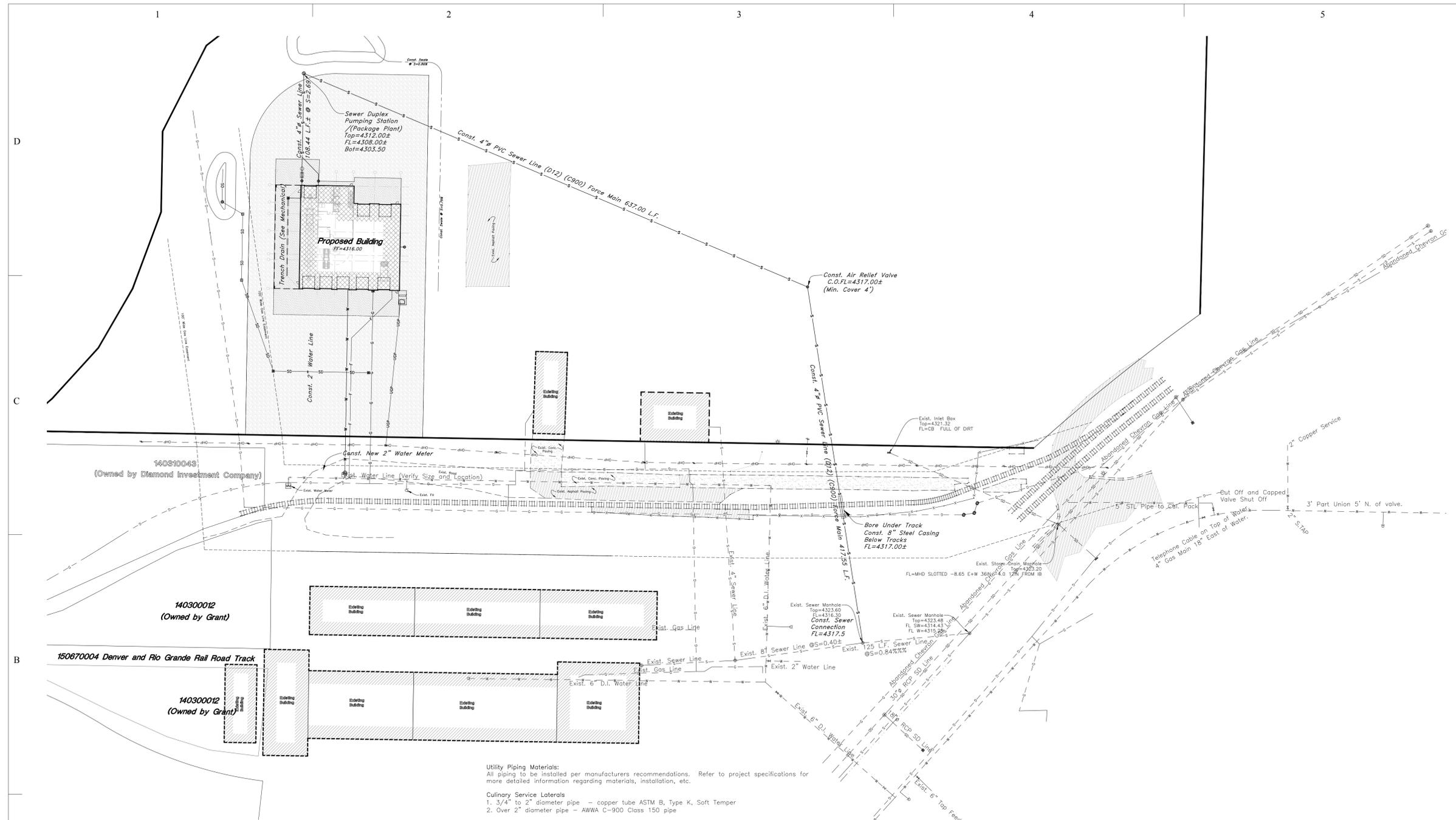
AUG 19, 2016

SHEET TITLE

Overall Utility Plan

SHEET NO:

CU102



- Utility Piping Materials:**  
All piping to be installed per manufacturers recommendations. Refer to project specifications for more detailed information regarding materials, installation, etc.
- Culinary Service Laterals**  
1. 3/4" to 2" diameter pipe - copper tube ASTM B, Type K, Soft Temper  
2. Over 2" diameter pipe - AWWA C-900 Class 150 pipe
- Water Main Lines and Fire Lines**  
1. Pipe material as shown on utility plan view or to meet city standards.
- Sanitary Sewer Lines**  
1. All sewer piping to be Polyvinyl Chloride (PVC) sewer pipe, ASTM D 3034, Type PSM, SDR 35
- Storm Drain Lines**  
1. 10" pipes or smaller - Polyvinyl Chloride (PVC) sewer pipe, ASTM D3034, Type PSM, SDR 35  
2. 12" to 21" pipes - Concrete Pipe, ASTM C14, Class III up to 13' of cover. For greater than 13' feet of cover, use reinforced concrete pipe and classes listed below.  
3. 24" pipes or larger - Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover, Class IV for 13' to 21' of cover, Class V for 21' to 32' of cover, and Special Design for cover greater than 32 feet.

- General Utility Notes:**  
1. Coordinate all utility connections to building with plumbing plans and building contractor.  
2. Verify depth and location of all existing utilities prior to constructing any new utility lines. Notify Civil Engineer of any discrepancies or conflicts prior to any connections being made.  
3. All catch basin and inlet box grates are to be bicycle proof.  
4. All inlet boxes located in curb and gutter are to be placed parallel to the curb and gutter and set under the frame and grate. Improperly placed boxes will be removed and replaced at no additional cost to the owner. Precast or cast in place boxes are acceptable.  
5. Refer to the site electrical plan for details and locations of electrical lines, transformers and light poles.  
6. Gas lines, telephone lines, and cable TV lines are not a part of these plans unless otherwise noted.  
7. Water meters are to be installed per city standards and specifications. It will be the contractor's responsibility to install all items required.  
8. Water lines, valves, fire hydrants, fittings etc. are to be constructed as shown. Contractor is responsible to construct any vertical adjustments necessary to clear sewer, storm drain or other utilities as necessary including valve boxes and hydrant spools to proper grade.  
9. Field verify all existing and/or proposed Roof Drain/Roof Drain down spout connections to Storm Water System with Civil, Plumbing & Architectural plans. Notify Engineer of any discrepancies.

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ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY

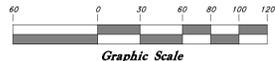
Legend

(Note: All items may not appear on drawing)

San. Sewer Manhole	Power pole w/guy	Exist. Grade	95.721A
Water Manhole	Light Pole	Ridge Line	R
Storm Drain Manhole	Fence	Direction of Flow	
Cleanout	Flowline of ditch	Existing Asphalt	
Electrical Manhole	Overhead Power line	New Asphalt	
Catch Basins	Corrugated Metal Pipe	Heavy Duty Asphalt	
Exist. Fire Hydrant	Concrete Pipe	Existing Concrete	
Exist. Water Valve	Reinforced Concrete Pipe	New Concrete	
Water Valve	Ductile Iron	Spill Curb & Gutter	
Sanitary Sewer	Polyvinyl Chloride	Demo Tree	
Culinary Water	Top of Asphalt		
Gas Line	Edge of Asphalt		
Irrigation Line	Flowline		
Storm Drain	FL		
Telephone Line	FF		
Secondary Waterline	TC		
Power Line	Top of Wall		
Fire Line	TW		
Land Drain	Top of Curb		
Power pole	Top of Walk		
	Top of Concrete		
	Natural Ground		
	Finish Grade		
	Match, Existing		
	Fire Department Connection		
	Exist. Contour		
	Finish Grade		
	Exist. Contour		
	Finish Grade		



Scale: 1" = 60'



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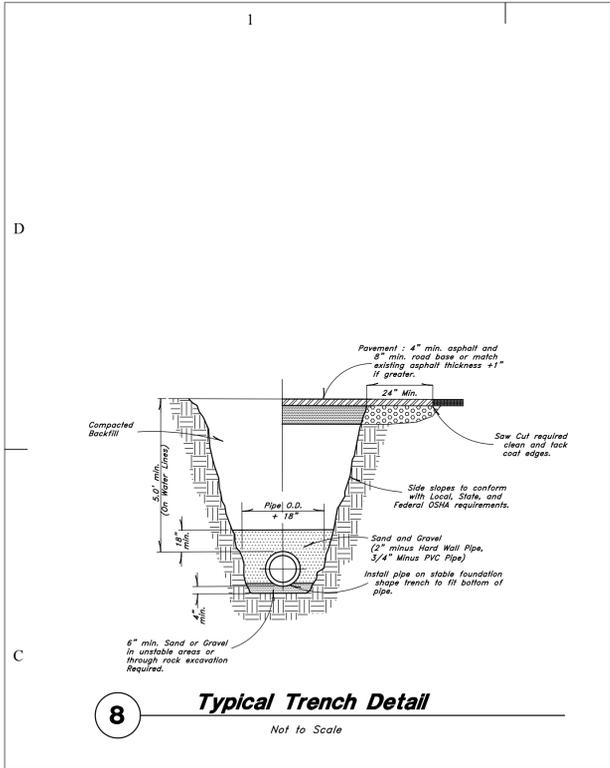
AUG 19, 2016

SHEET TITLE

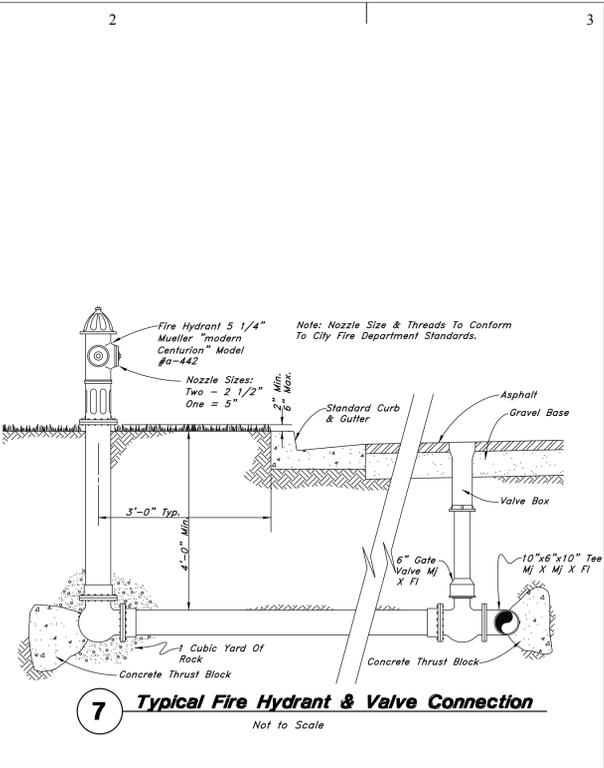
**Construction**  
**Details**

SHEET NO:

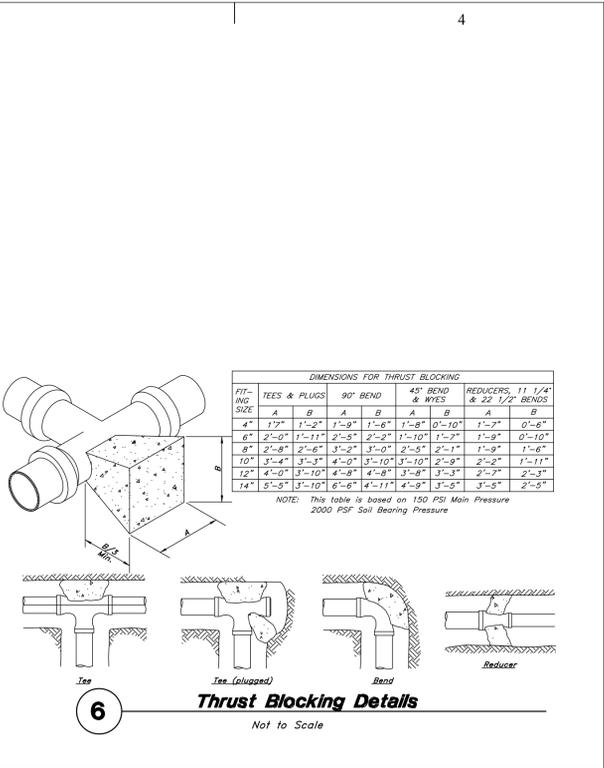
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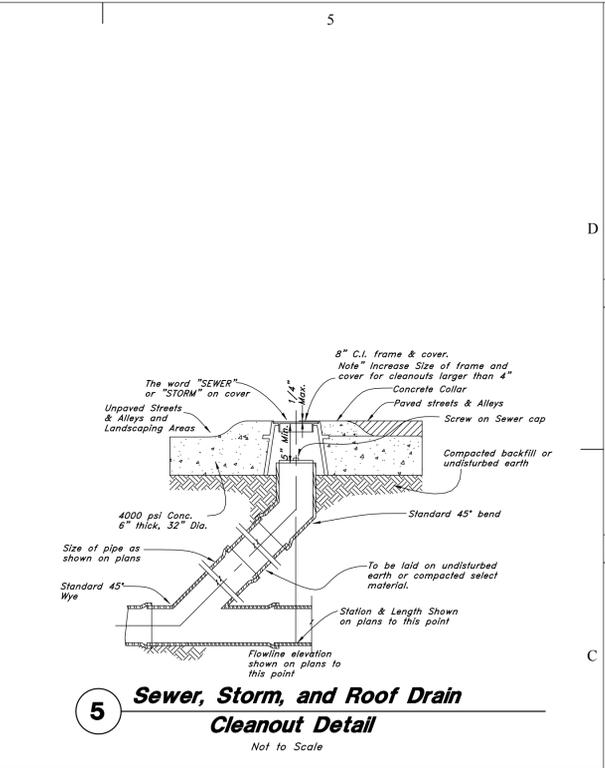
**8 Typical Trench Detail**  
Not to Scale



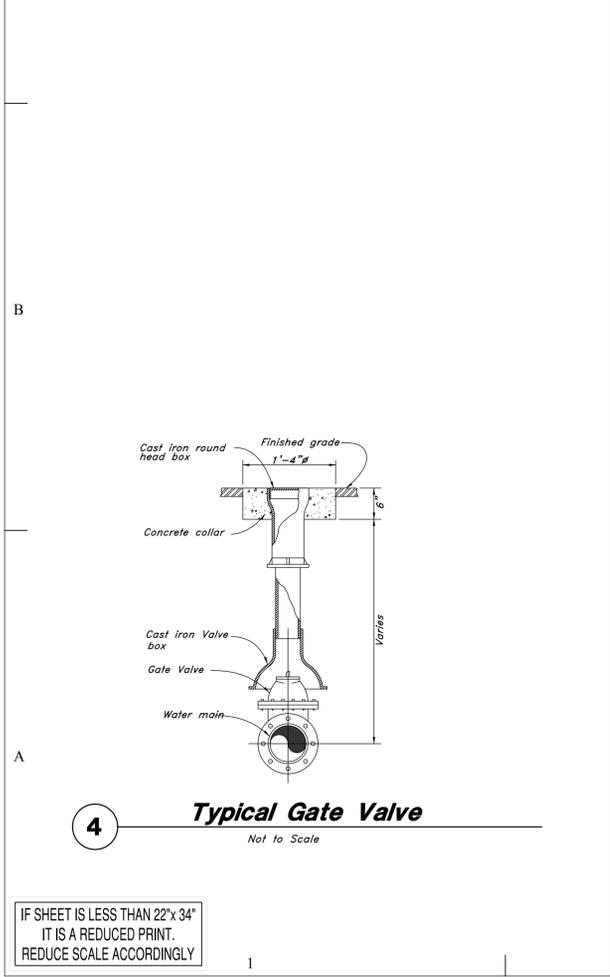
**7 Typical Fire Hydrant & Valve Connection**  
Not to Scale



**6 Thrust Blocking Details**  
Not to Scale

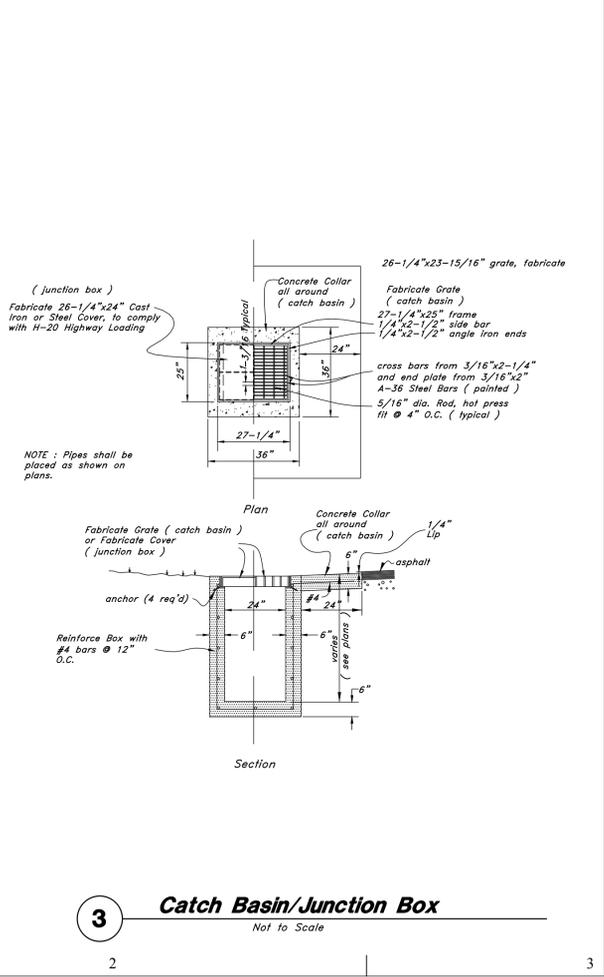


**5 Sewer, Storm, and Roof Drain Cleanout Detail**  
Not to Scale

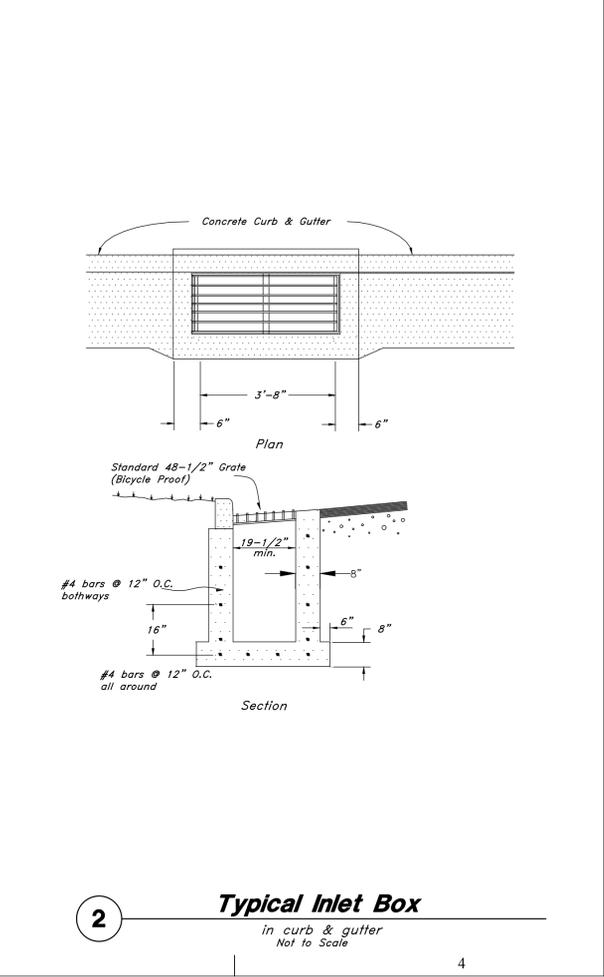


**4 Typical Gate Valve**  
Not to Scale

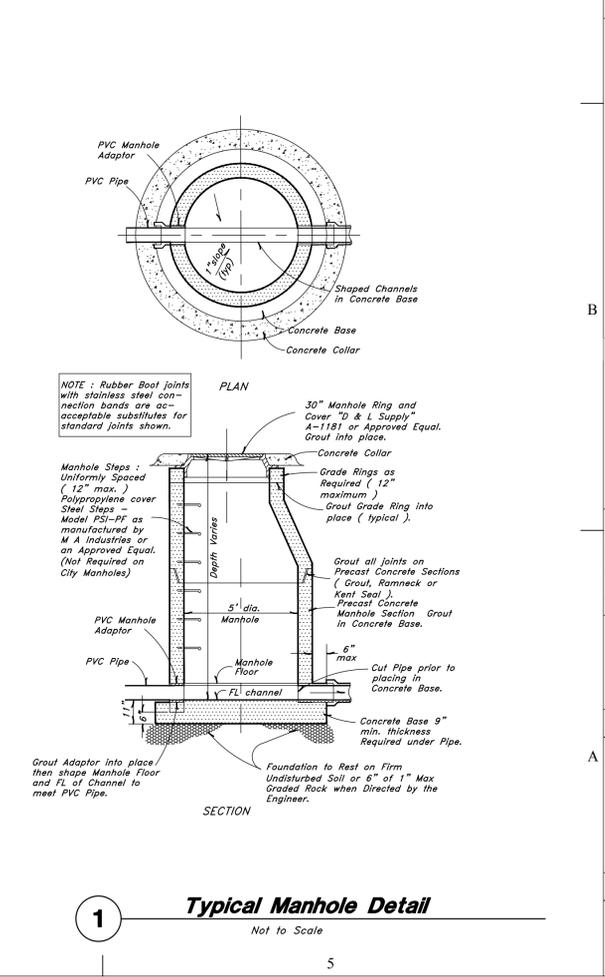
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**3 Catch Basin/Junction Box**  
Not to Scale



**2 Typical Inlet Box**  
in curb & gutter  
Not to Scale



**1 Typical Manhole Detail**  
Not to Scale



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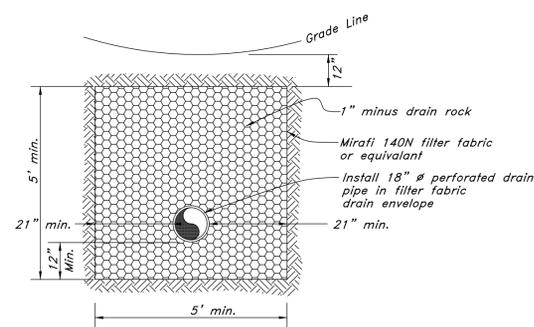
AUG 19, 2016

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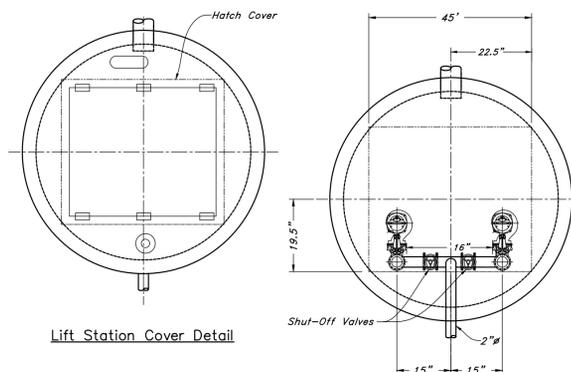
**Construction  
Details**

SHEET NO:

**CD503**



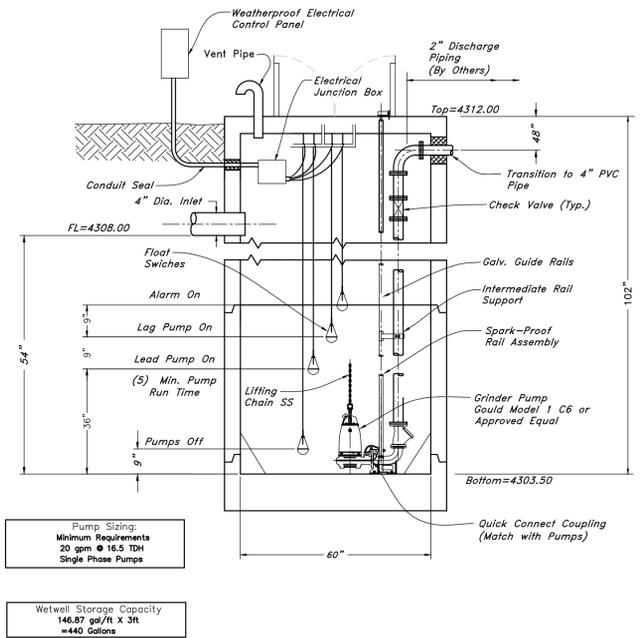
**2** **Perforated Drain Pipe Detail**  
Not to Scale



**Lift Station Cover Detail**

**Lift Station Pump Detail**

- NOTES:
- All Tank Piping on the Exterior of the Lift Station is to be Provided and Installed by the Contractor.
  - Electrical Conduit and Wiring from the Junction Box to the Control Panel is to be supplied by the Contractor.
  - The Incoming Power to the Electrical Control Panel is to be furnished by the Customer.
  - Float Location are adjustable by the Owner so that the Owner can modify Run Time of Pumps as well as Alarm Settings. Five (5) Min. Run Time of Pumps is a Minimum to Prevent the Pumps from Overheating.
  - A Portable Hoist can be Supplied w/ Embedded floor socket for pump removal can be supplied as an option.
  - Pump Base with Guide Rails to be Mounted and installed before floor grouting from outside edges inward. Manway size must Accommodate pumps, piping and Rail System for removal of both Pumps.
  - Vent Piping in Concrete to be Supplied and installed by installation Contractor.
  - All concrete work and wall sleeves are to be installed by the contractor.

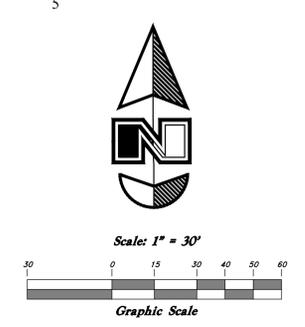


Pump Sizing:  
Minimum Requirements  
20 gpm @ 16.5 TDH  
Single Phase Pumps

Wetwell Storage Capacity  
146.87 gal./ft. X 3ft  
=440 Gallons

**1** **Concrete Lift Station Detail**  
Not to Scale

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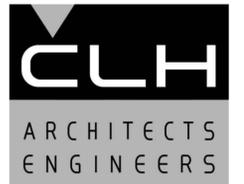


**Legend**

(Note: All items may not appear on drawing)

- San. Sewer Manhole
- Water Manhole
- Storm Drain Manhole
- Cleanout
- Electrical Manhole
- Catch Basins
- Exist. Fire Hydrant
- Fire Hydrant
- Exist. Water Valve
- Water Valve
- Sanitary Sewer
- Culinary Water
- Gas Line
- Irrigation Line
- Storm Drain
- Telephone Line
- Secondary Waterline
- Power Line
- Fire Line
- Land Drain
- Power pole
- Power pole w/guy
- Light Pole
- Fence
- Flowline of ditch
- Overhead Power line
- Corrugated Metal Pipe
- Concrete Pipe
- Reinforced Concrete Pipe
- Ductile Iron
- Polyvinyl Chloride
- Top of Asphalt
- Edge of Asphalt
- Centerline
- Flowline
- Finish Floor
- Top of Curb
- Top of Wall
- Top of Walk
- Top of Concrete
- Natural Ground
- Finish Grade
- Match Existing
- Fire Department Connection
- Finish Contour
- Exist. Contour
- Finish Grade
- Exist. Grade
- Ridge Line
- Direction of Flow
- Existing Asphalt
- New Asphalt
- Heavy Duty Asphalt
- Existing Concrete
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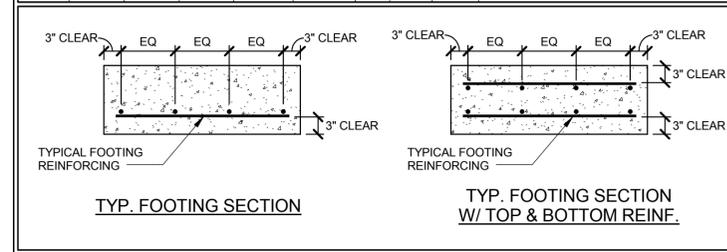
**Storm Water Study**

SHEET NO:

**SWS**



FOOTING SCHEDULE									
MARK	WIDTH	LENGTH	THICK	LENGTHWISE REINF.		CROSSWISE REINF.			REMARKS
				NO.	SIZE	NO.	SIZE	SPA.	
FC2	2'-0"	CONT.	12"	(2)	#6	--	--	--	
GB-1	1'-0"	CONT.	12"	(4)	#5	--	--	--	
F2.5	2'-6"	2'-6"	12"	(3)	#5	(3)	#5	--	
F3	3'-0"	3'-0"	12"	(3)	#5	(3)	#5	--	
F3.5	3'-6"	3'-6"	12"	(3)	#5	(3)	#5	--	
F4	4'-0"	4'-0"	12"	(4)	#5	(4)	#5	--	
F4.5	4'-6"	4'-6"	12"	(4)	#5	(4)	#5	--	
F5	5'-0"	5'-0"	12"	(5)	#5	(5)	#5	--	
F5.5	5'-6"	5'-6"	12"	(5)	#5	(5)	#5	--	
F6	6'-0"	6'-0"	12"	(6)	#5	(6)	#5	--	
F6.5	6'-6"	6'-6"	14"	(7)	#5	(7)	#5	--	
F7	7'-0"	7'-0"	14"	(7)	#5	(7)	#5	--	
F7.5	7'-6"	7'-6"	14"	(7)	#6	(7)	#6	--	
F8	8'-0"	8'-0"	16"	(8)	#6	(8)	#6	--	
F8.5	8'-6"	8'-6"	16"	(8)	#6	(8)	#6	--	
F9	9'-0"	9'-0"	18"	(9)	#6	(9)	#6	--	
F9.5	9'-6"	9'-6"	18"	(9)	#6	(9)	#6	--	
F10	10'-0"	10'-0"	20"	(10)	#6	(10)	#6	--	
F10.5	10'-6"	10'-6"	20"	(10)	#7	(10)	#7	--	
F11	11'-0"	11'-0"	22"	(11)	#7	(11)	#7	--	
F11.5	11'-6"	11'-6"	22"	(11)	#7	(11)	#7	--	
F12	12'-0"	12'-0"	22"	(12)	#7	(12)	#7	--	



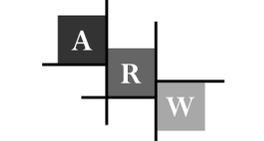
2012 IBC CONC. REBAR LAP SPLICE SCHEDULE																										
FOR CONCRETE APPLICATIONS (ACI 318 - 11)																										
BAR LOCATION	CONCRETE		CONCRETE REINFORCING & SPLICE LENGTHS (IN)																							
	TYPE	STRENGTH	BAR SIZE																							
			#3	#4	#5	#6	#7	#8	#9	#10	#11															
			ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh			
VERT. WALL BARS, FILL ON METAL DECK	NWC	3000 PSI	17	22	8	22	29	8	28	36	10	33	43	12	48	62	13	55	72	15	62	17	69	19	76	30
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	3000 PSI	17	22	8	22	29	8	28	36	10	33	43	12	48	62	13	55	72	15	62	17	69	19	76	30
BEAM BOTTOM BARS, COLUMN BARS	NWC	3000 PSI	17	22	8	22	29	11	28	36	14	33	43	16	48	62	19	55	72	22	62	25	69	27	76	30
FOOTING BOTTOM BARS	NWC	3000 PSI	12	16	8	14	18	8	17	22	10	20	26	12	29	38	13	33	43	15	37	17	42	19	46	30
BEAM TOP BARS	NWC	3000 PSI	22	29	8	29	38	11	36	47	14	43	56	16	63	82	19	72	94	22	81	25	90	27	98	30
SLAB ON GRADE	NWC	3000 PSI	12	16	8	14	18	8	17	22	10	20	26	12	32	42	13	42	55	15	53	17	69	19	76	30
BAR LOCATION	CONCRETE		CONCRETE REINFORCING & SPLICE LENGTHS (IN)																							
	TYPE	STRENGTH	BAR SIZE																							
			#3	#4	#5	#6	#7	#8	#9	#10	#11															
			ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh
VERT. WALL BARS, FILL ON METAL DECK	NWC	4000 PSI	15	20	7	19	25	7	24	31	8	29	38	10	42	55	12	48	62	13	54	15	60	17	66	26
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	4000 PSI	15	20	7	19	25	7	24	31	8	29	38	10	42	55	12	48	62	13	54	15	60	17	66	26
BEAM BOTTOM BARS, COLUMN BARS	NWC	4000 PSI	15	20	7	19	25	9	24	31	12	29	38	14	42	55	17	48	62	19	54	21	60	24	66	26
FOOTING BOTTOM BARS	NWC	4000 PSI	12	16	7	12	16	7	15	20	8	18	23	10	25	33	12	29	38	13	33	15	36	17	40	26
BEAM TOP BARS	NWC	4000 PSI	19	25	7	25	33	9	31	40	12	37	48	14	54	70	17	62	81	19	70	21	78	24	85	26
SLAB ON GRADE	NWC	4000 PSI	12	16	7	12	16	7	15	20	8	18	23	10	28	36	12	36	47	13	46	15	60	17	66	26
BAR LOCATION	CONCRETE		CONCRETE REINFORCING & SPLICE LENGTHS (IN)																							
	TYPE	STRENGTH	BAR SIZE																							
			#3	#4	#5	#6	#7	#8	#9	#10	#11															
			ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh	ld	ts	ldh
VERT. WALL BARS, FILL ON METAL DECK	NWC	4500 PSI	14	18	7	18	23	6	23	30	8	27	35	9	40	52	11	45	59	13	51	14	56	16	62	25
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	4500 PSI	14	18	7	18	23	6	23	30	8	27	35	9	40	52	11	45	59	13	51	14	56	16	62	25
BEAM BOTTOM BARS, COLUMN BARS	NWC	4500 PSI	14	18	7	18	23	9	23	30	11	27	35	13	40	52	16	45	59	18	51	20	56	22	62	25
FOOTING BOTTOM BARS	NWC	4500 PSI	12	16	7	12	16	6	14	18	8	17	22	9	24	31	11	27	35	13	31	14	34	16	37	25
BEAM TOP BARS	NWC	4500 PSI	18	23	7	24	31	9	30	39	11	35	46	13	51	66	16	59	77	18	66	20	73	22	80	25
SLAB ON GRADE	NWC	4500 PSI	12	16	7	12	16	6	14	18	8	17	22	9	27	35	11	34	44	13	44	14	56	16	62	25

- NOTES:
- MECHANICAL COUPLERS MAY BE USED IN LIEU OF LAP SPLICES SHOWN. SEE STRUCTURAL NOTES FOR MINIMUM COUPLER CAPACITY. WHERE MECHANICAL COUPLERS ARE USED, STAGGER ADJACENT SPLICES A MINIMUM OF 24" AS INDICATED ABOVE.
  - DEVELOPMENT LENGTHS SHALL BE INCREASED BY 50% FOR STRAIGHT BAR DEVELOPMENT AND 20% FOR HOOKED BARS WHERE EPOXY COATING IS USED.
  - WHEN SPLICING BARS OF DIFFERENT SIZES, USE LAP SPLICE LENGTH OF LARGER BARS UNO.
  - SPLICE BARS LARGER THAN #11 USING MECHANICAL COUPLERS.



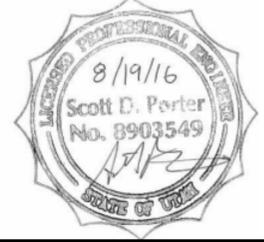
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AUG 19, 2016

SHEET TITLE

SCHEDULES

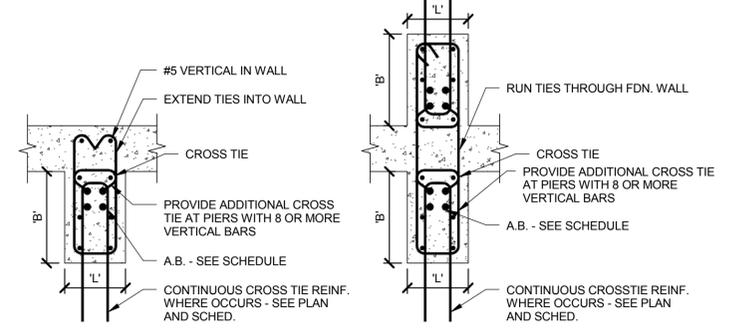
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**CONCRETE PIER SCHEDULE**

MARK	SIZE (B x L)	VERT REINF. (NOTE 2)	TIES	ANCHOR BOLTS	COMMENTS
CP-1	18" x 18"	(4) #5 BARS	#3@ 12" o.c. W/ 3 IN TOP 5"	(4) 5/8" Ø W/ MIN 12" EMBED	
CP-2	18" x 18"	(4) #5 BARS	#3@ 12" o.c. W/ 3 IN TOP 5"	(4) 5/8" Ø W/ MIN 12" EMBED	
CP-3	18" x 18"	(6) #5 BARS	#3@ 12" o.c. W/ 3 IN TOP 5"	(4) 3/4" Ø W/ MIN 20" EMBED	
CP-4	24" x 24"	(8) #5 BARS	#3@ 6" o.c. W/ 3 IN TOP 5"	(4) 3/4" Ø W/ MIN 18" EMBED	
CP-5	26" x 26"	(8) #5 BARS	#3@ 6" o.c. W/ 3 IN TOP 5"	(4) 7/8" Ø W/ MIN 20" EMBED	1"x8"x8" PLATE @ BOTTOM OF A.B. SEE 1/S202
CP-6	24" x 41"	(20) #5 BARS	#3@ 6" o.c. W/ 3 IN TOP 5"	(4) 1 1/4" Ø W/ MIN 20" EMBED & (4) 3/4" Ø W/ MIN 20" EMBED	SEE 9/S202
CP-7	18" x 26"	(14) #5 BARS	#3@ 6" o.c. W/ 3 IN TOP 5"	(8) 3/4" Ø W/ MIN 20" EMBED	SEE 10/S202



- NOTES:**
- WHERE T.O. PIER IS LOWER THAN T.O. FOUND. WALL, BLOCK OUT FOUND. WALL AS REQ'D FOR BASE PLATE CLEARANCE.
  - VERTICAL PIER REINFORCING TO BE UNIFORMLY SPACED AROUND PERIMETER, 2" CLEAR FROM OUTSIDE OF PIER
  - TOP OF PIER ELEVATION IS 100'-0" EXCEPT WHERE OTHERWISE NOTED ON PLANS.
  - ANCHOR BOLTS ARE TO BE F1554 GR. 55 BOLTS.
  - WALL REINF. NOT SHOWN FOR CLARITY. WALL REINF. TO BE CONTINUOUS THROUGH PIERS.

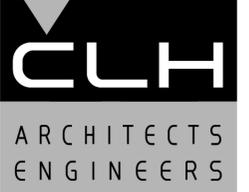
**SPECIAL INSPECTION SCHEDULE** 1,2

ESTABLISHED PER 2012 IBC SECTION 110 AND CHAPTER 17

ITEM	CONTINUOUS <sup>3</sup>	PERIODIC <sup>3</sup>	REFERENCE	COMMENTS
<b>CONCRETE CONSTRUCTION (IBC 1705.3)</b>				
REINFORCING STEEL PLACEMENT		●	SEE IBC TABLE 1705.3 - REF. NOTE C1	
WELDING OF REINFORCING STEEL		●	REFERENCE NOTE C2	C1. SPECIAL INSPECTION IS NOT REQUIRED FOR CONC. ISOLATED SPREAD FOOTINGS, CONTINUOUS FOOTINGS, NON-STRUCTURAL SLABS, FOUNDATION WALLS, PATIOS, DRIVEWAYS, AND SIDEWALKS PROVIDED THE REQUIREMENTS OF IBC 1705.3 ARE MET.
EMBEDDED BOLTS & PLATES	●			C2. PERIODIC SPECIAL INSPECTION IS ALLOWED FOR VERIFICATION OF THE WELDABILITY OF REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES. BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS, AND SHEAR REINFORCEMENT. PERIODIC SPECIAL INSPECTION IS ALLOWED FOR WELDING OF OTHER ASTM A 706 REINFORCING STEEL NOT INCLUDED IN THE CONTINUOUS SPECIAL INSPECTION REQUIREMENTS NOTED ABOVE.
VERIFYING REQUIRED DESIGN MIX		●		C3. PERFORM AIR, SLUMP AND TEMP. TESTS WHEN CONCRETE SAMPLES ARE CAST.
CONCRETE PLACEMENT / SAMPLING	●		REFERENCE NOTE C3	C4. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR VERIFICATION OF IN-SITU CONCRETE STRENGTH FOR POST-TENSIONED CONCRETE PRIOR TO TENSIONING TENDONS OR REMOVING SHORING OR FORMS.
CURING TEMPERATURE / TECHNIQUES		●		C5. EPOXY AND EXPANSION ANCHORS INTO MASONRY OR CONCRETE MAY BE USED ONLY WHEN APPROVED BY ARCHITECT, AND/OR ENGINEER USING AN APPROVED PRODUCT WITH CURRENT PUBLISHED ICC RESEARCH REPORT NUMBERS. COORDINATE CONTINUOUS/PERIODIC SPECIAL INSPECTION REQUIREMENTS WITH ICC REPORT.
VERIFICATION OF IN-SITU STRENGTH		●	REFERENCE NOTE C4	
EPOXY / EXPANSION ANCHOR PLACEMENT	●	●	REFERENCE NOTE C5	
<b>SOILS (IBC 1705.6)</b>				
VERIFY ADEQUATE MATERIALS BELOW FOOTINGS		●	REFERENCE NOTE F1	F1. SPECIAL INSPECTION OF SOILS SHALL REFERENCE THE APPROVED SOILS REPORT TO DETERMINE COMPLIANCE.
EXCAVATIONS EXTEND TO PROPER DEPTH AND REACH PROPER MATERIAL		●	REFERENCE NOTE F2	F2. WHERE SOILS REPORT IS NOT PROVIDED SPECIAL INSPECTIONS ARE REQUIRED TO VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D 1557.
CLASSIFY & TEST CONTROLLED FILL MATERIALS		●	REFERENCE NOTE F2	
PERFORM MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	●		REFERENCE NOTE F1	
PROPERLY PREPARED SITE AND SUB-GRADE PRIOR TO FILL.		●	REFERENCE NOTE F1	

**GENERAL SPECIAL INSPECTION NOTES :**

- THE ITEMS MARKED WITH A "●" IN THE SPECIAL INSPECTION SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT, AND ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
- ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.
- CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. (IBC SECTION 1702)



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CHK'D BY:	JDN

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 AUG 19, 2016

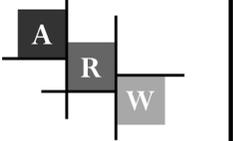
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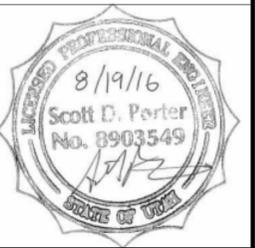
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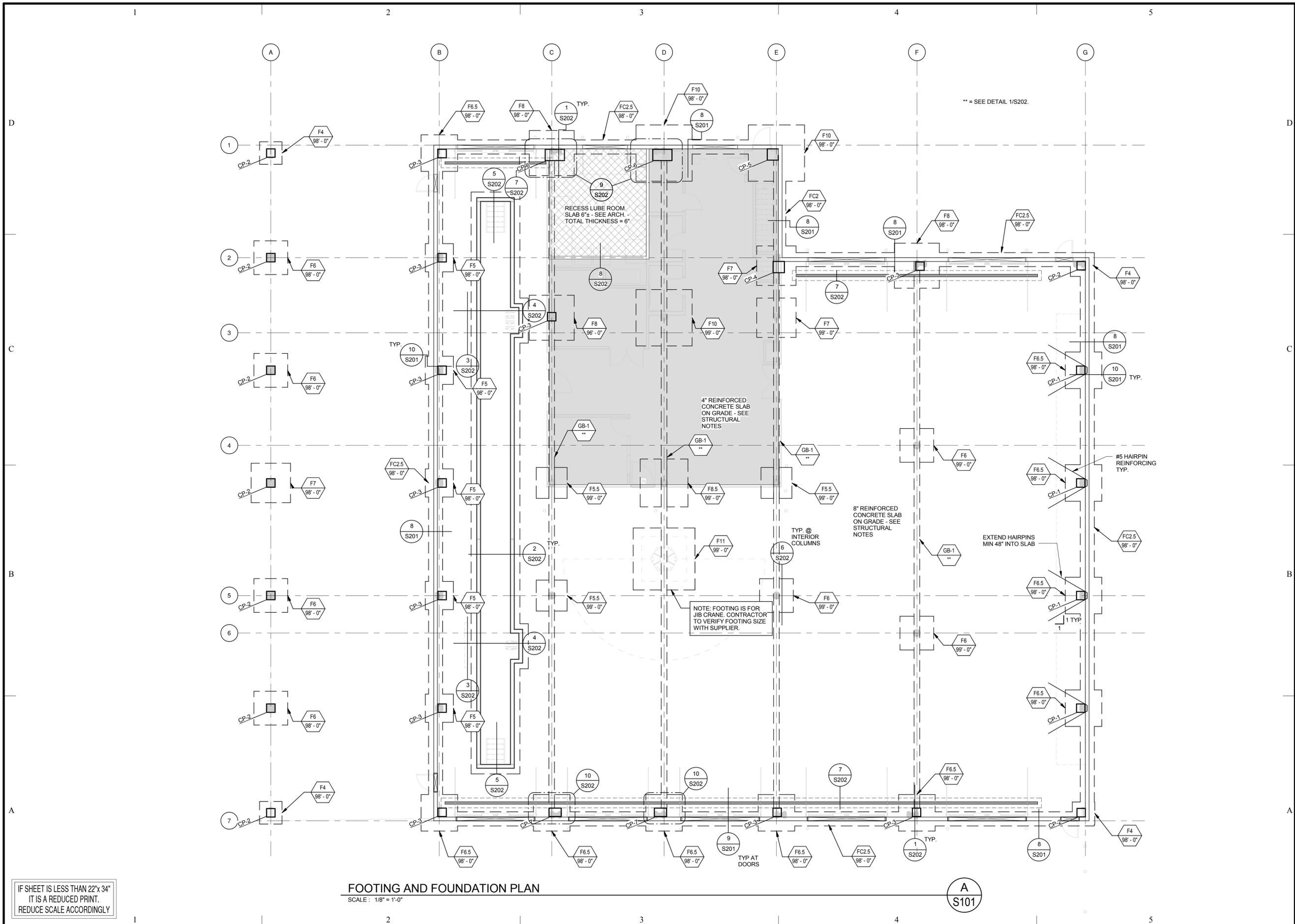
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**FOOTING AND  
FOUNDATION  
PLAN**

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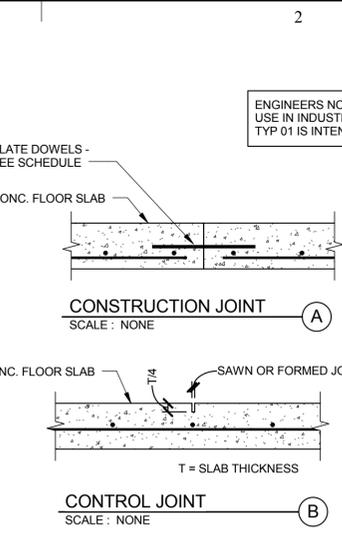
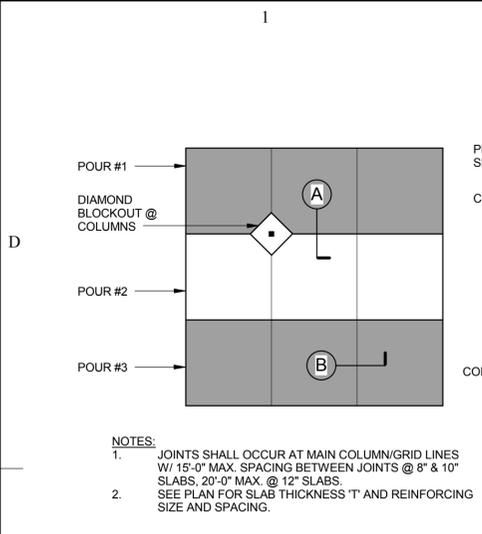
**S101**



**FOOTING AND FOUNDATION PLAN**

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

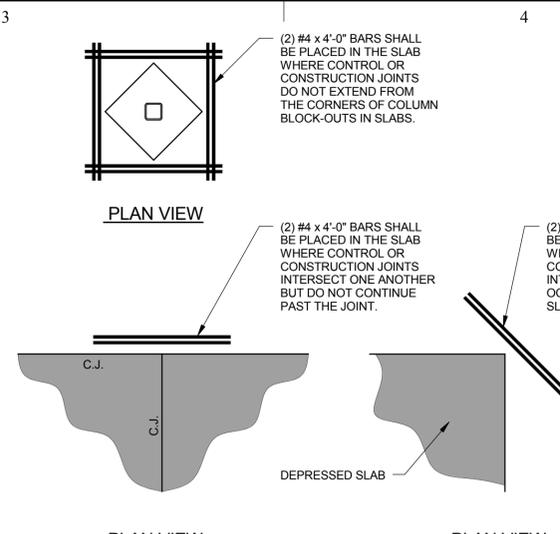
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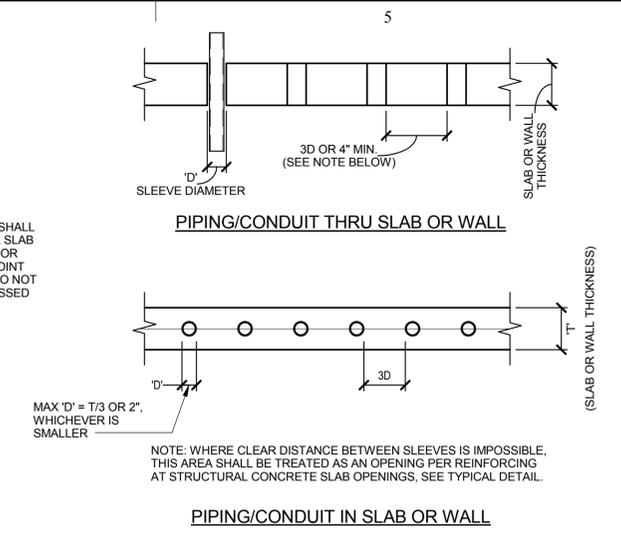
**DOWEL SCHEDULE**

SLAB THICKNESS	SMOOTH DOWELS		DIAMOND DOWELS	
	SIZE	SPACING	SIZE	SPACING
6" & 8"	1" DIA. x 16"	12"	3/8"x4 1/2"x4 1/2"	18"
10" & 12"	1 1/4" DIA. x 18"	12"	3/4"x4 1/2"x4 1/2"	20"

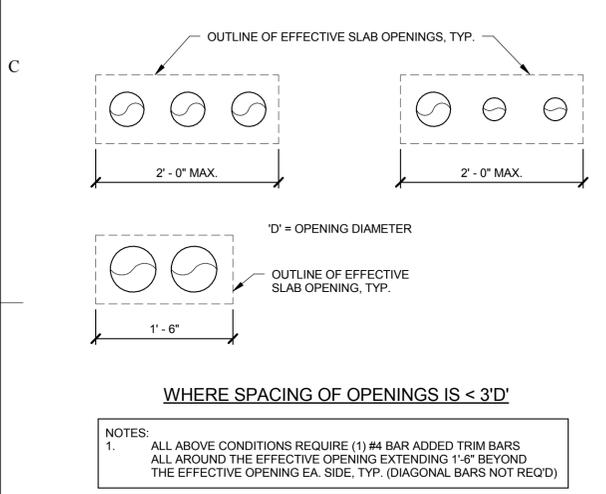
**TYPICAL CONCRETE SLAB JOINTS**  
SCALE: NONE



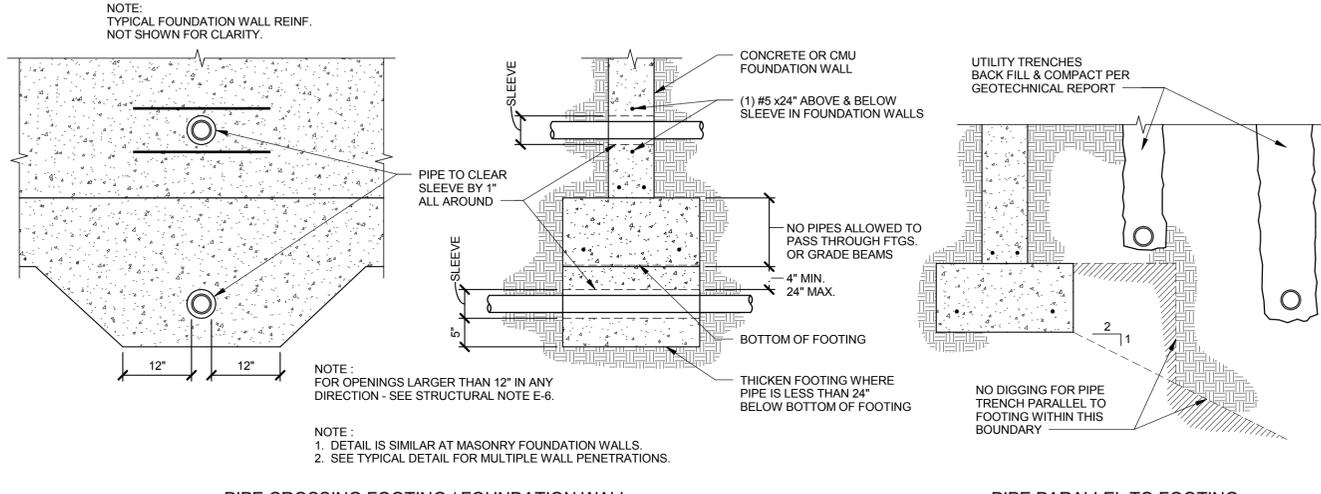
**TYPICAL CONTROL JOINT DETAIL**  
SCALE: NONE



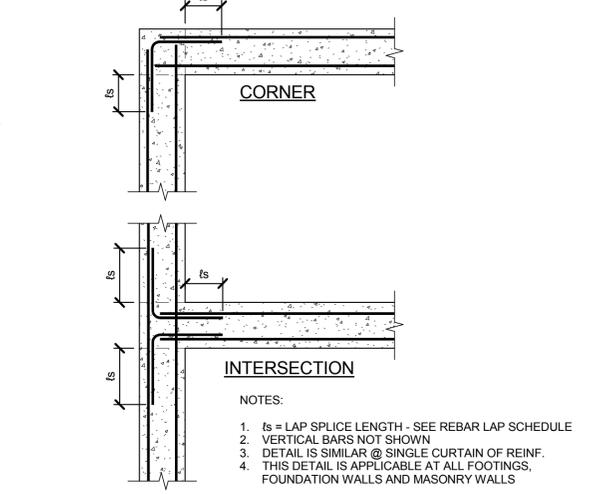
**TYP. PIPING/CONDUIT AT SLAB OR WALL**  
SCALE: NONE



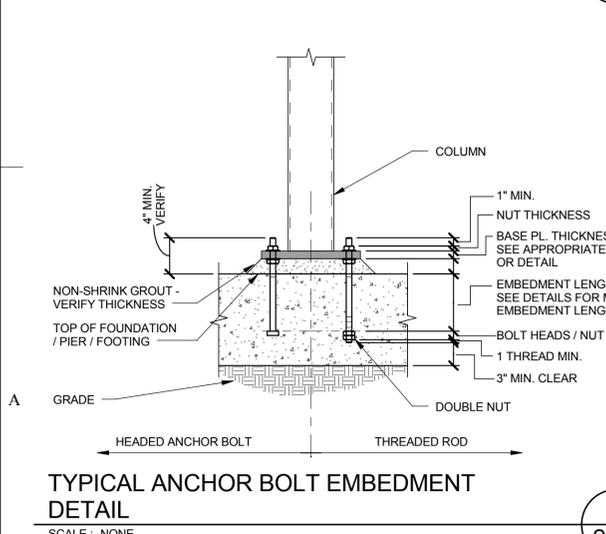
**TYP. MULTIPLE OPENINGS IN CONCRETE SLABS**  
SCALE: NONE



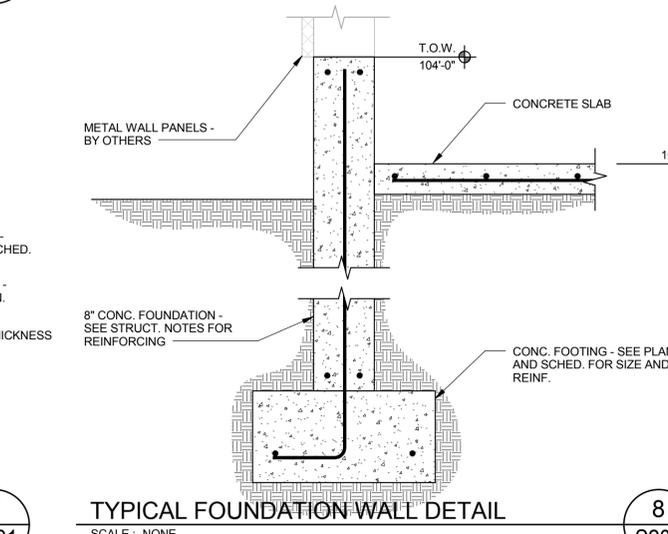
**ALLOWABLE PIPING LOCATIONS @ FOOTING DETAIL**  
SCALE: NONE



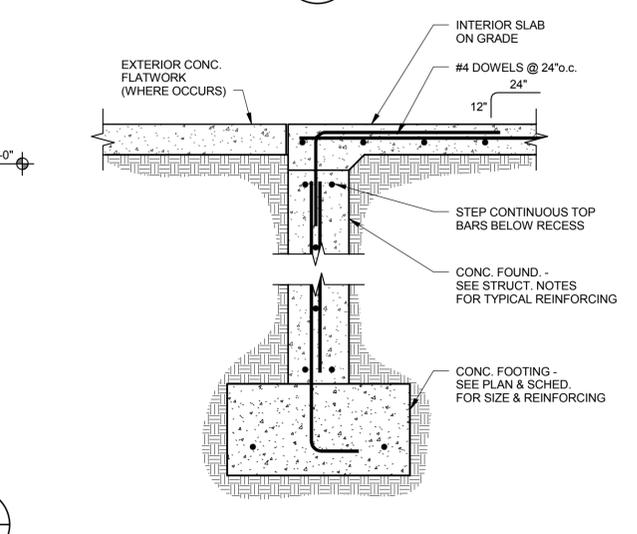
**TYPICAL HORIZONTAL REINFORCING DETAIL**  
SCALE: NONE



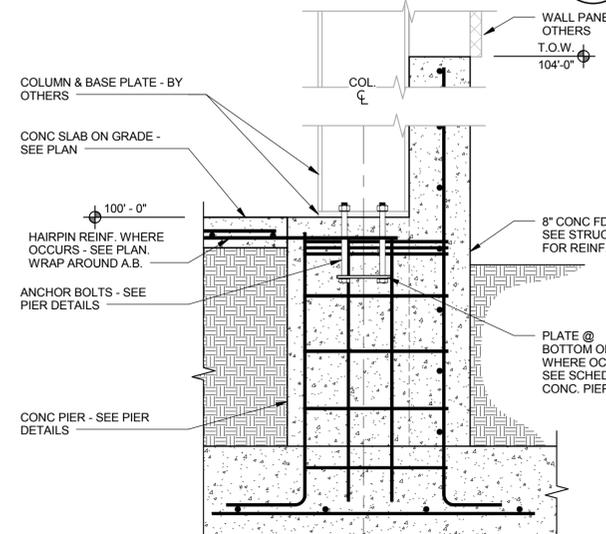
**TYPICAL ANCHOR BOLT EMBEDMENT DETAIL**  
SCALE: NONE



**TYPICAL FOUNDATION WALL DETAIL**  
SCALE: NONE

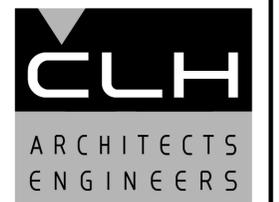


**CONCRETE FOUNDATION @ OPENING DETAIL**  
SCALE: NONE

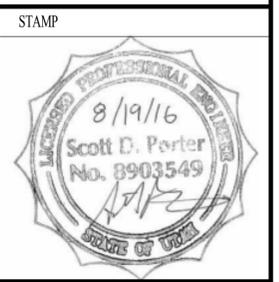
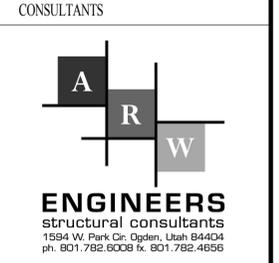


**TYPICAL FOUNDATION WALL DETAIL**  
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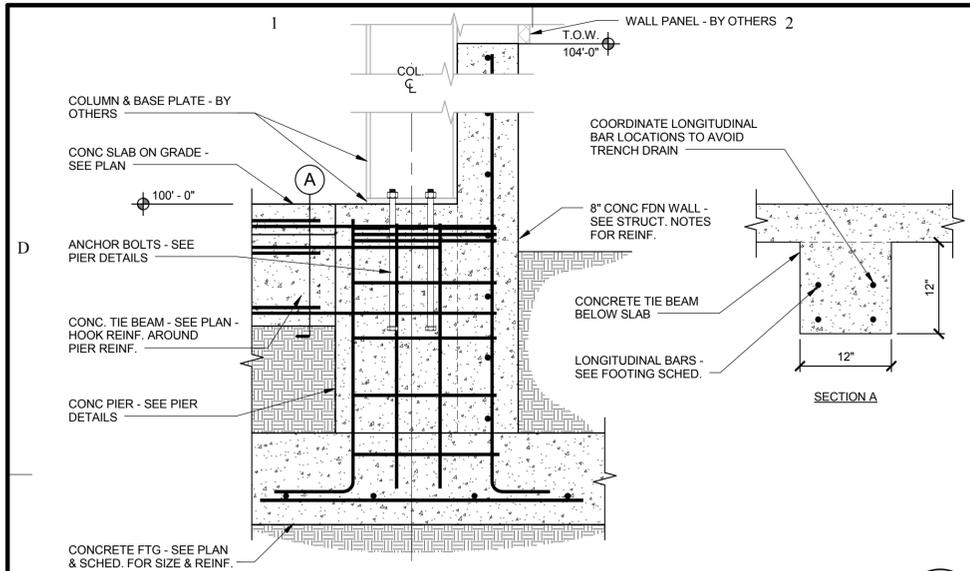
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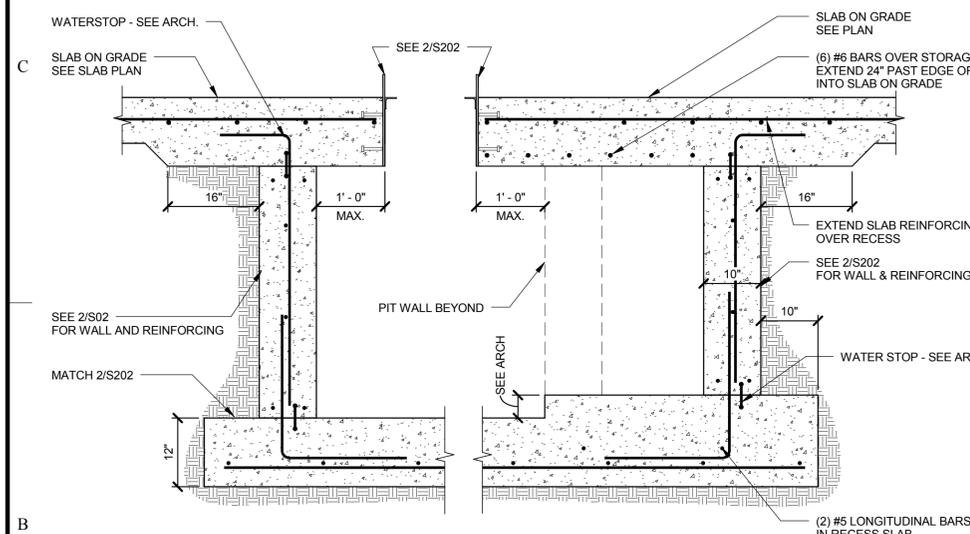
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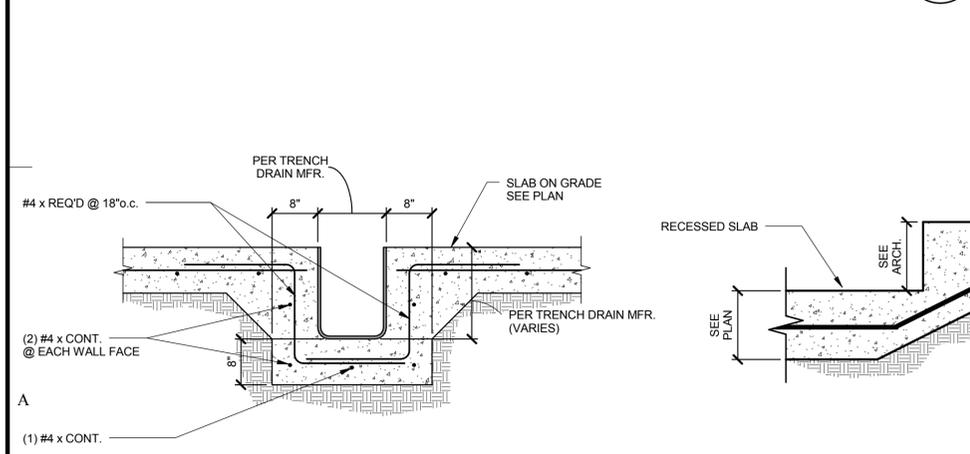
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S201		



**DETAIL 1**  
SCALE: NONE  
S202

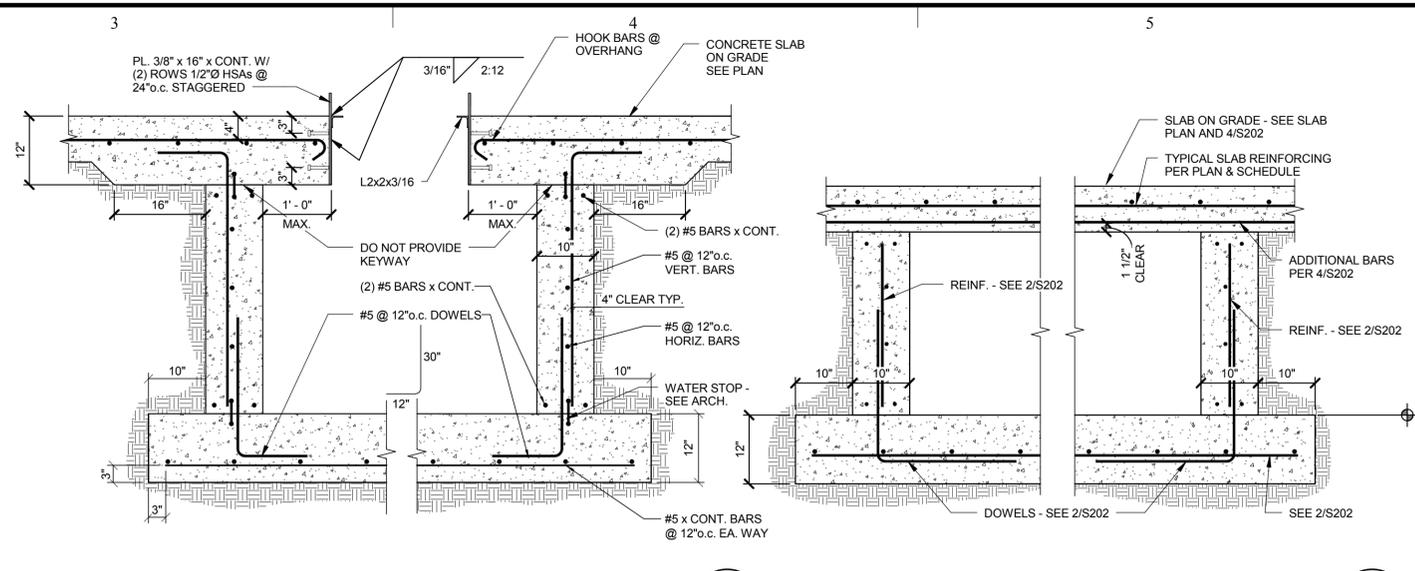


**DETAIL 2**  
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S202

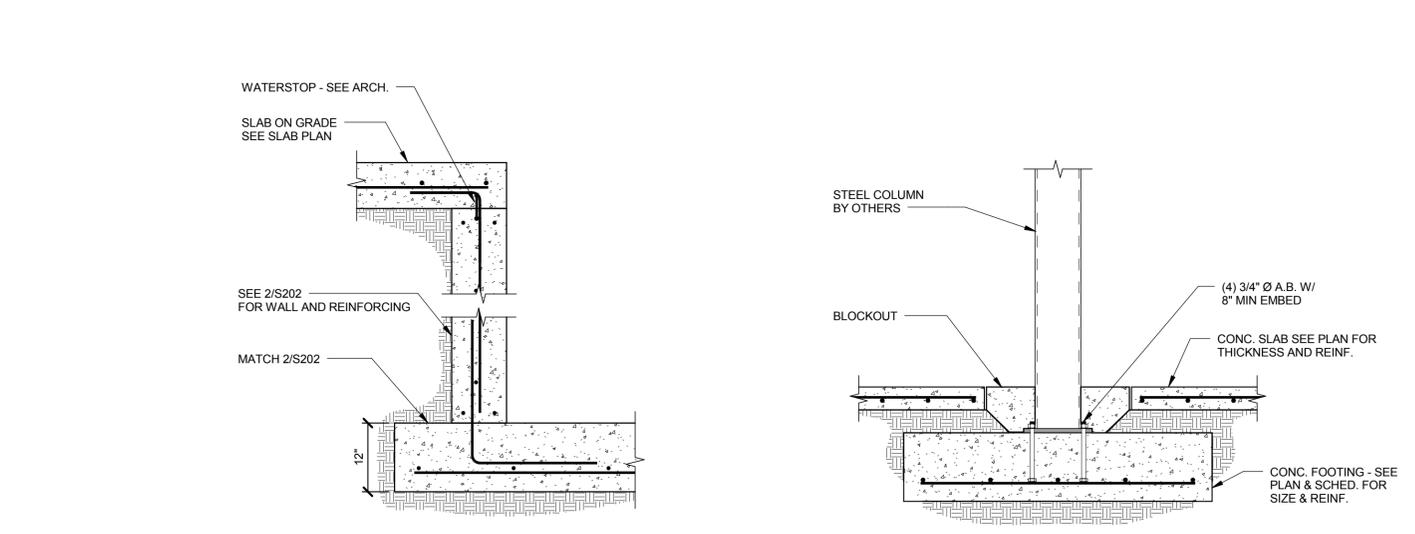


**DETAIL 3**  
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S202

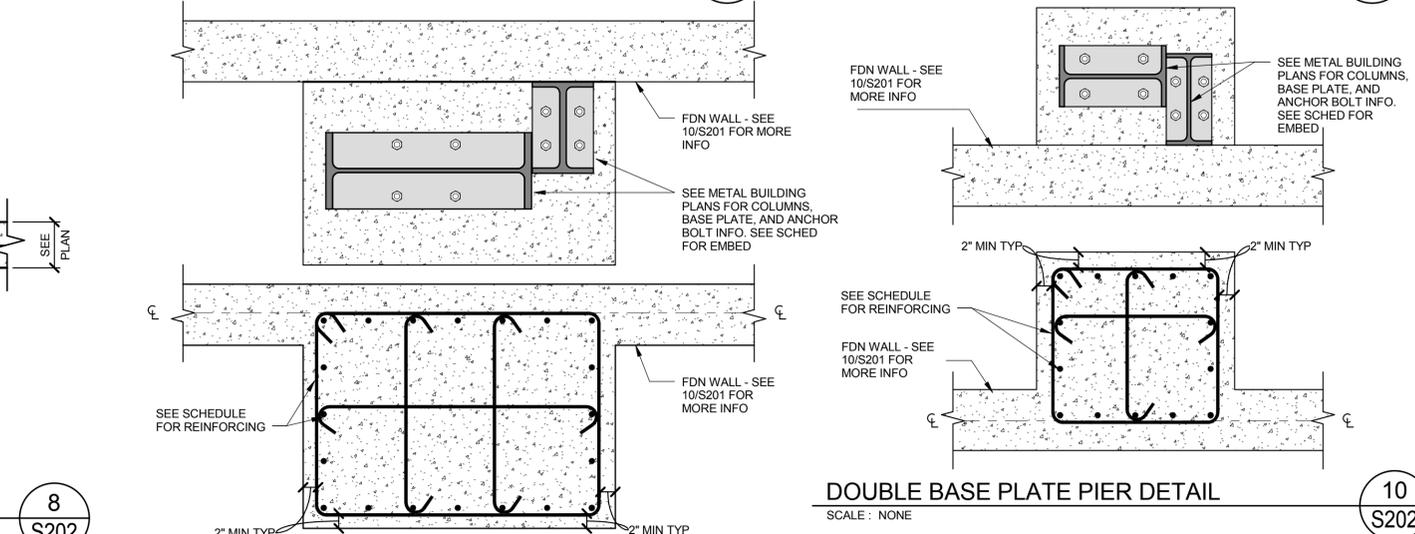
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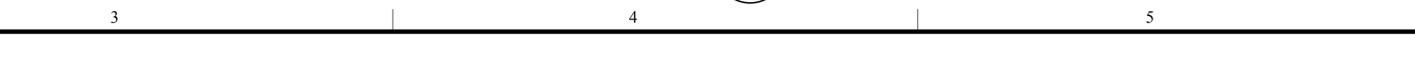
**TYPICAL LUBE PIT DETAIL**  
SCALE: NONE  
S202



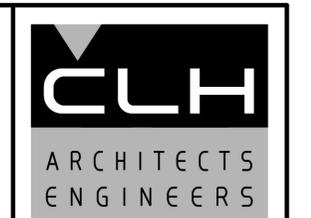
**LUBE PIT END WALL**  
SCALE: NONE  
S202



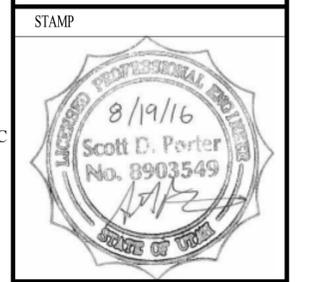
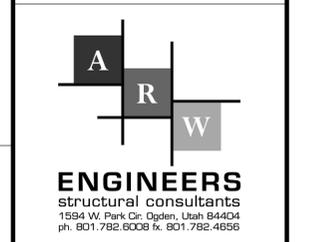
**COLUMN TO SPOT FOOTING**  
SCALE: NONE  
S202



**DOUBLE BASE PLATE CONCRETE PIER**  
SCALE: NONE  
S202



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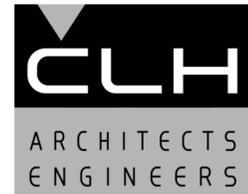
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**S202**

**ARCHITECTURAL NOTES**

- THE ARCHITECTURAL DRAWINGS ARE THE PRIMARY CONTRACT DOCUMENTS. ANY CONFLICTS BETWEEN ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS AND/OR DRAWINGS OF OTHER DISCIPLINES SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ANY WORK. ITEMS AND DIMENSIONS BETWEEN EXISTING AND NEW PORTIONS OF THE PROJECT SHALL BE VERIFIED TO ENSURE COORDINATION.
- THE CONTRACTOR SHALL SUBMIT ANY PROPOSED CHANGES OR MODIFICATIONS OF THE CONTRACT DOCUMENTS, IN WRITING, TO THE ARCHITECT BEFORE PROCEEDING WITH ANY ACTION.
- WHERE SPECIFIC DETAILS ARE NOT PROVIDED, TYPICAL OR SIMILAR INDUSTRY STANDARD DETAILS SHALL APPLY. IF FURTHER DETAIL IS REQUIRED CONTACT ARCHITECT.
- DETAILS ARE PROVIDED FOR VISUAL REPRESENTATION OF DESIGN INTENT. OFTEN THE DETAILS ARE BASED ON A BASIS-OF-DESIGN PRODUCT AND/OR MATERIAL AND MAY BE DIAGRAMMATIC IN NATURE.
- IF A DIFFERENT PRODUCT OR MATERIAL FROM THAT INDICATED ON THE DRAWINGS OR SPECIFICATIONS IS SUBSTITUTED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALTERNATE DETAILS AS REQUIRED FOR THE ARCHITECT TO REVIEW.
- GENERALLY, DIMENSIONS SHOWN OF ARCHITECTURAL DRAWINGS ARE TAKEN FROM THE CORE STRUCTURE FACE (IE. CONCRETE WALL=FACE OF WALL; STUD WALL=FACE OF STUD).
- ANY ADDITIONAL BLOCKING, BRACING, TRIM, FLASHING, SEALANTS, ETC. REQUIRED FOR INSTALLATION OF COMPLETE SYSTEMS\_ PERTAINING TO DOORS, WINDOWS, OPENINGS, PENETRATIONS, ETC. ARE EXPECTED TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- ASSUME ALL GYP. BD. WALLS TO HAVE TOPSET RUBBER BASE INSTALLED UNLESS NOTED OTHERWISE.
- PROVIDE SEALANT OR TRIM AS APPROPRIATE WHERE DISSIMILAR MATERIALS COME IN CONTACT.
- PROVIDE FLOORING TRANSITION WHERE DISSIMILAR FLOORING MATERIALS OCCUR.
- PAINT ALL MISCELLANEOUS SURFACES, SUPPORTS, METALS, ETC. IF PERMANENTLY ATTACHED TO PAINTED SURFACE OR EXPOSED TO THE ELEMENTS.

SYMBOLS	
	VIEW TITLE
	GRAPHIC SCALE
	NORTH ARROW w/ TRUE NORTH
	GRID INDICATOR
	SECTION CALLOUT
	DETAIL CALLOUT
	DETAIL CALLOUT
	ELEVATION CALLOUT
	LEVEL / ELEVATION CALLOUT
	SPOT ELEVATION CALLOUT
	ROOF SLOPE INDICATOR
	ROOM TAG
	DOOR TAG
	WALL TAG
	WINDOW TAG
	DEMOLITION KEYNOTE
	FIRE RISER

ABBREVIATIONS			
&	AND	JAN	JANITOR
L	ANGLE	JST	JOIST
@	AT	JT	JOINT
#	FOUND OR NUMBER	K.O.	KNOCK OUT
AC	ACOUSTICAL	LAM	LAMINATE
A.F.F.	ABOVE FINISH FLOOR	LAV	LAVATORY
ALUM	ALUMINUM	MAX	MAXIMUM
APPROX	APPROXIMATE	MAS	MASONRY
ARCH	ARCHITECTURAL	MECH	MECHANICAL
ASPH	ASPHALT	MEMB	MEMBRANE
BD	BOARD	MTL	METAL
BITUM	BITUMINOUS	MFTR	MANUFACTURER
BLDG	BUILDING	MH	MANHOLE
BLKG	BLOCKING	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
BTM	BOTTOM	M.O.	MASONRY OPENING
C	TOP OF FINISH CONCRETE	MTD	MOUNTED
C.I.	CAST IRON	N	NORTH
C.J.	CONTROL JOINT	N.I.C.	NOT IN CONTRACT
C.L.	CENTER LINE	NO or #	NUMBER
CLG	CEILING	NOM	NOMINAL
CLR	CLEAR	N.T.S.	NOT TO SCALE
C.M.U.	CONCRETE MASONRY UNIT	O.C.	ON CENTER
C.O.	CLEAN OUT	O.D.	OUTSIDE DIAMETER (DIM)
C.O.T.G.	CLEAN OUT AT GRADE	OFF	OFFICE
COL	COLLUM	OH	OVERHEAD
CONC	CONCRETE	OPNG	OPENING
CONN	CONNECTION	OPP	OPPOSITE
CONSTR	CONSTRUCTION	PL	PLATE
CONT	CONTINUOUS	PLAM	PLASTIC LAMINATE
C.T.	CERAMIC TILE	PLYWD	PLYWOOD
CTR	CENTER	P.O.C.	POINT OF CONNECTION
D.C.W.	DOMESTIC COLD WATER	PNL	PANEL
D.H.W.	DOMESTIC HOT WATER	PR	PAIR
D.F.	DRINKING FOUNTAIN	PT	POINT
DTL	DETAIL	Q.T.	QUARRY TILE
DIA	DIAMETER	RAD	RADIUS
DIM	DIMENSION	R.D.	ROOF DRAIN
DISP	DISPENSER	REF	REFERENCE
DN	DOWN	REINF	REINFORCED
DRN	DRAIN	REQD	REQUIRED
DS	DOWNSPOUT	RESIL	RESILIENT
DWG	DRAWING	RFG	ROOFING
E	EAST	RM	ROOM
EA	EACH	RS	RESINOUS FLOORING
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	R.O.	ROUGH OPENING
E.J.	EXPANSION JOINT	S	SOUTH
EL	ELEVATION	SCH	SCHEDULE
ELEC	ELECTRICAL	SECT	SECTION
ENGR	ENGINEER	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SPECS	SPECIFICATION
(E)	EXISTING	SQ	SQUARE
EXP	EXPANSION	S.S.	SANITARY SEWER
EXT	EXTERIOR	S.ST	STAINLESS STEEL
F.A.	FIRE ALARM	STD	STANDARD
F.D.	FLOOR DRAIN	STL	STEEL
FDN	FOUNDATION	STOR	STORAGE
F.E.	FIRE EXTINGUISHER	STR	STRUCTURAL
F.E.C.	FIRE EXTINGUISHER CABINET	SUSP	SUSPENDED
FIN	FINISH	SYM	SYMMETRICAL
FLR	FLOOR	SYS	SYSTEM
FLASH	FLASHING	TLT	TOILET (ROOM)
FLUOR	FLUORESCENT	TRTD	TREATED (PRESERVATIVE)
F.O.	FACE OF	T & B	TOP & BOTTOM
F.R.	FIRE RATED	T.O.	TOP OF
FT	FOOR OR FEET	TRANS	TRANSFORMER
FTG	FOOTING	TYP	TYPICAL
FUT	FUTURE	U.N.O.	UNLESS NOTED OTHERWISE
GA	GAUGE	UT	URINAL
GALV	GALVANIZED	VERT	VERTICAL
GND	GROUND	VEST	VESTIBULE
GR	GRADE	W	WEST
G.W.B.	GYPSUM WALL BOARD	w/	WITH
GYP	GYPSUM	WC	WATER CLOSET
H.B.	HOSE BIBB	WD	WOOD
HC	HANDICAP	W/O	WITHOUT
H.M.	HOLLOW METAL	WP	WATERPROOF
HORIZ	HORIZONTAL		
HGT	HEIGHT		
I.D.	INSIDE DIAMETER (DIM)		
IN	INCH, INCHES		
INSUL	INSULATION		
INT	INTERIOR		



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TRUCK  
MAINTENANCE SHOP**

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AUGUST 19, 2016

SHEET TITLE

**ARCHITECTURAL  
NOTES**

SHEET NO:

**A001**

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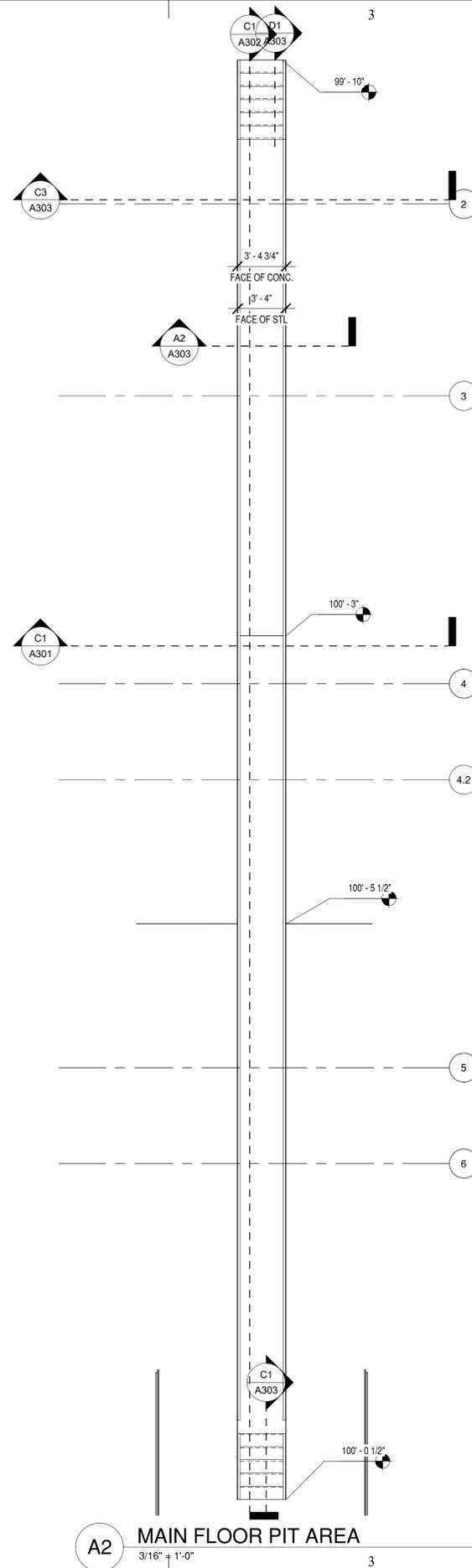
AUGUST 19, 2016

SHEET TITLE

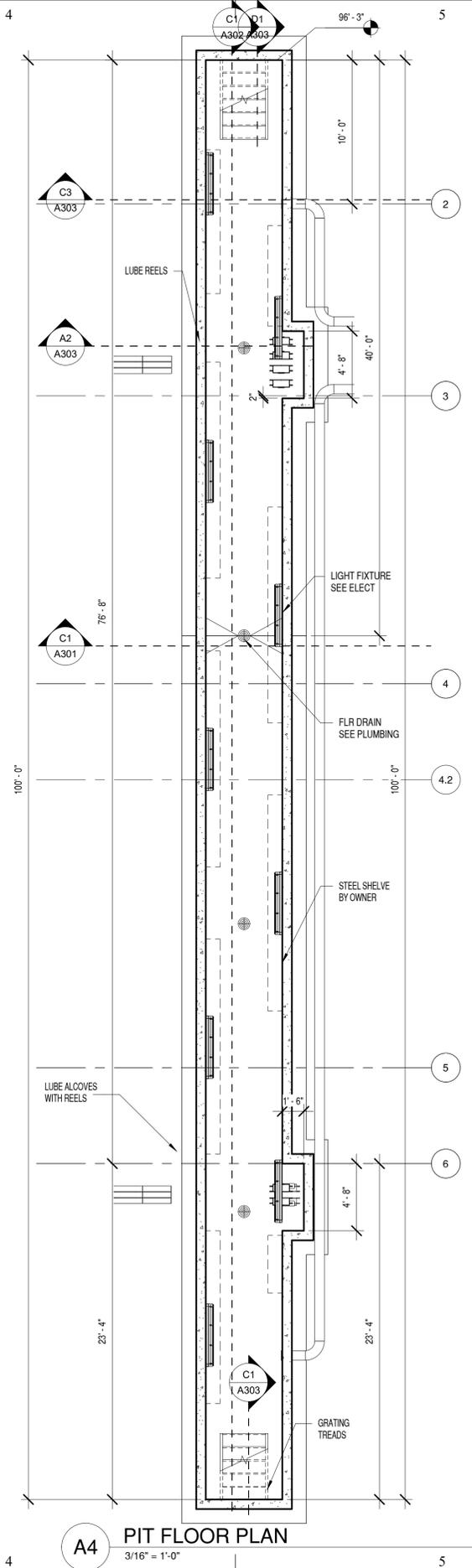
**PIT PLAN**

SHEET NO:

**A101**



**A2 MAIN FLOOR PIT AREA**  
3/16" = 1'-0"



**A4 PIT FLOOR PLAN**  
3/16" = 1'-0"

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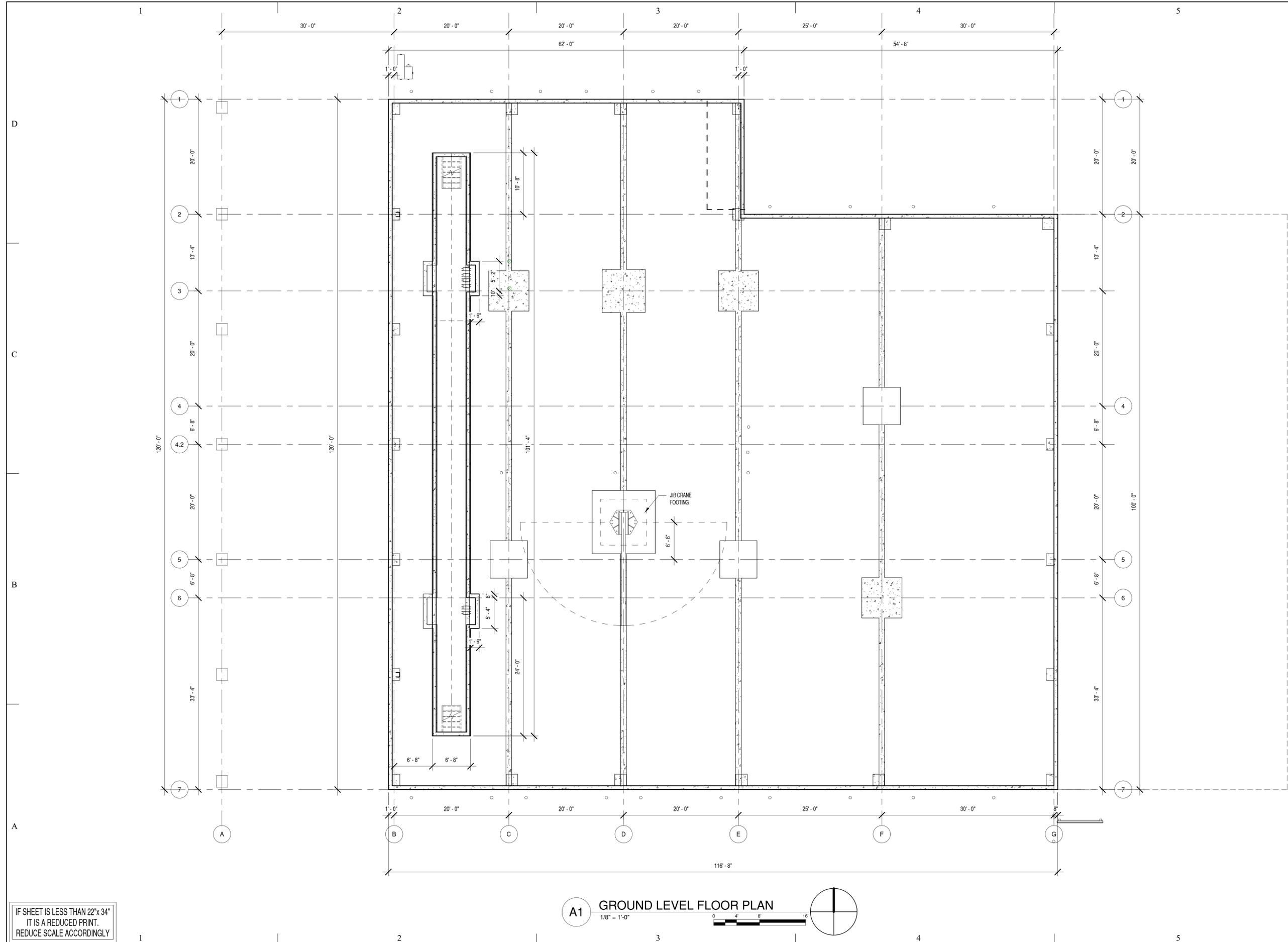
AUGUST 19, 2016

SHEET TITLE

**FOUNDATION  
PLAN**

SHEET NO:

**A102**



**A1 GROUND LEVEL FLOOR PLAN**  
1/8" = 1'-0"

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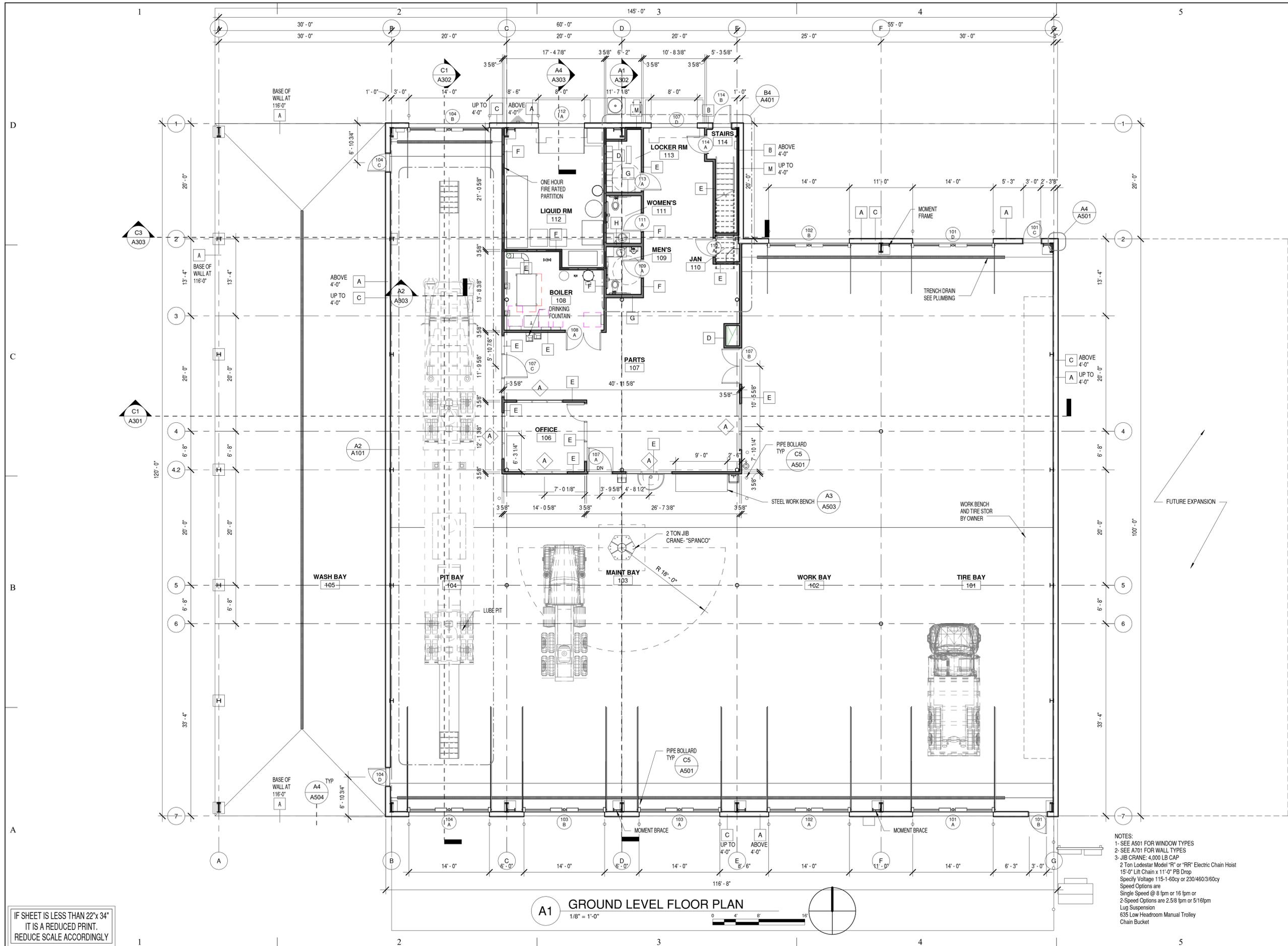
AUGUST 19, 2016

SHEET TITLE

**GROUND LEVEL  
FLOOR PLAN**

SHEET NO:

**A103**



NOTES:  
1- SEE A501 FOR WINDOW TYPES  
2- SEE A701 FOR WALL TYPES  
3- JIB CRANE: 4,000 LB CAP  
2 Ton Lodestar Model "R" or "RR" Electric Chain Hoist  
15'-0" Lift Chain x 11'-0" PB Drop  
Specify Voltage: 115-1-60cy or 230/460/3/60cy  
Speed Options are:  
Single Speed @ 8 fpm or 16 fpm or  
2-Speed Options are 2.5/8 fpm or 5/16fpm  
Lug Suspension  
635 Low Headroom Manual Trolley  
Chain Bucket

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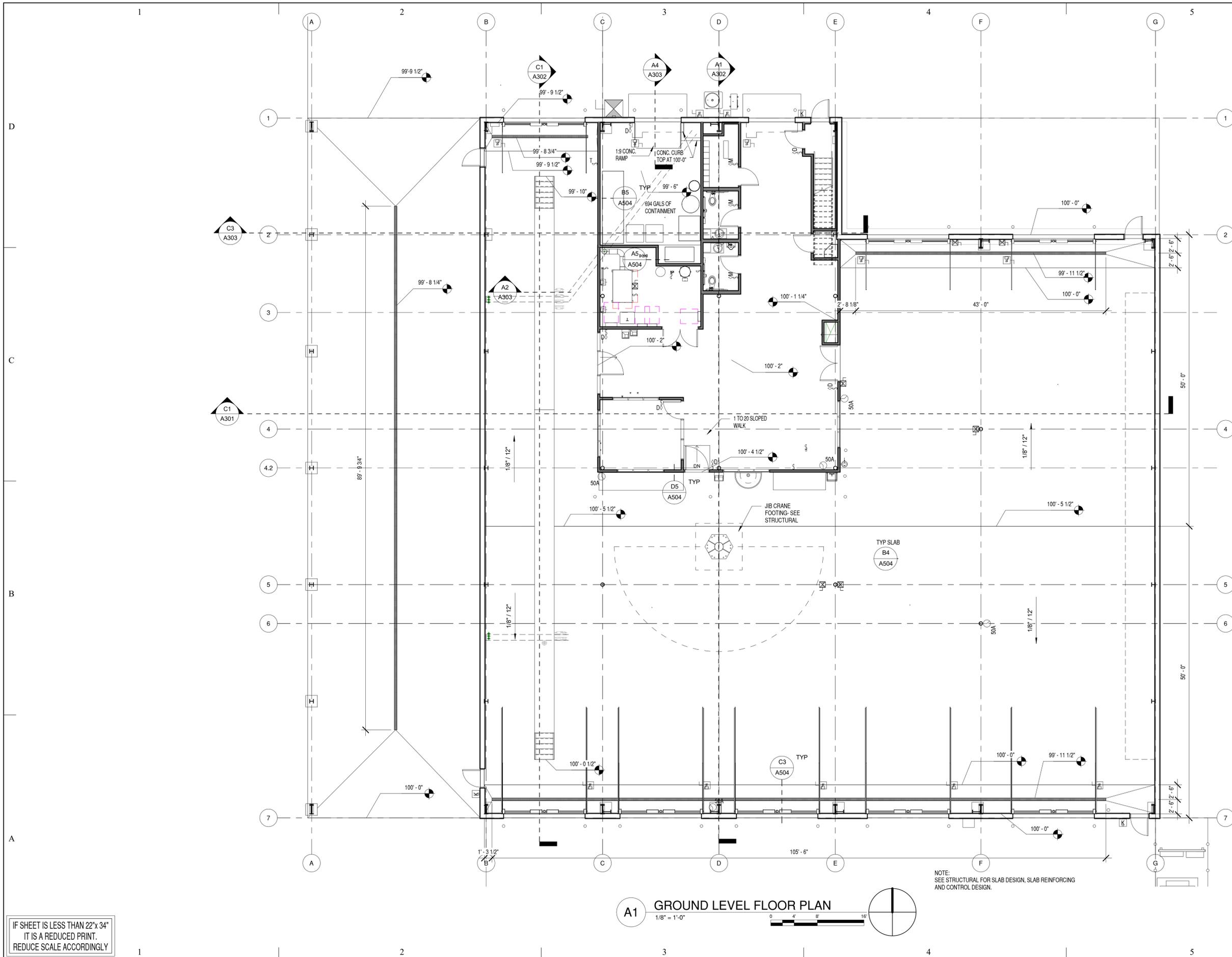
AUGUST 19, 2016

SHEET TITLE

**SLAB PLAN**

SHEET NO:

**A104**



**A1 GROUND LEVEL FLOOR PLAN**  
1/8" = 1'-0"

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DRAWN BY:	Author
CHKD BY:	Checker

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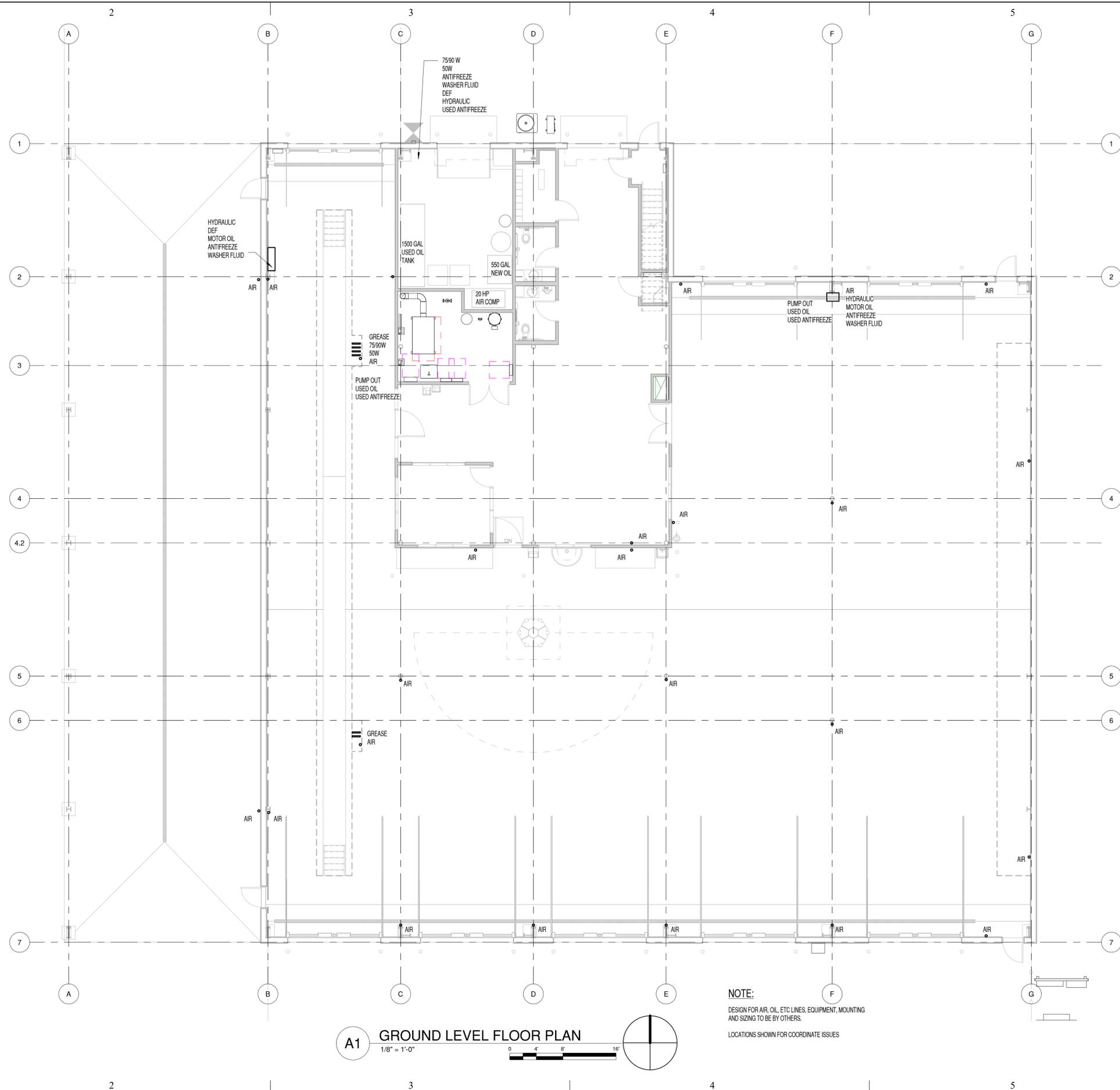
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SHEET TITLE

**EQUIPMENT  
LOCATIONS**

SHEET NO:

**A105**



**A1 GROUND LEVEL FLOOR PLAN**  
1/8" = 1'-0"

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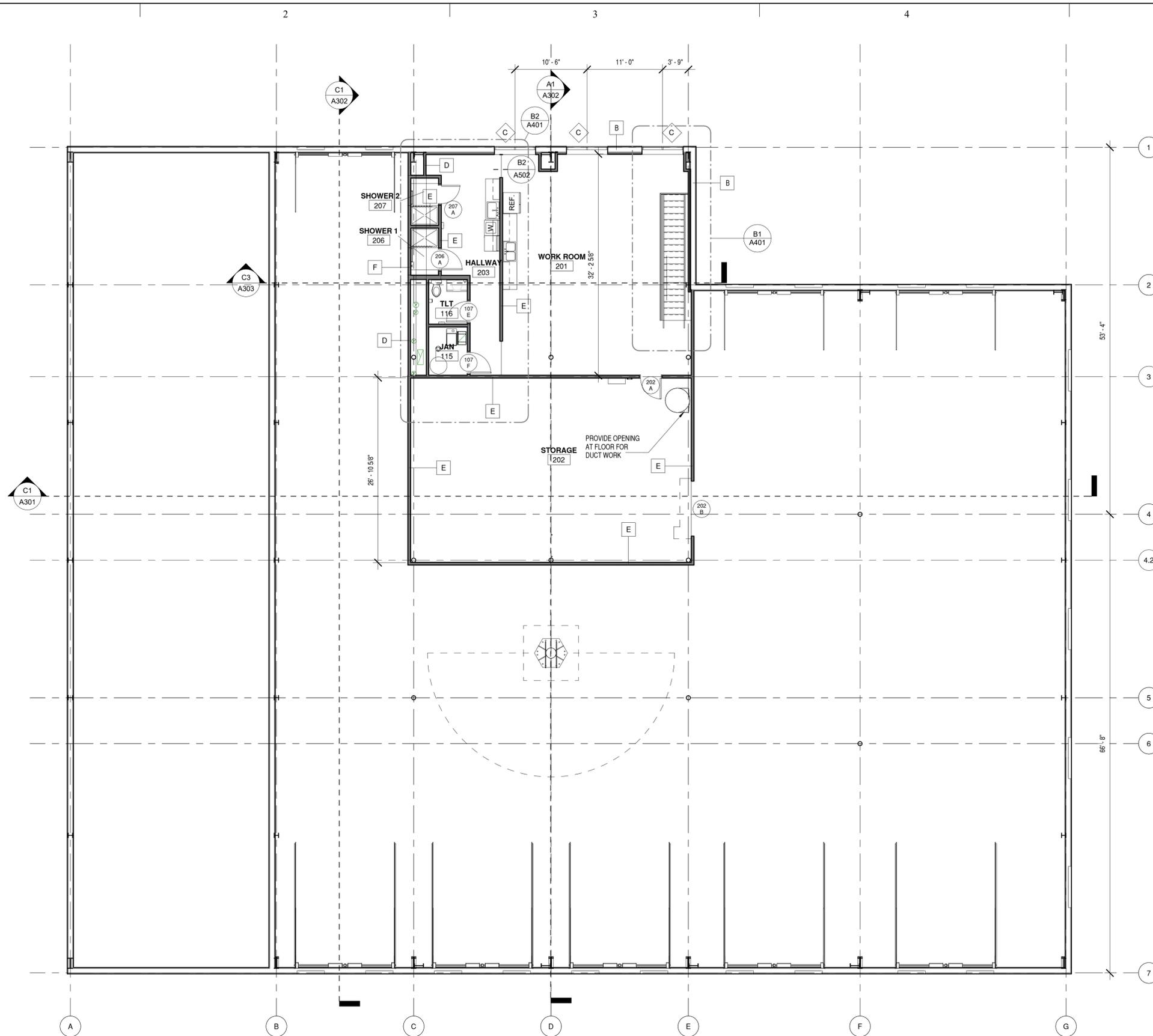
AUGUST 19, 2016

SHEET TITLE

**MEZZANINE  
LEVEL FLOOR  
PLAN**

SHEET NO:

**A106**



**A1 MEZZANINE LEVEL FLOOR PLAN**  
1/8" = 1'-0"

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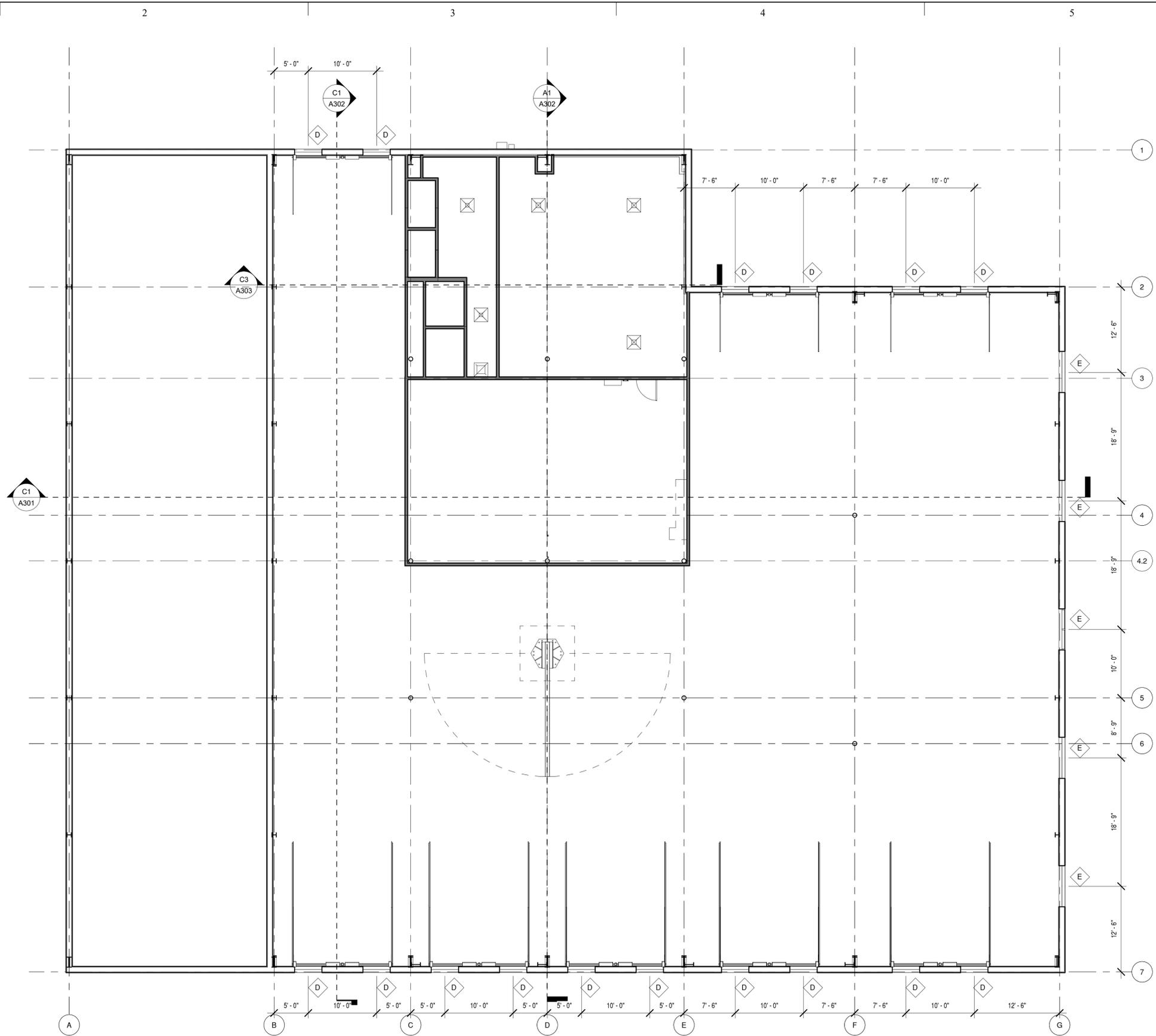
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SHEET TITLE

**CLERESTORY  
WINDOW PLAN**

SHEET NO:

**A107**



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**A1 CLERESTORY WINDOW PLAN**  
1/8" = 1'-0"



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TRUCK  
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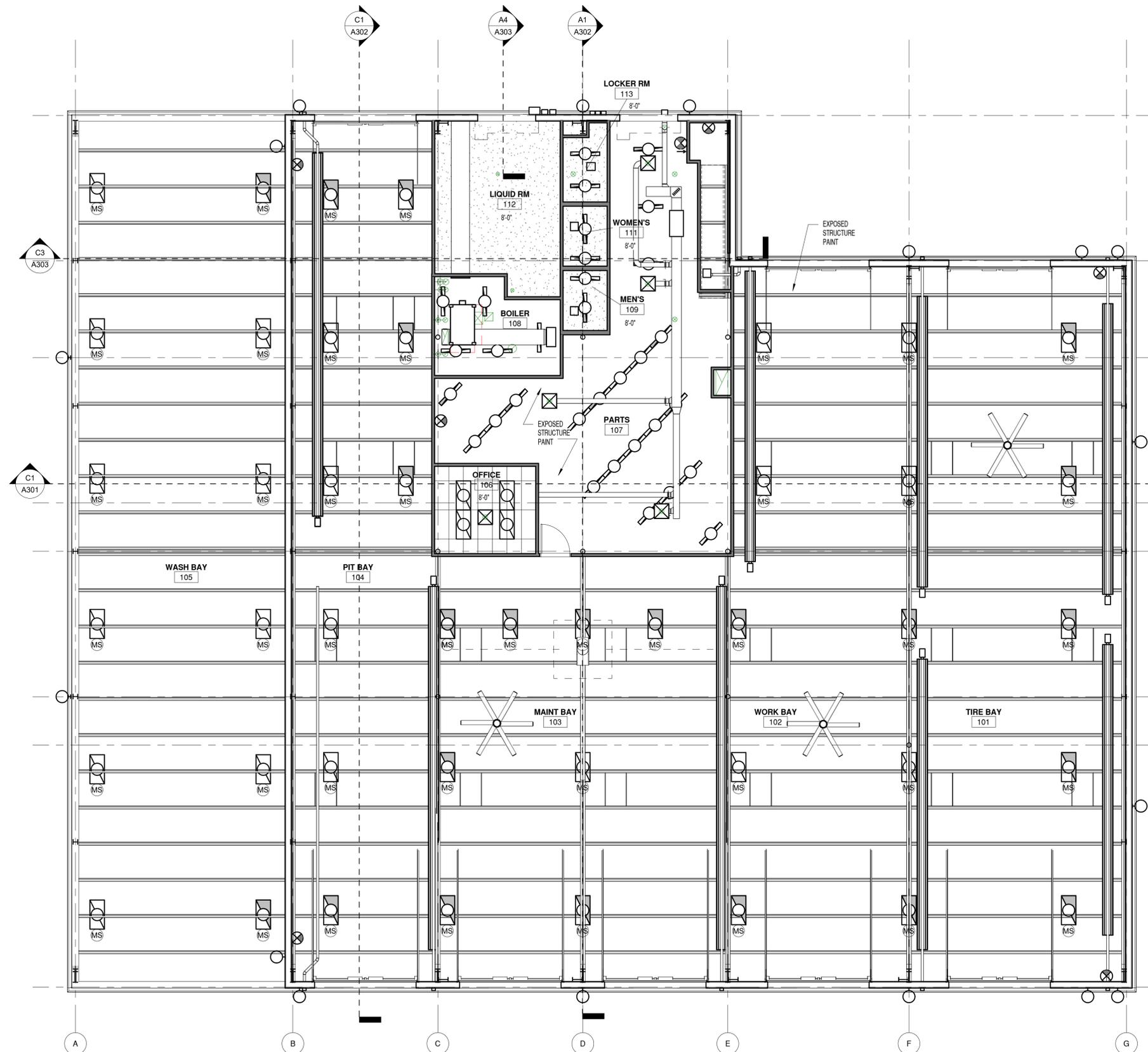
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SHEET TITLE

**MAIN FLOOR  
REFLECTED  
CEILING PLAN**

SHEET NO:

**A108**

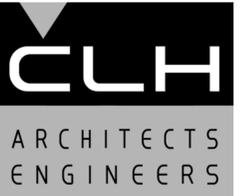


**A2** MAIN FLR REFLECTED CEILING PLAN  
1/8" = 1'-0"  
0 4' 8' 16'

NOTES:  
1- REFER TO D6/A503 EDGE TRACK IN ALL CEILINGS  
2- REFER TO C3/A502 SEISMIC ANCHORAGE ON PER CODE ON ACOUSTIC LAY-IN CEILINGS.

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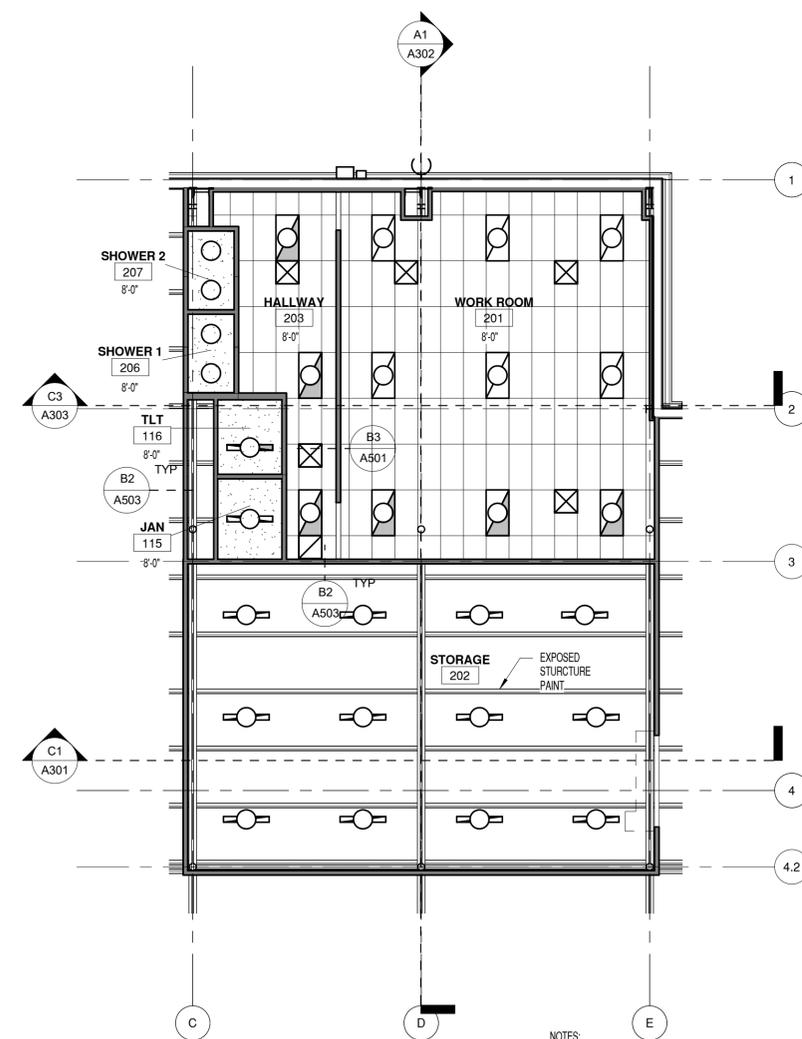
AUGUST 19, 2016

SHEET TITLE

**2ND FLOOR  
REFLECTED  
CEILING PLAN**

SHEET NO:

**A109**



NOTES:  
1- REFER TO D5/A503 EDGE TRACK IN ALL CEILINGS  
2- REFER TO C3/A502 SEISMIC ANCHORAGE ON PER CODE ON ACOUSTIC LAY-IN CEILINGS.



**2nd FLR REFLECTED CEILING PLAN**

1/8" = 1'-0"

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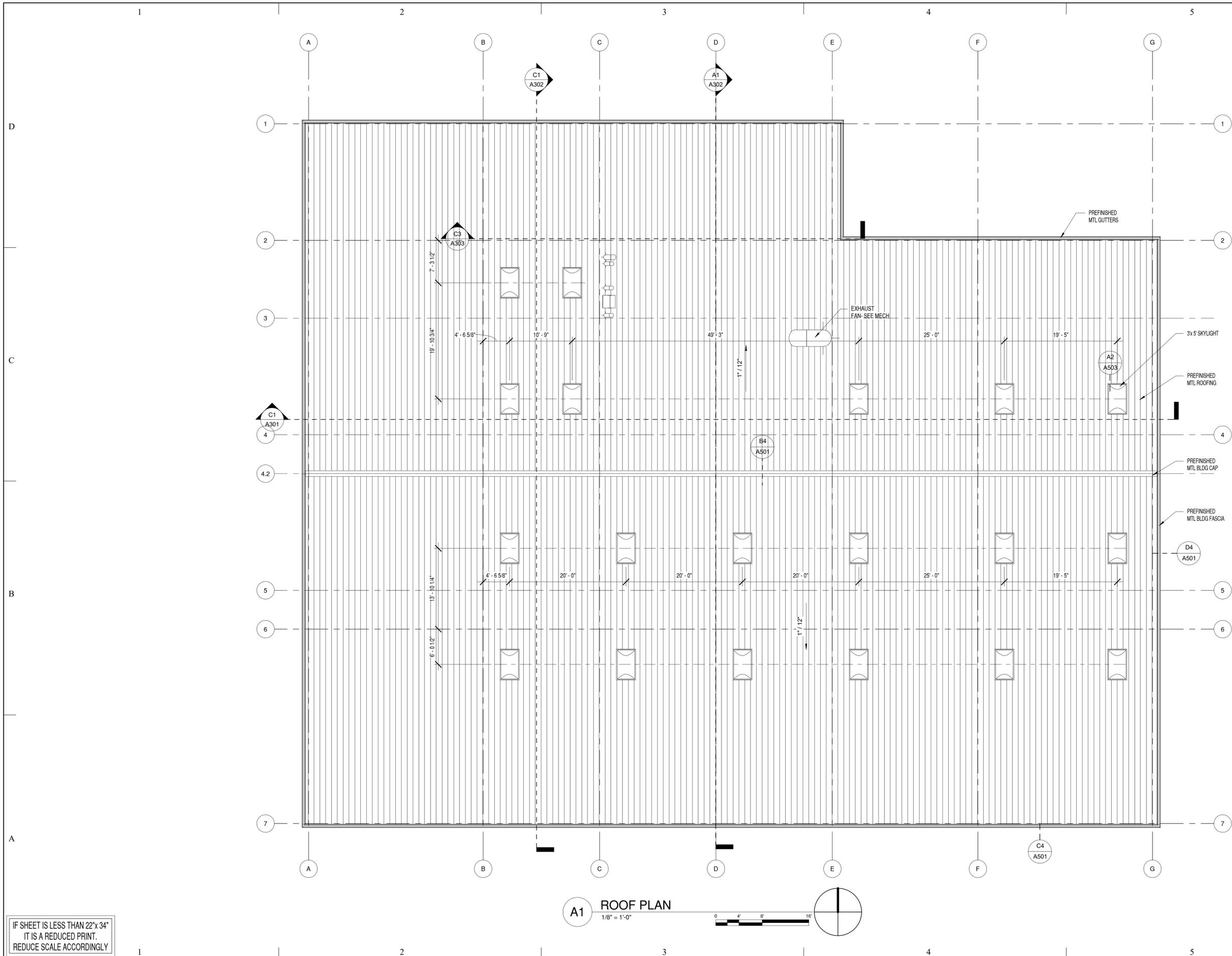
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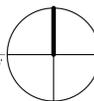
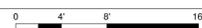
**ROOF PLAN**

SHEET NO:

**A110**



**A1 ROOF PLAN**  
1/8" = 1'-0"



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TRUCK  
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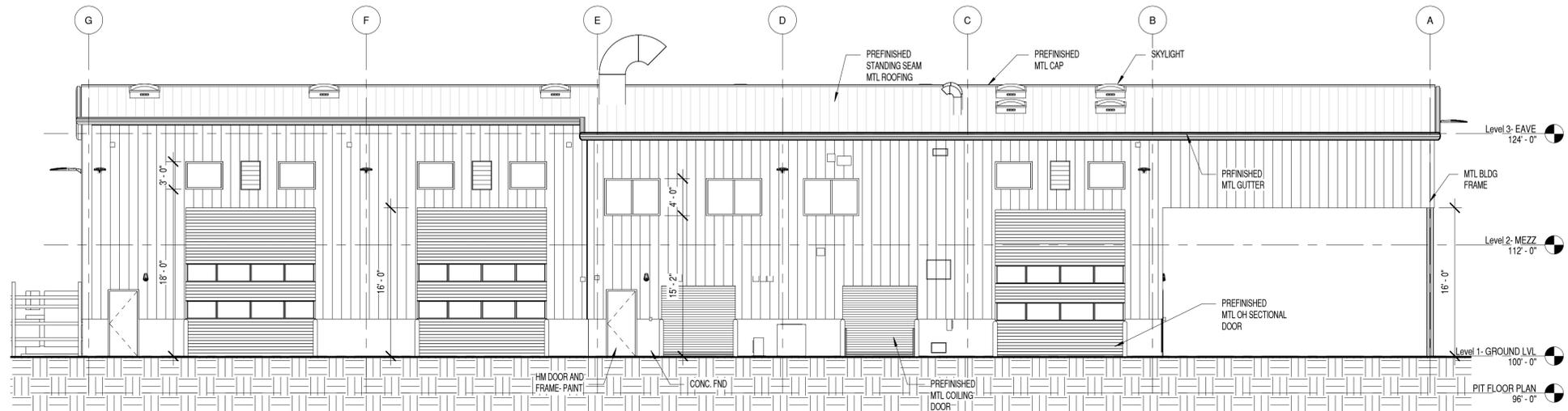
SHEET TITLE

**EXTERIOR  
ELEVATIONS**

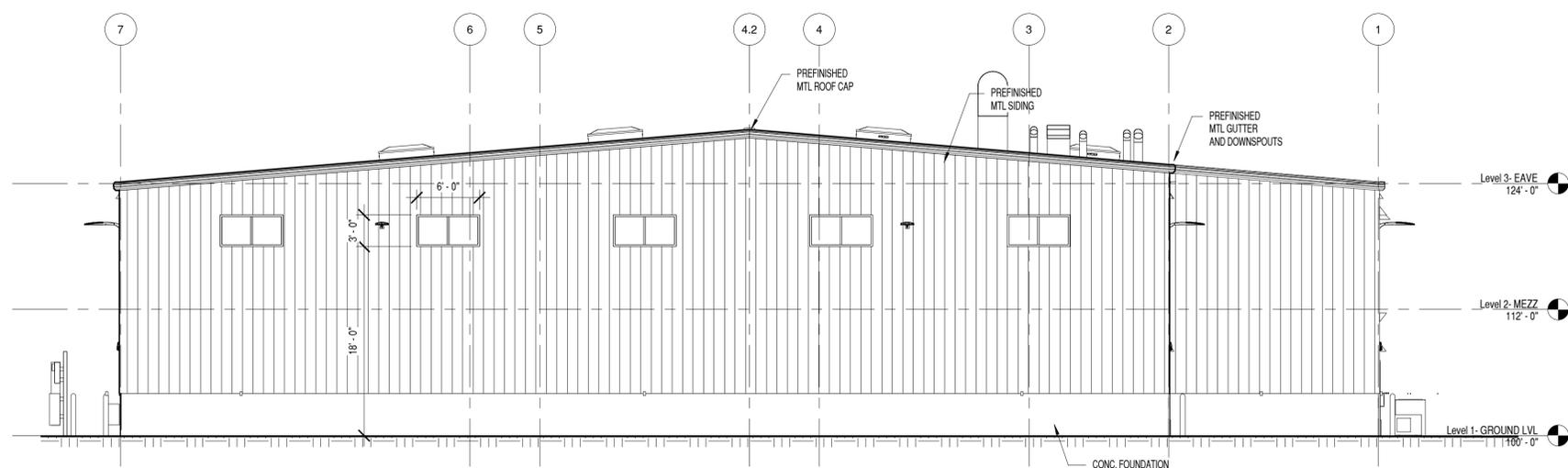
SHEET NO:

A201

EXTERIOR FINISH		
ITEM	FINISH	COLOR
METAL SIDING	PREFINISHED	TOD
METAL TRIM	PREFINISHED	TOD
METAL GUTTER	PREFINISHED	TOD
METAL DOWNSPOUT	PREFINISHED	TOD
CONC. FOUNDATION	NATURAL	NATURAL
METAL ROOFING	PREFINISHED	TOD
ALUMINUM WINDOW	PREFINISHED	TOD
METAL DOORS AND FRAME	PAINTED	PAINTED
OH SECTIONAL DOOR	PREFINISHED	TOD
PIPE BOLLARD	PAINTED	SAFETY YELLOW
METAL BUILDING FRAME	PAINTED	TOD



**C1 NORTH EXTERIOR ELEVATION**  
1/8" = 1'-0"  
0 4' 8' 16'



**A1 EAST EXTERIOR ELEVATION**  
1/8" = 1'-0"  
0 4' 8' 16'

IF SHEET IS LESS THAN 22"x 34"  
IT IS A REDUCED PRINT.  
REDUCE SCALE ACCORDINGLY



**GRANT TRUCKING  
TRUCK  
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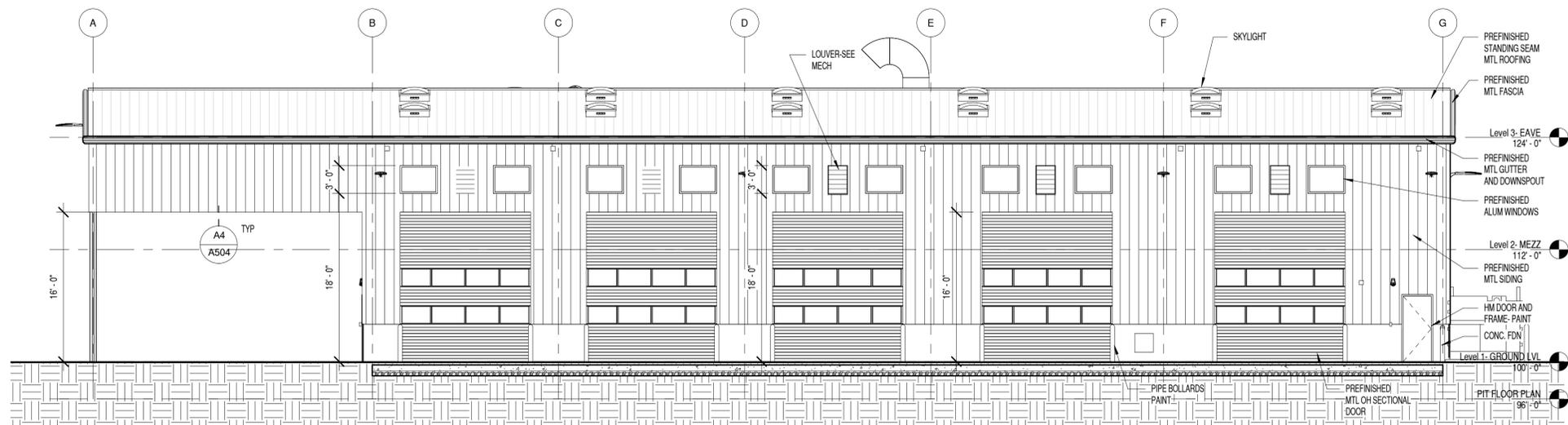
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SHEET TITLE

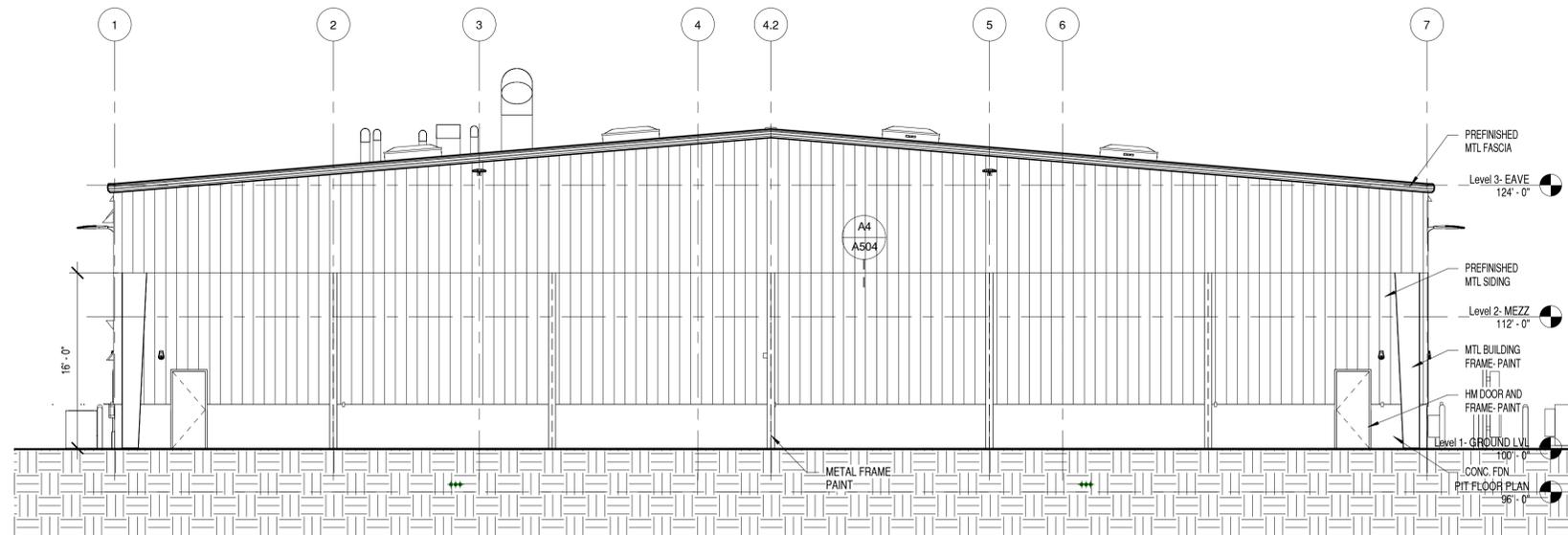
**EXTERIOR  
ELEVATIONS**

SHEET NO:

**A202**



**C1 SOUTH EXTERIOR ELEVATION**  
1/8" = 1'-0"  
0 4' 8' 16'



**A1 WEST EXTERIOR ELEVATION**  
1/8" = 1'-0"  
0 4' 8' 16'

IF SHEET IS LESS THAN 22" X 34"  
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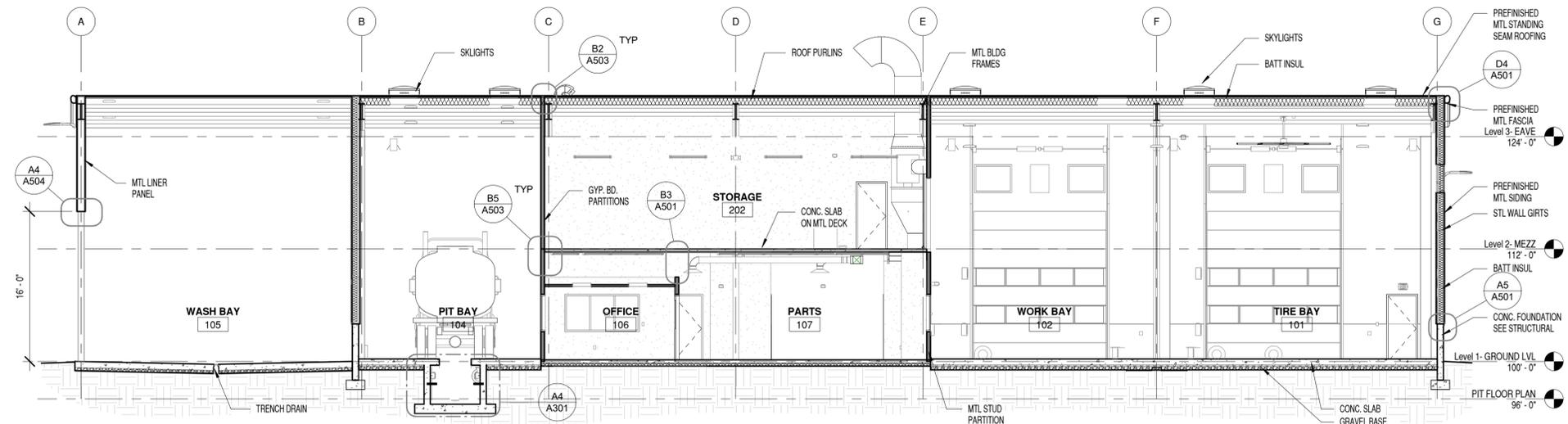
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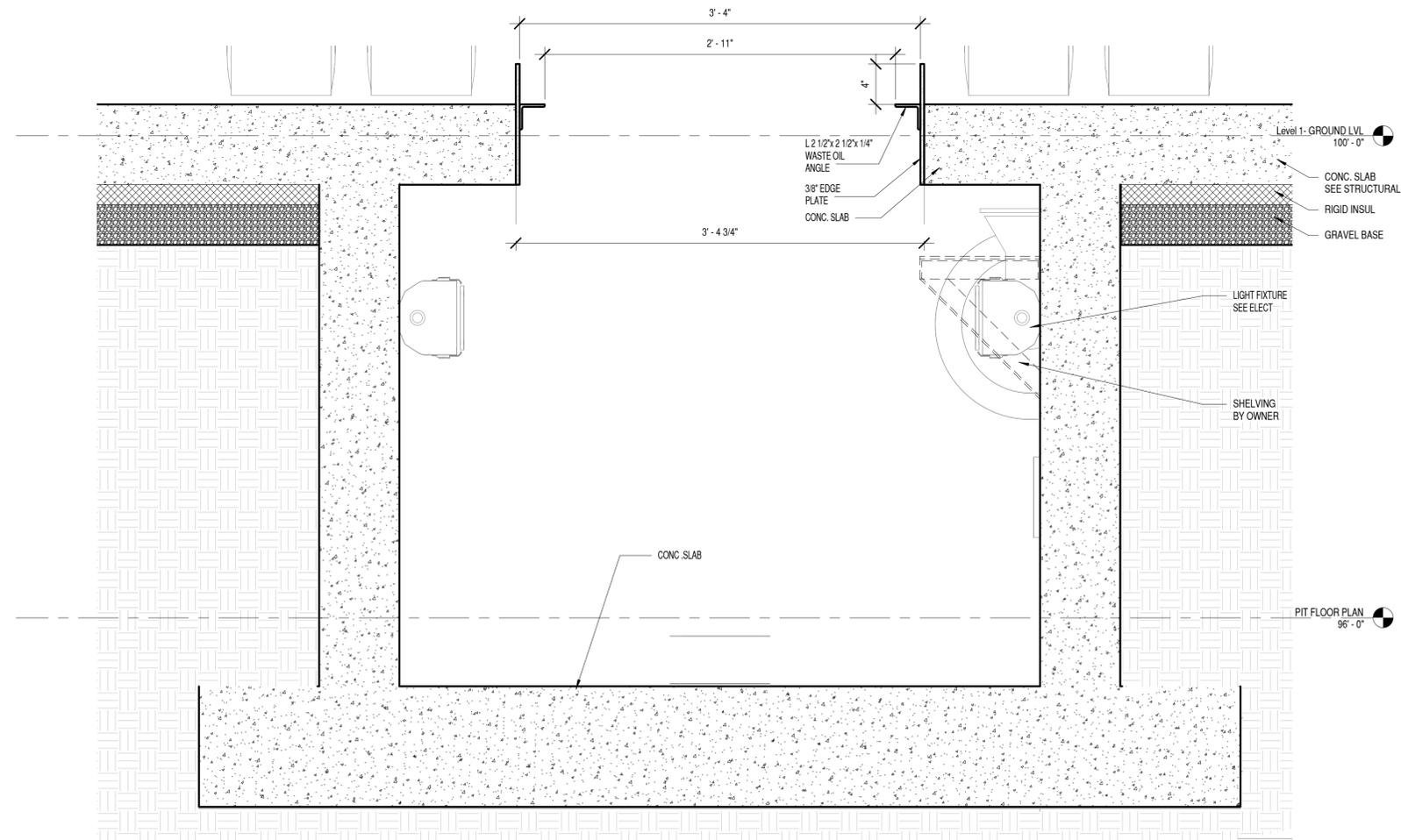
**BUILDING  
SECTIONS**

SHEET NO:

**A301**



**C1 BUILDING SECTION**  
1/8" = 1'-0"



**A4 PIT SECTION**  
1 1/2" = 1'-0"



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IT IS A REDUCED PRINT.  
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TRUCK  
MAINTENANCE SHOP**

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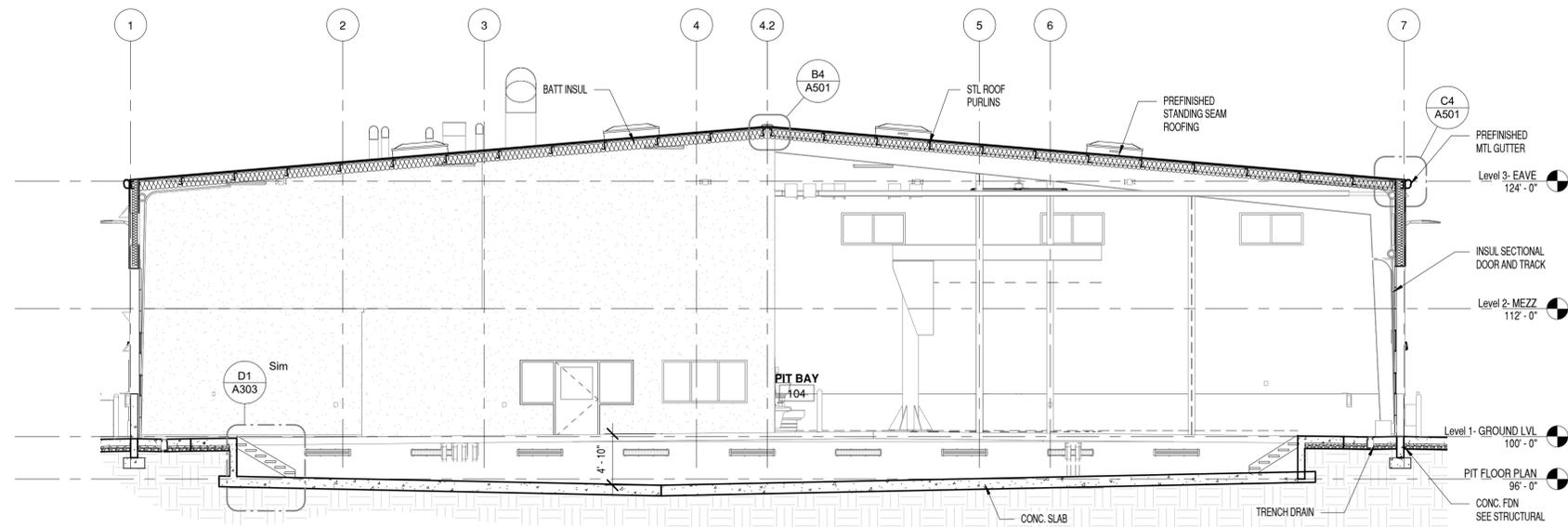
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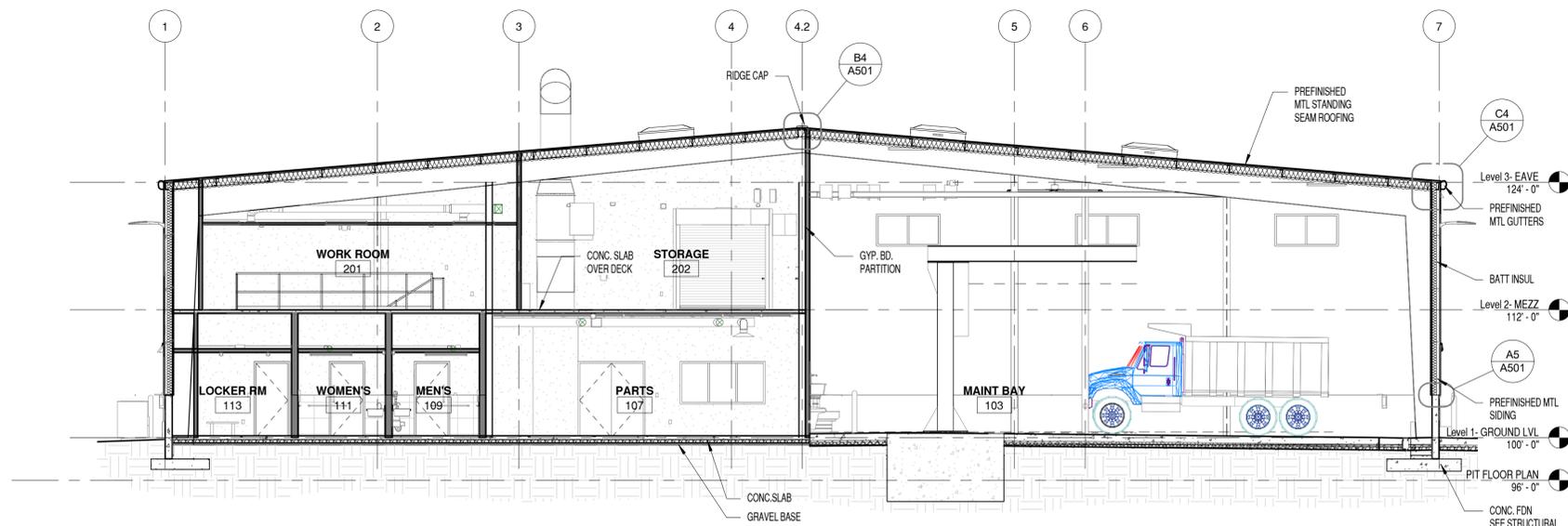
**PERMIT SET**  
AUGUST 19, 2016

SHEET TITLE  
**BUILDING  
SECTIONS**

SHEET NO:  
**A302**



**C1 BUILDING SECTION**  
1/8" = 1'-0"  
0 4 8 16'



**A1 BUILDING SECTION**  
1/8" = 1'-0"  
0 4 8 16'

IF SHEET IS LESS THAN 22"x 34"  
IT IS A REDUCED PRINT.  
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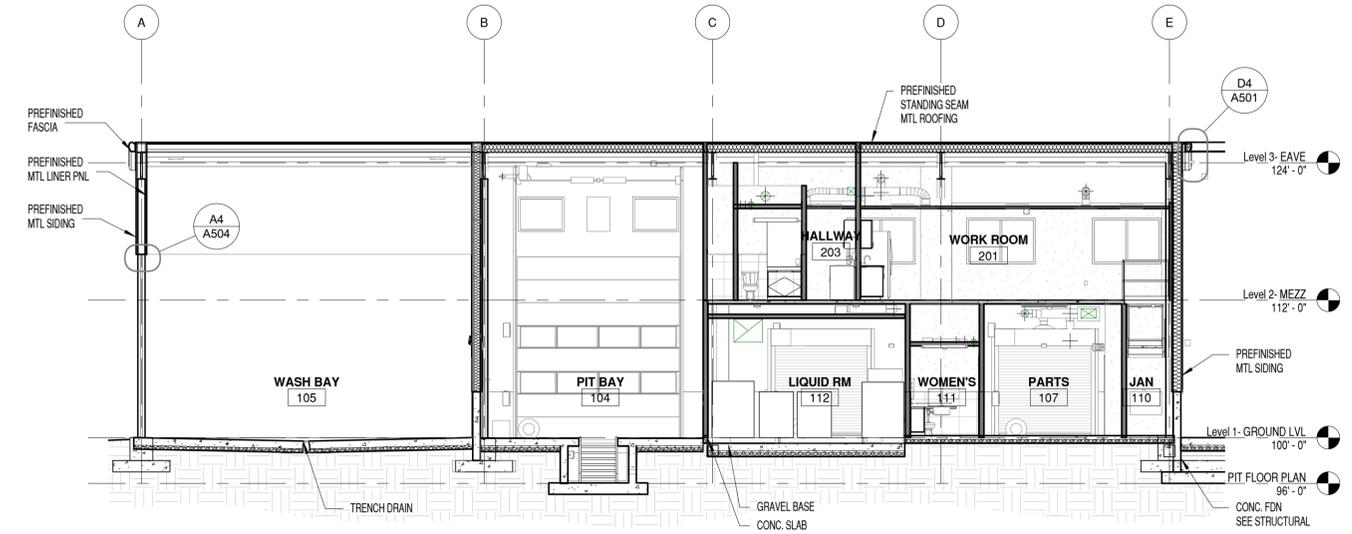
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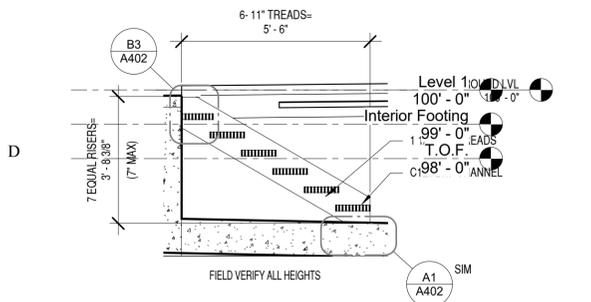
PERMIT SET  
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SHEET TITLE  
**BUILDING SECTIONS**

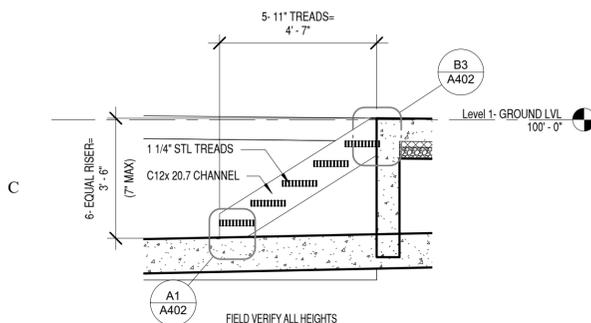
SHEET NO:  
**A303**



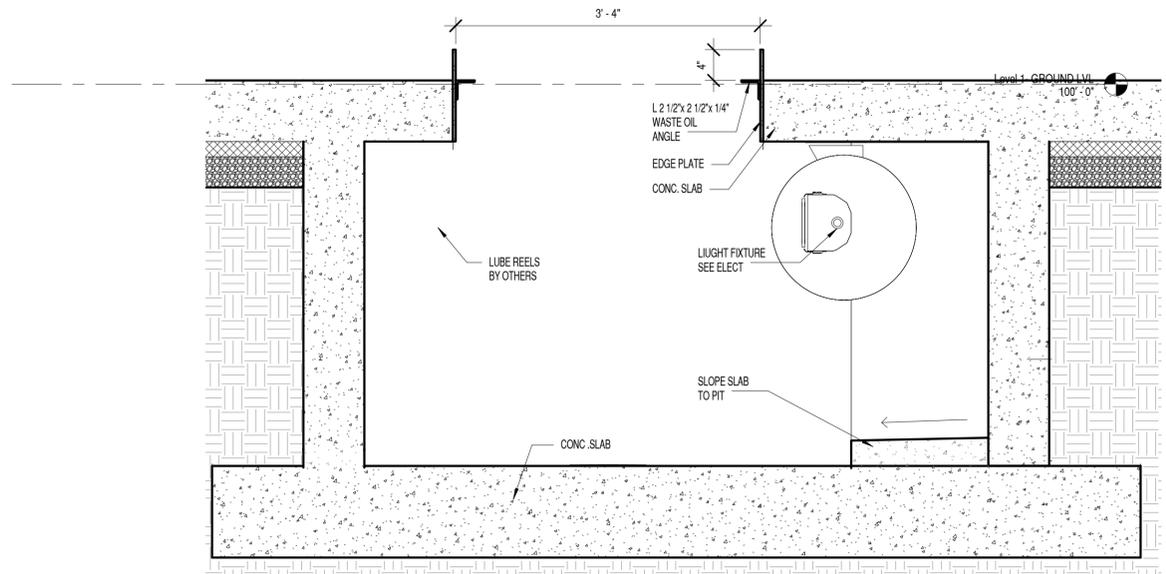
**C3 BUILDING SECTION**  
1/8" = 1'-0"



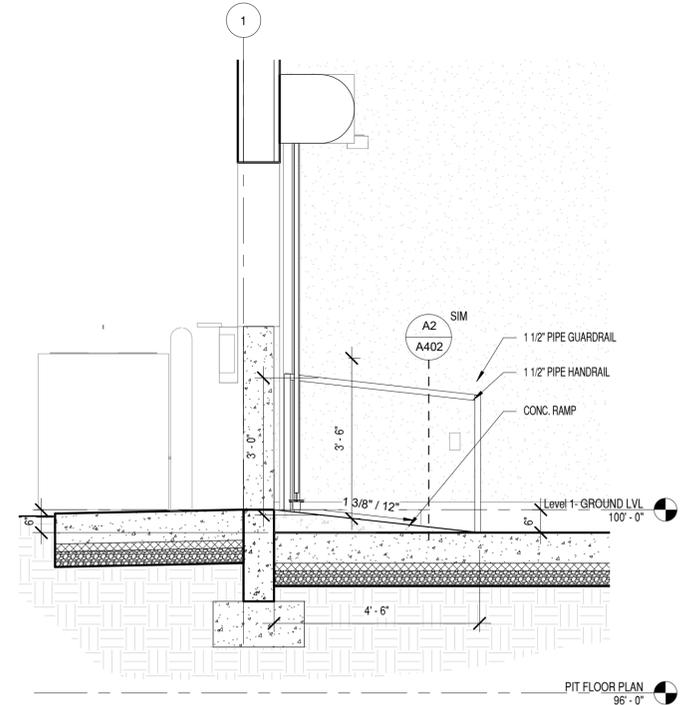
**D1 STAIR SECTION**  
3/8" = 1'-0"



**C1 STAIR SECTION**  
3/8" = 1'-0"



**A2 WALL SECTION**  
1" = 1'-0"



**A4 WALL SECTION**  
1/2" = 1'-0"

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CHKD BY:	SJP

**PERMIT SET**

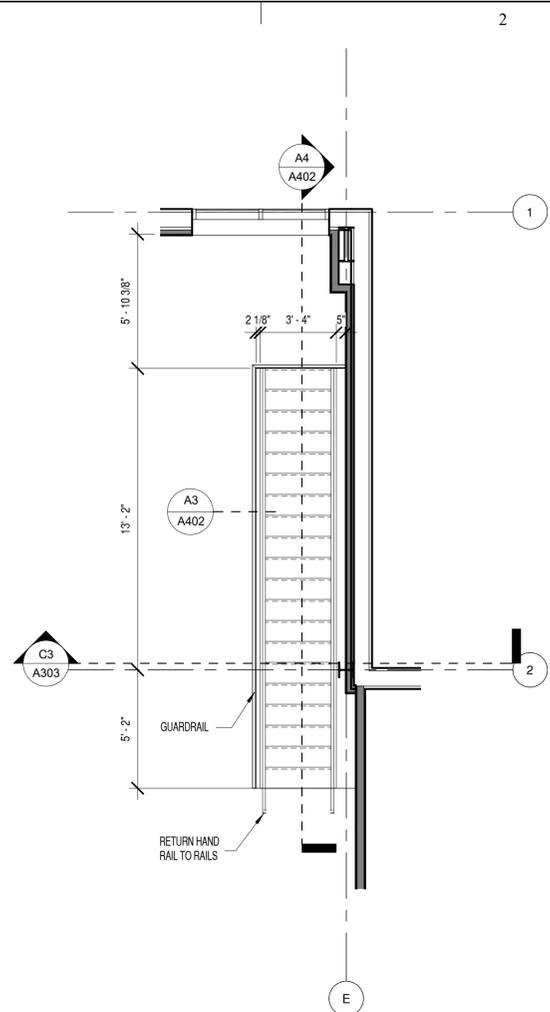
AUGUST 19, 2016

SHEET TITLE

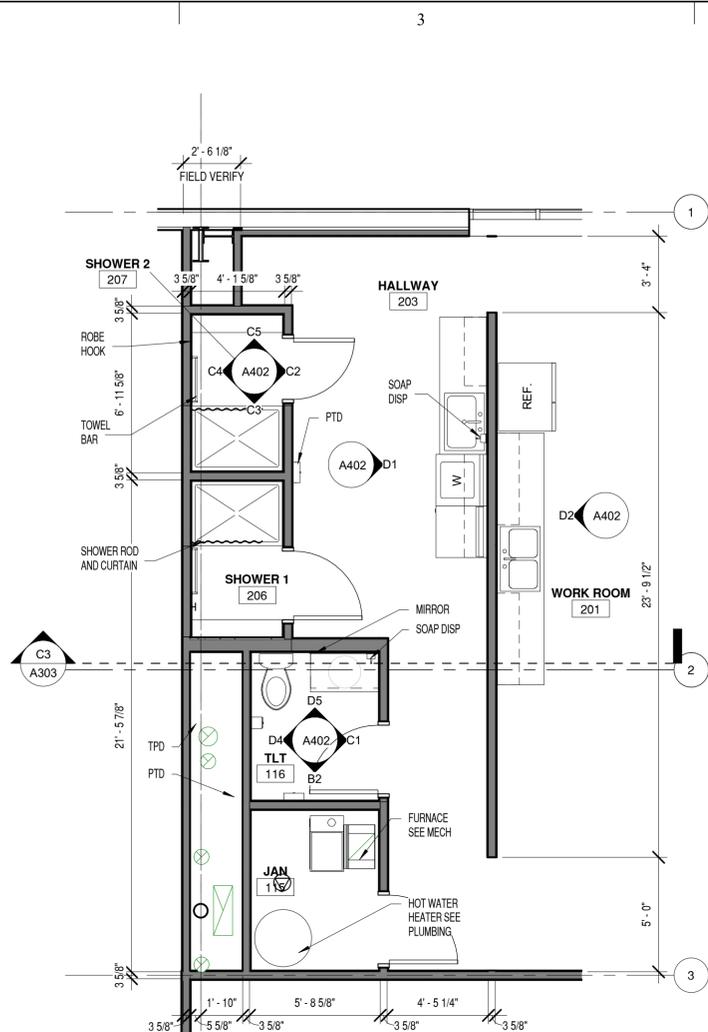
**ENLARGED  
PLANS AND ELEV**

SHEET NO:

**A401**

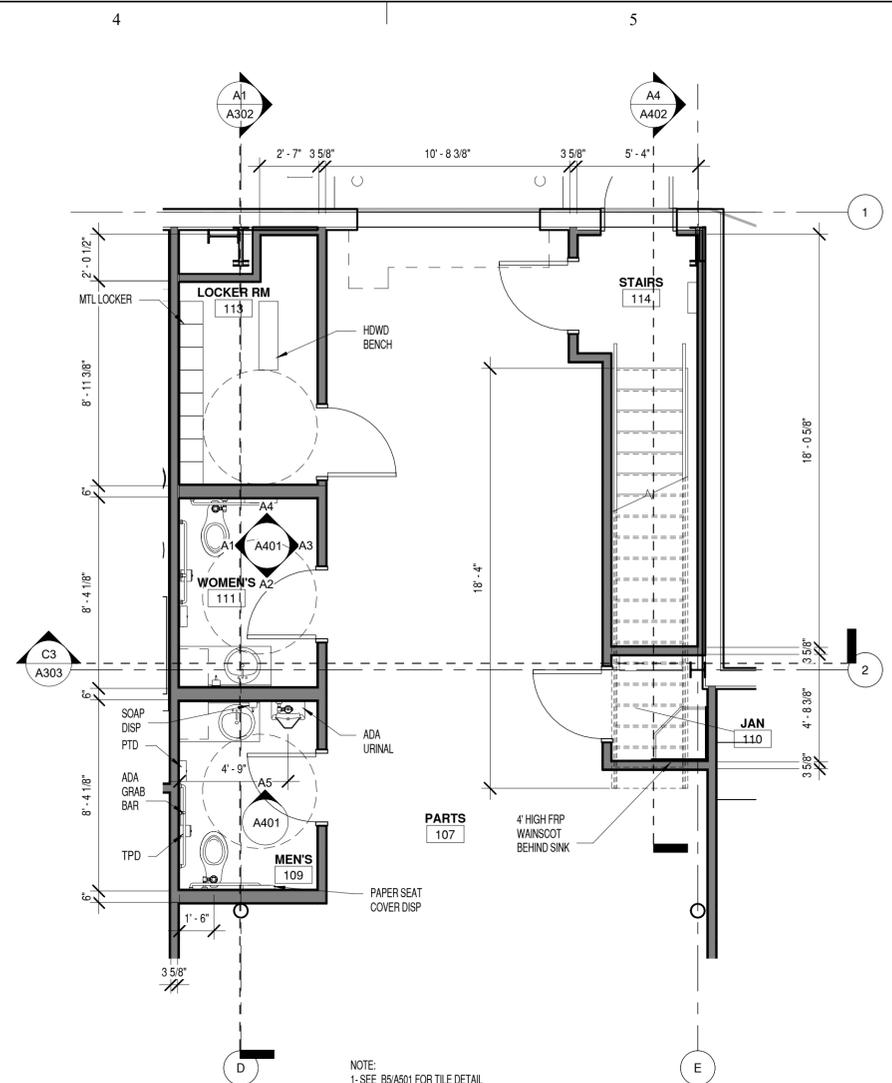


**B1 2nd FLR ENLARGE STAIR PLAN**  
1/4" = 1'-0"



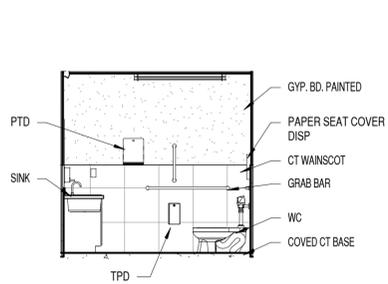
**B2 2nd FLR ENLARGE TLT AREA PLAN**  
1/4" = 1'-0"

NOTE:  
1-SEE B5/A501 FOR TILE DETAIL  
2-SEE C1/G003 ADA MOUNTING HEIGHT

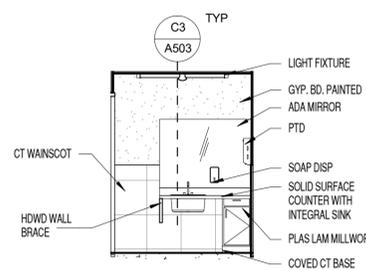


**B4 ENLARGED MAIN FLR TLT AND STAIR PLAN**  
1/4" = 1'-0"

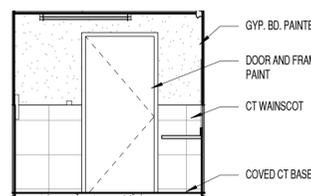
NOTE:  
1-SEE B5/A501 FOR TILE DETAIL  
2-SEE C1/G003 ADA MOUNTING HEIGHT



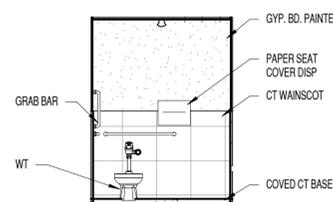
**A1 INTERIOR ELEVATION**  
1/4" = 1'-0"



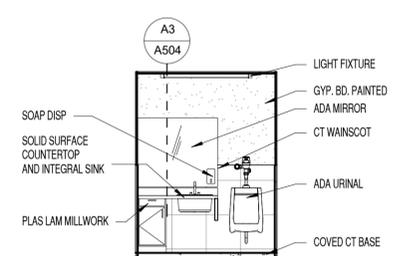
**A2 INTERIOR ELEVATION**  
1/4" = 1'-0"



**A3 INTERIOR ELEVATION**  
1/4" = 1'-0"



**A4 INTERIOR ELEVATION**  
1/4" = 1'-0"



**A5 INTERIOR ELEVATION**  
1/4" = 1'-0"

REFER TO G003 FOR DETAIL ADA  
PLUMBING AND TLT ACCESSORIES  
LAYOUT AND DIMENSIONS-  
FIRST FLOOR ONLY

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IT IS A REDUCED PRINT.  
REDUCE SCALE ACCORDINGLY



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION
------	------	-------------

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SIP

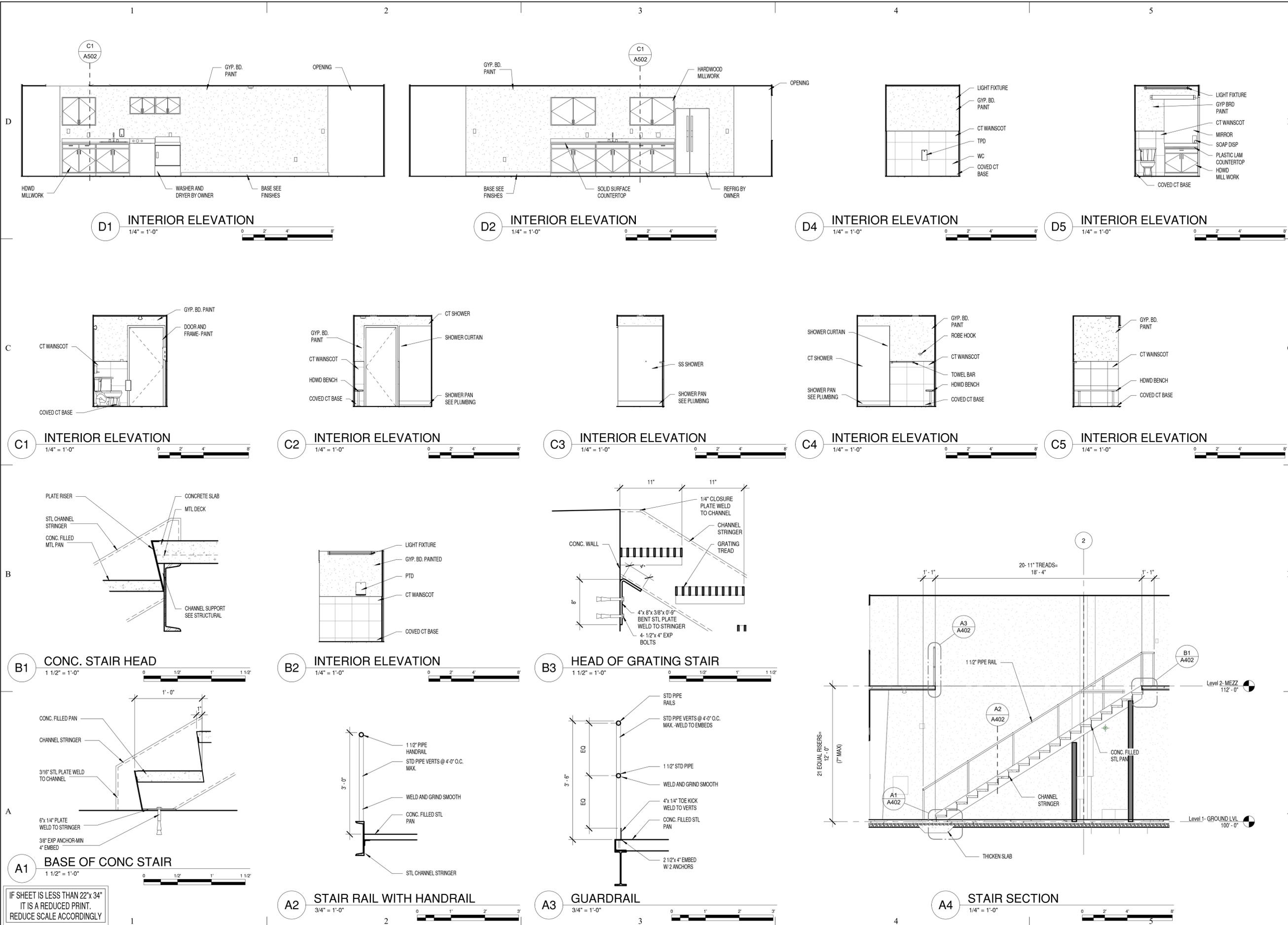
PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

**INTERIOR ELEV  
AND STAIR  
SECTIONS**

SHEET NO:

A402



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8/23/2016 2:55:01 PM



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SJP

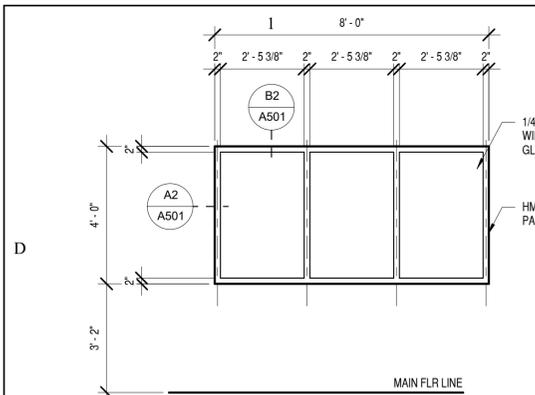
**PERMIT SET**  
AUGUST 19, 2016

SHEET TITLE

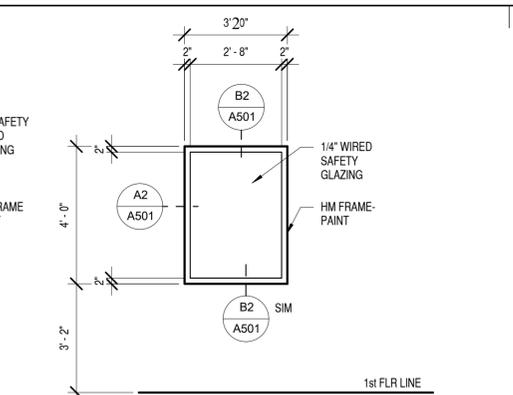
**DETAILS**

SHEET NO:

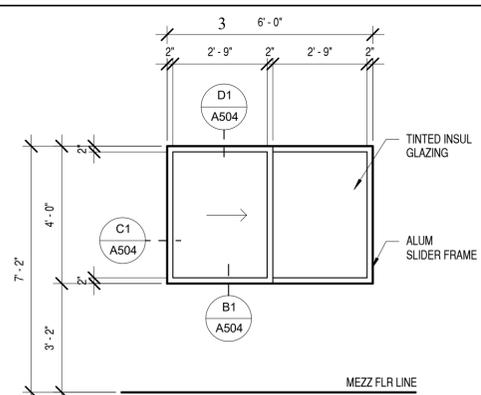
**A501**



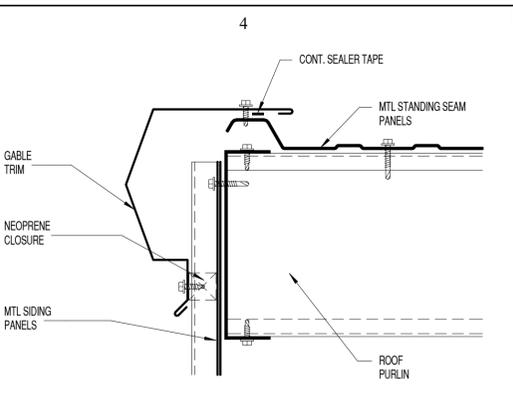
**D1 WINDOW TYPE "A"**  
3/8" = 1'-0"



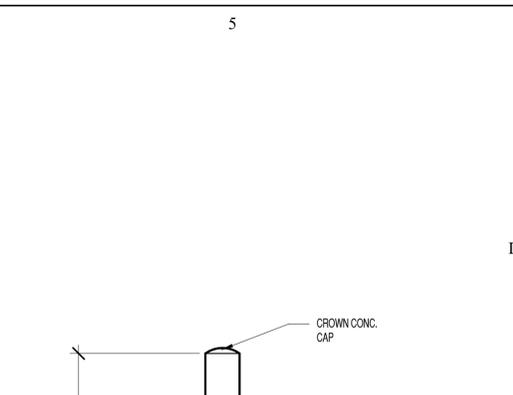
**D2 WINDOW TYPE "B"**  
3/8" = 1'-0"



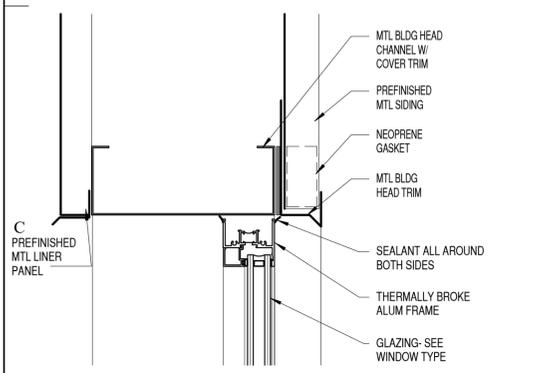
**D3 WINDOW TYPE "C"**  
3/8" = 1'-0"



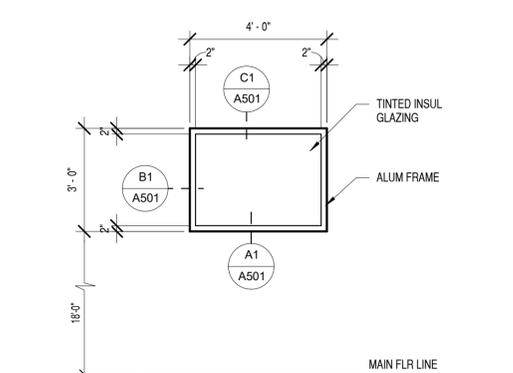
**D4 END WALL FASCIA**  
3" = 1'-0"



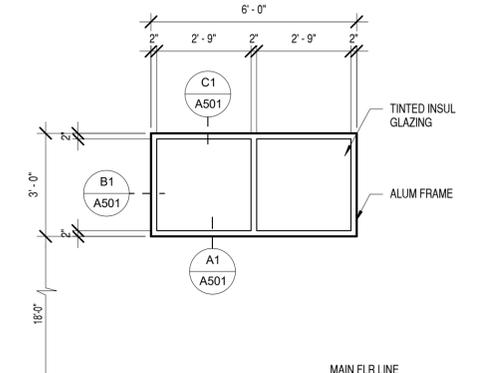
**C5 STEEL PIPE BOLLARD**  
3/4" = 1'-0"



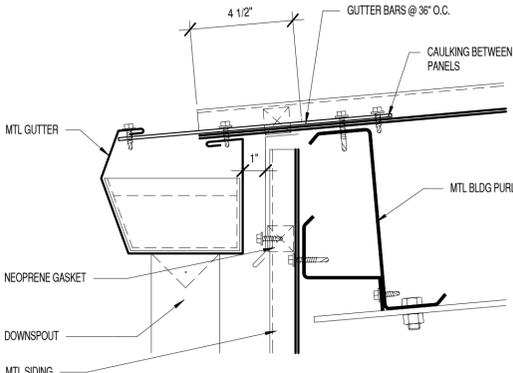
**C1 WDW HEAD DETAIL**  
3" = 1'-0"



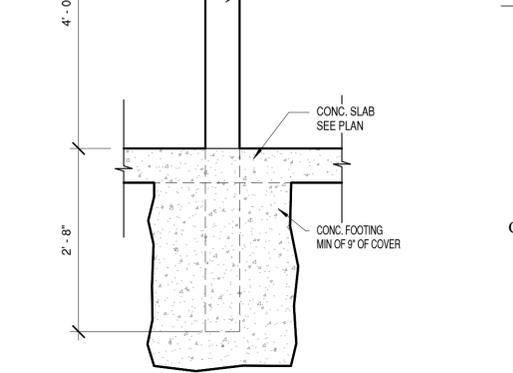
**C2 WINDOW TYPE "D"**  
3/8" = 1'-0"



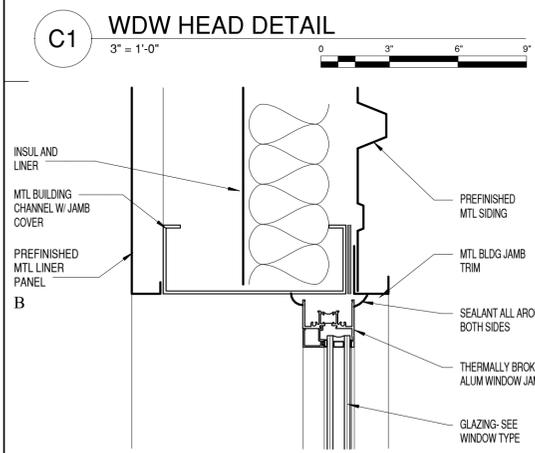
**C3 WINDOW TYPE "E"**  
3/8" = 1'-0"



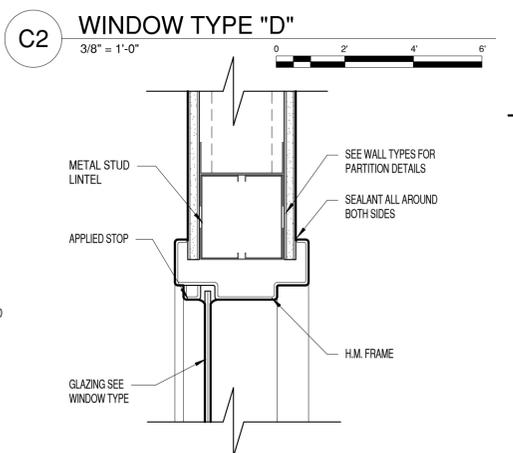
**C4 MTL BLDG GUTTER**  
3" = 1'-0"



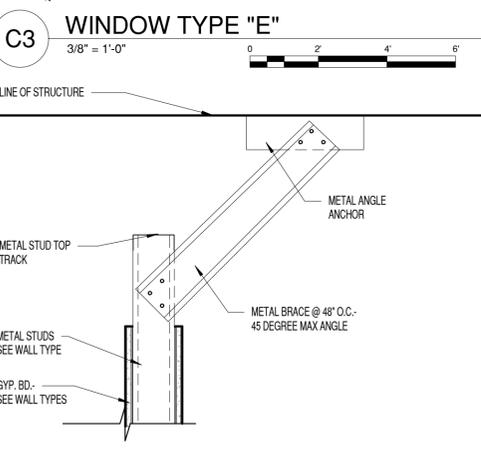
**B5 TILE DETAIL**  
6" = 1'-0"



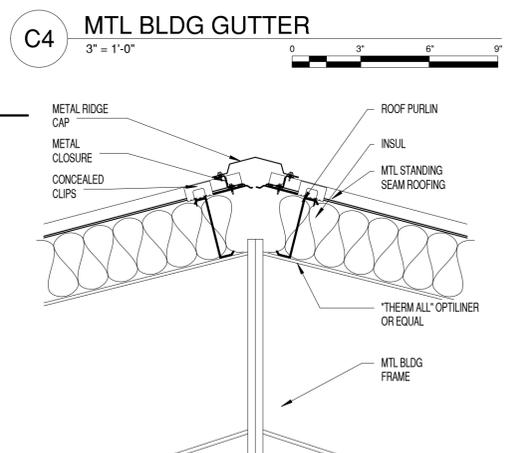
**B1 WDW JAMB DETAIL**  
3" = 1'-0"



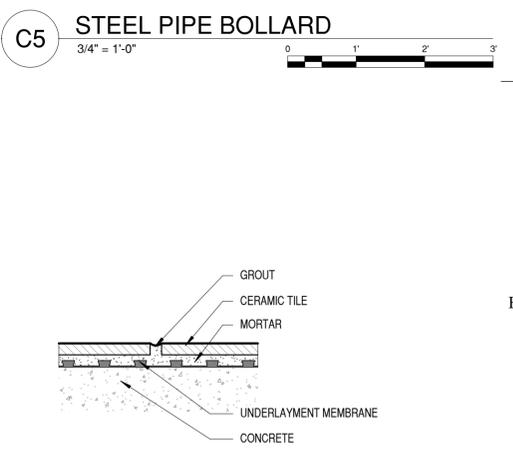
**B2 HM WINDOW HEAD- METAL STUDS**  
3" = 1'-0"



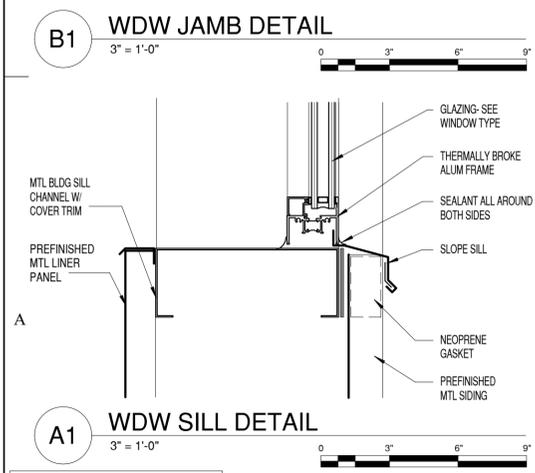
**B3 TOP OF PARTITION- BRACED**  
1 1/2" = 1'-0"



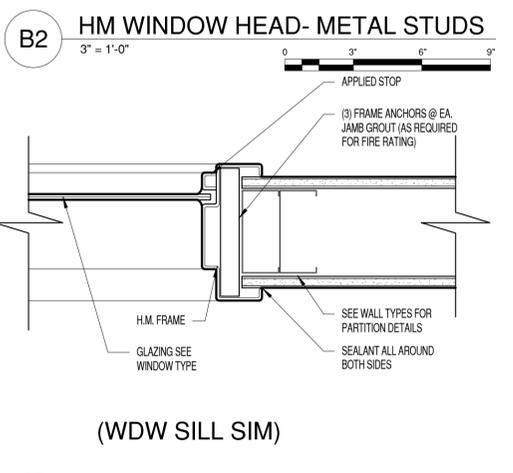
**B4 RIDGE CAP**  
1" = 1'-0"



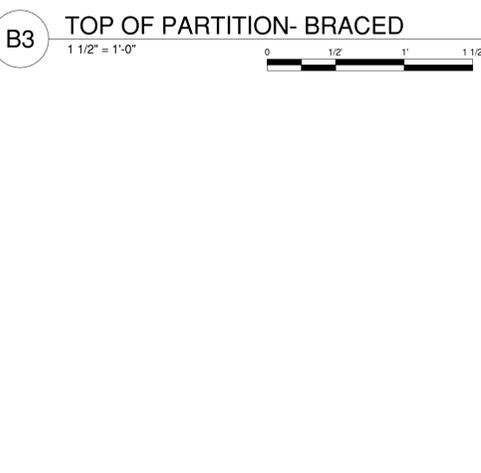
**A5 BASE TRACK**  
3" = 1'-0"



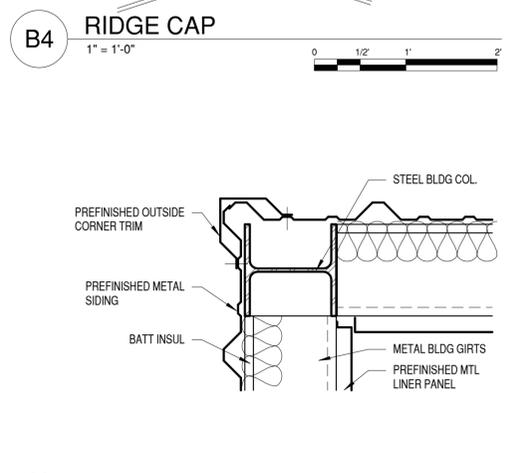
**A1 WDW SILL DETAIL**  
3" = 1'-0"



**A2 HM WINDOW JAMB- METAL STUDS (WDW SILL SIM)**  
3" = 1'-0"

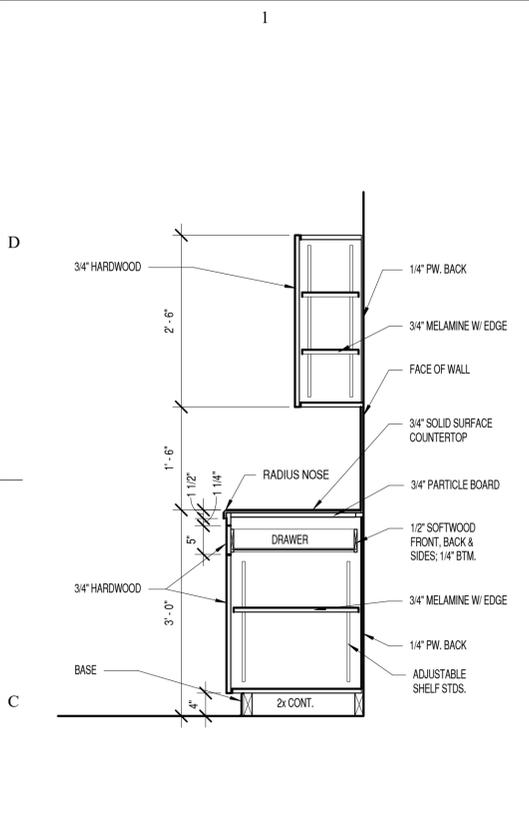


**A4 EXTERIOR CORNER**  
1 1/2" = 1'-0"

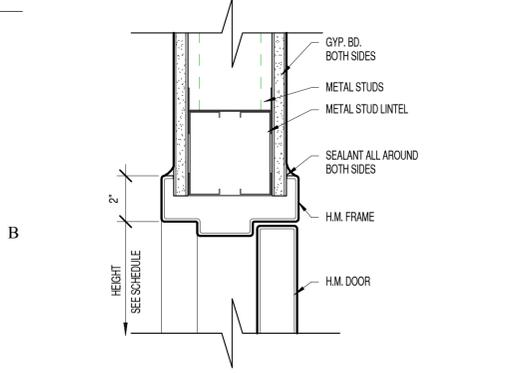


**A5 BASE TRACK**  
3" = 1'-0"

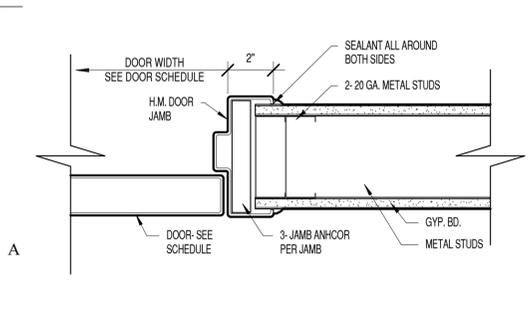
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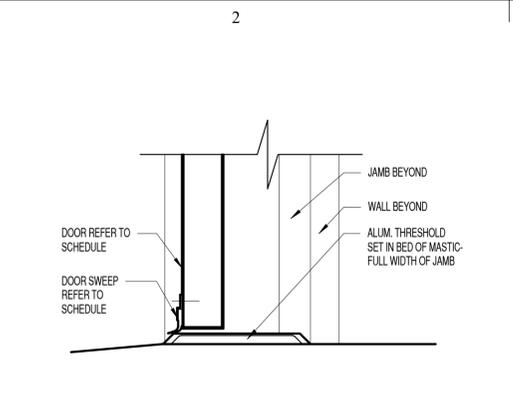
**C1 CABINET SECTION W/ SOLID SURFACE**  
3/4" = 1'-0"



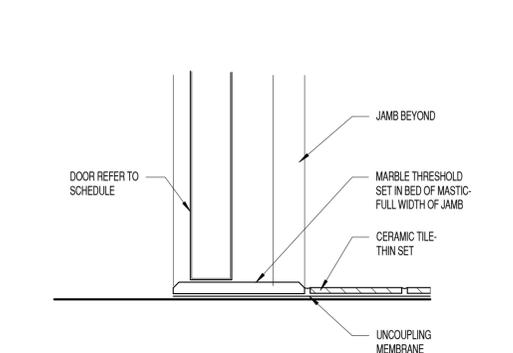
**B1 DOOR HEAD- MTL STUDS**  
3" = 1'-0"



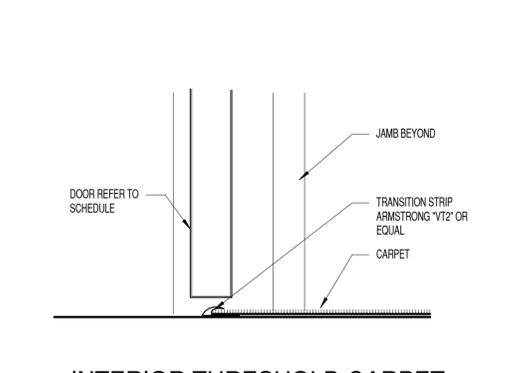
**A1 DOOR JAMB- MTL STUDS**  
3" = 1'-0"



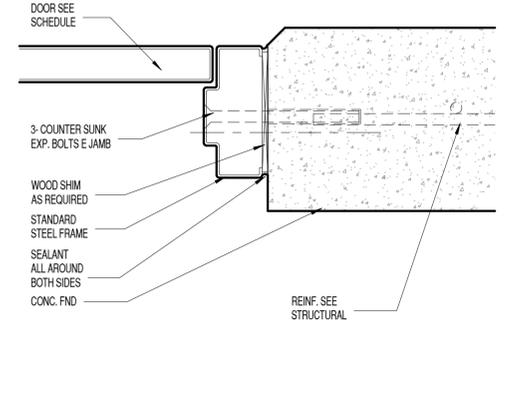
**D2 DOOR THRESHOLD**  
3" = 1'-0"



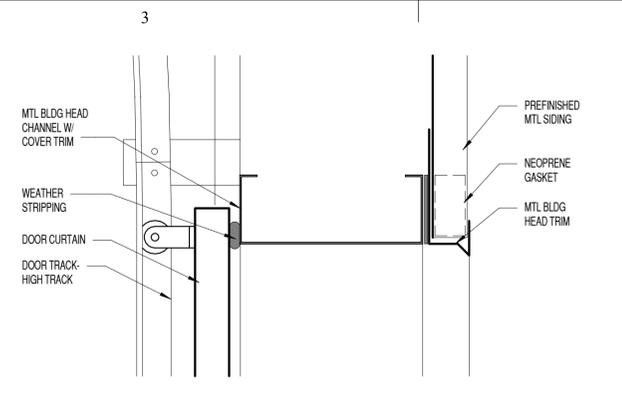
**C2 MARBLE THRESHOLD**  
3" = 1'-0"



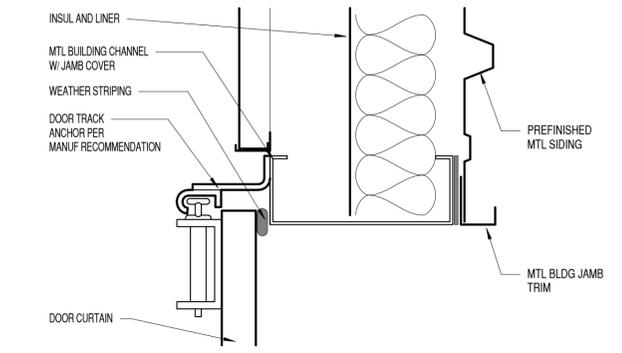
**B2 INTERIOR THRESHOLD CARPET TO NO FINISH**  
3" = 1'-0"



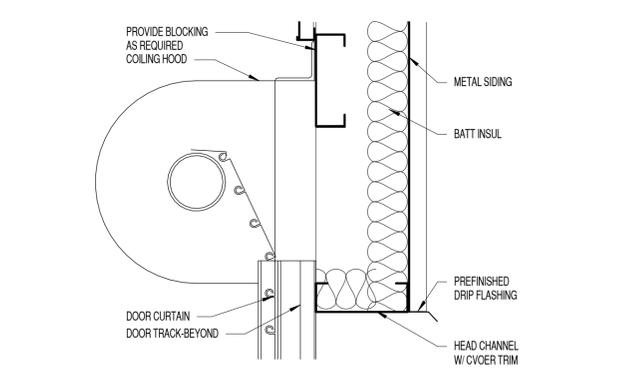
**A2 DOOR HM TILT JAMB1**  
3" = 1'-0"



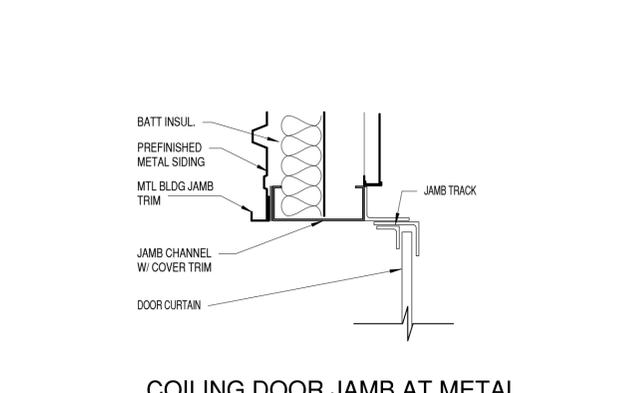
**D3 DETAIL**  
3" = 1'-0"



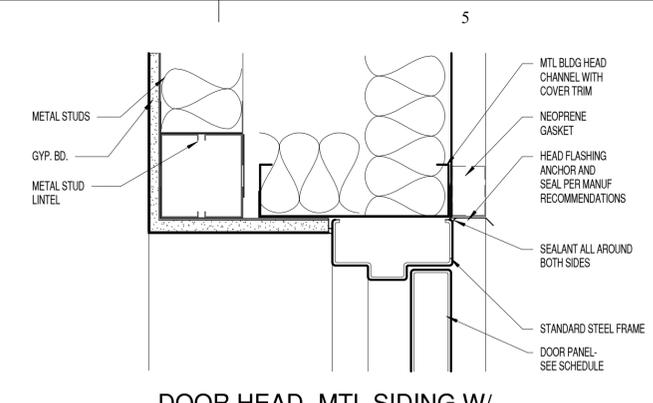
**C3 DETAIL**  
3" = 1'-0"



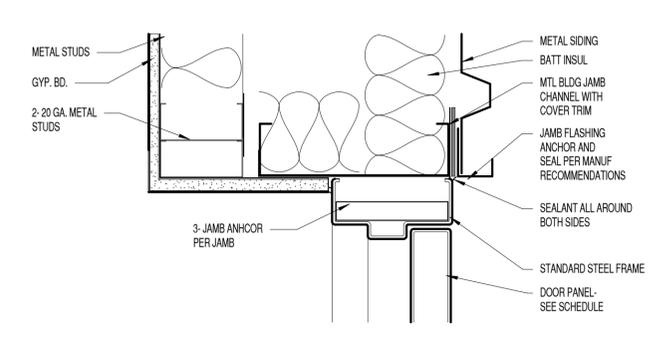
**B3 COILING DOOR HEAD**  
1 1/2" = 1'-0"



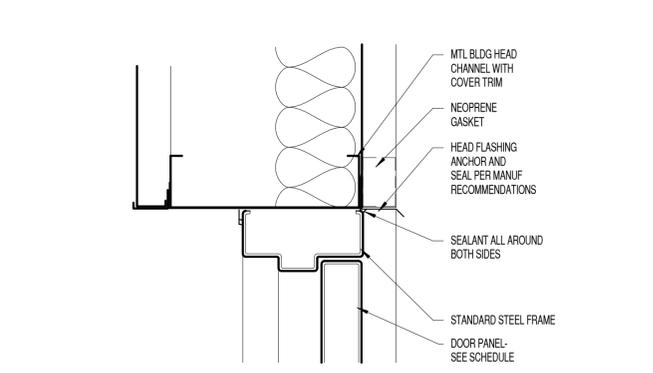
**A3 COILING DOOR JAMB AT METAL BLDG**  
1 1/2" = 1'-0"



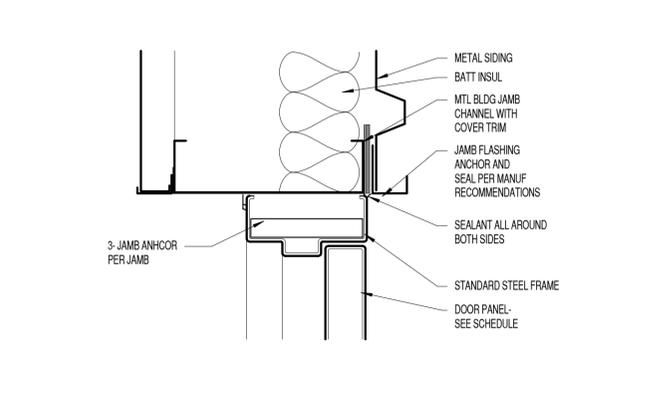
**D4 DOOR HEAD- MTL SIDING W/ FURRING**  
3" = 1'-0"



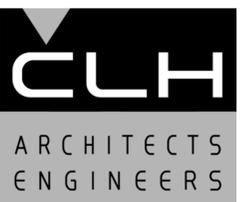
**C4 DOOR JAMB- MTL SIDING W/ FURRING**  
3" = 1'-0"



**B4 DOOR HEAD- METAL SIDING**  
3" = 1'-0"



**A4 DOOR JAMB- METAL SIDING**  
3" = 1'-0"



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHKD BY:	SJP

PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

**DETAILS**

SHEET NO:

**A502**

8/23/2016 2:55:25 PM

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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SIP

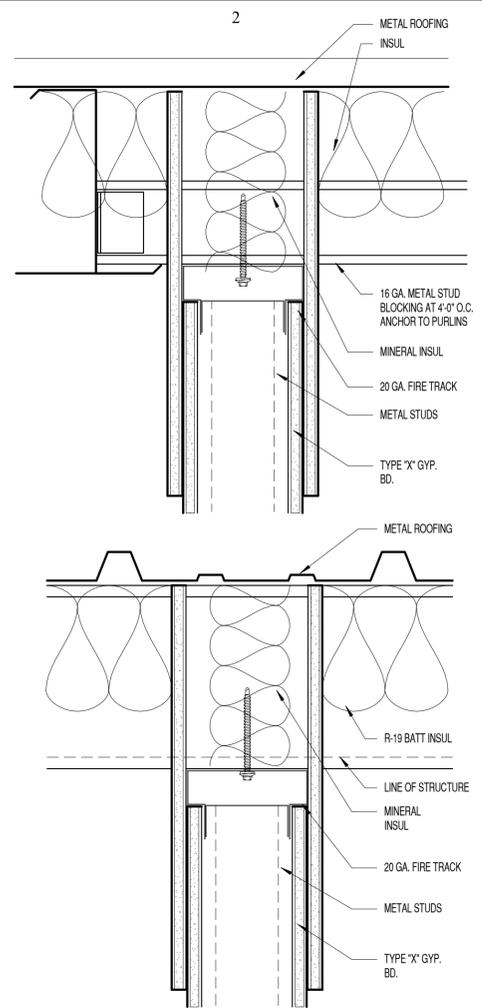
**PERMIT SET**  
AUGUST 19, 2016

SHEET TITLE

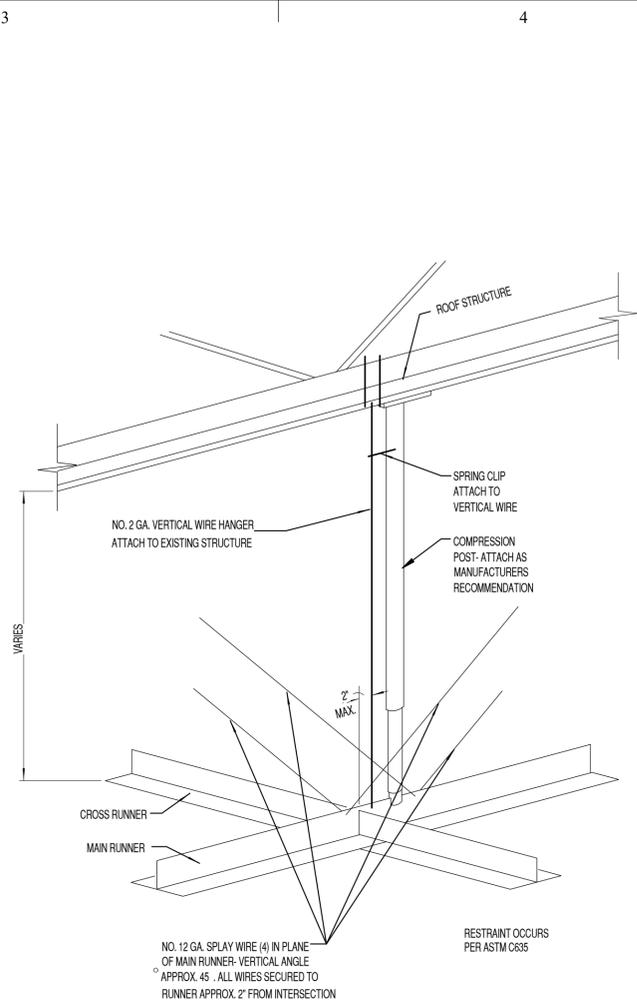
**DETAILS**

SHEET NO:

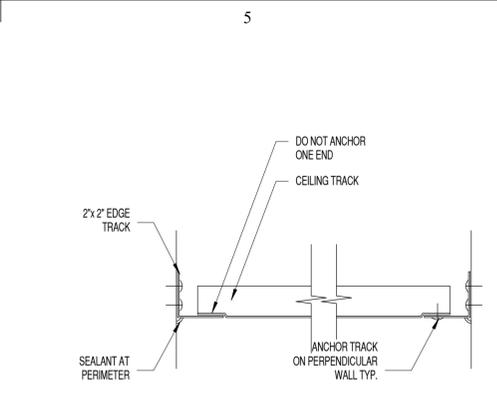
**A503**



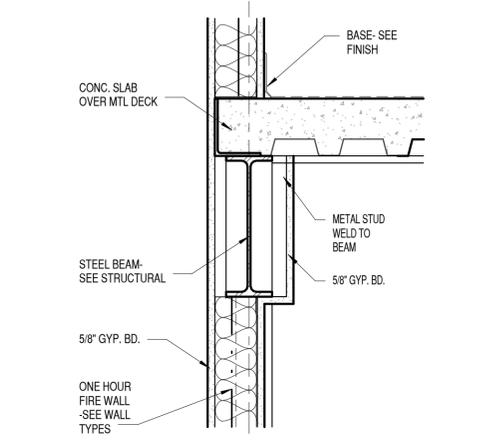
**B2 TOP OF PARTITION- SLIP JOINT**  
3" = 1'-0"



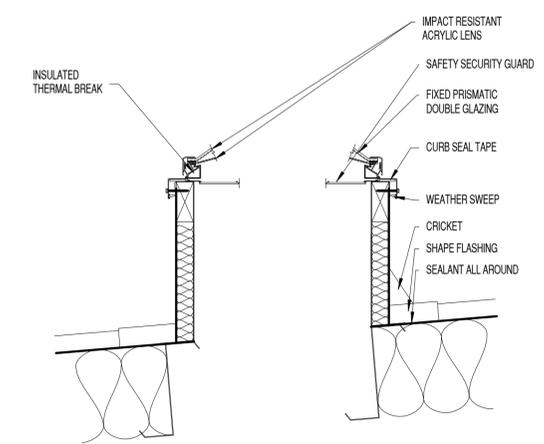
**C3 SEISMIC BRACE**  
1 1/2" = 1'-0"



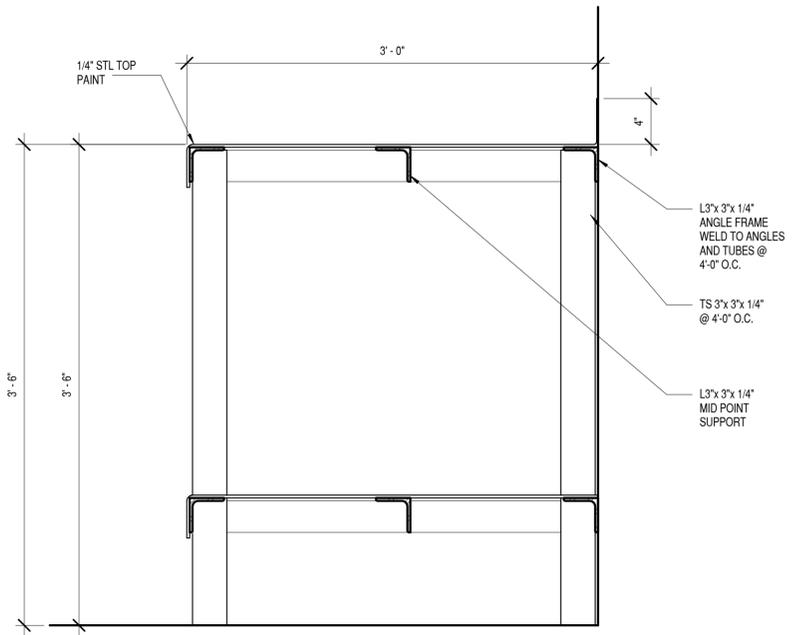
**D5 CEILING TRACK**  
3" = 1'-0"



**B5 EDGE OF 2nd FLR**  
1 1/2" = 1'-0"

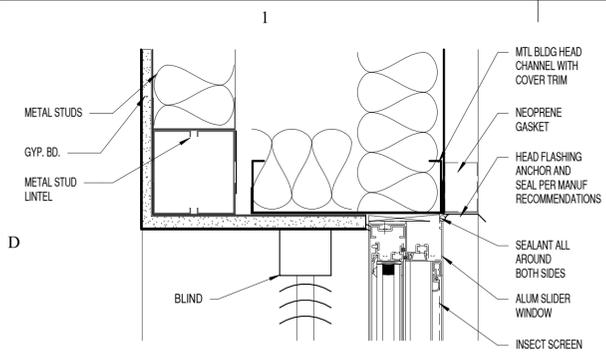


**A2 SKYLIGHT**  
1 1/2" = 1'-0"

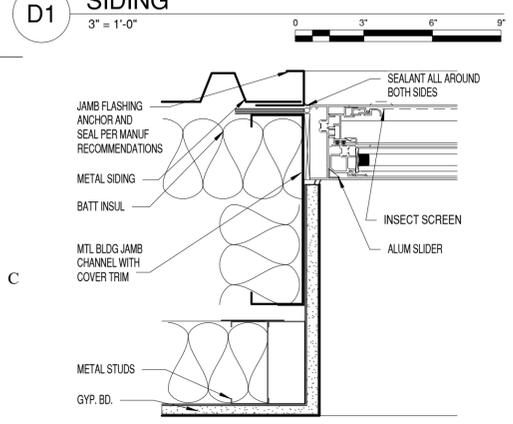


**A3 WORK BENCH**  
1 1/2" = 1'-0"

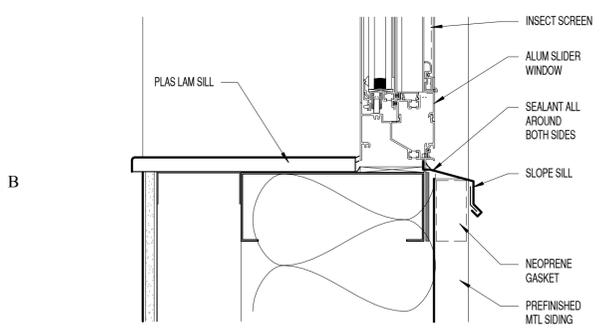
IF SHEET IS LESS THAN 22"x 34"  
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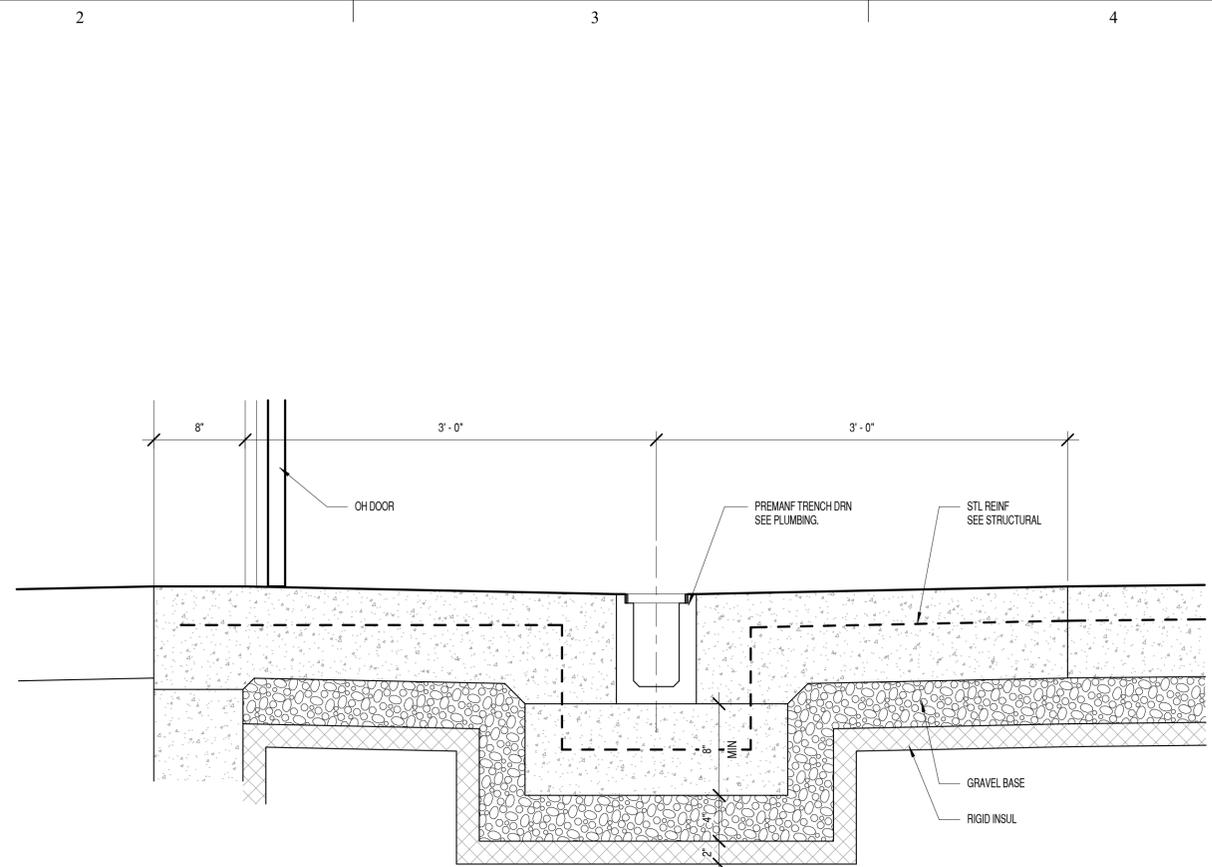
**D1 ALUM WINDOW HEAD- METAL SIDING**  
3" = 1'-0"



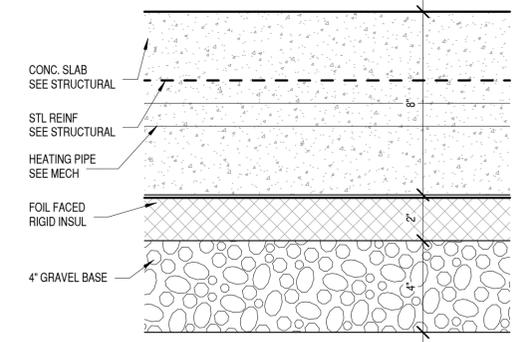
**C1 ALUM WINDOW JAMB- METAL SIDING**  
3" = 1'-0"



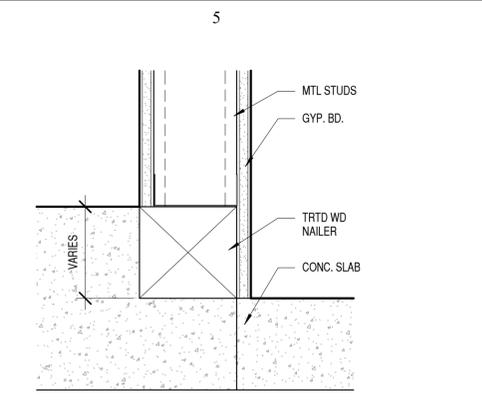
**B1 ALUM WINDOW SILL- METAL SIDING**  
3" = 1'-0"



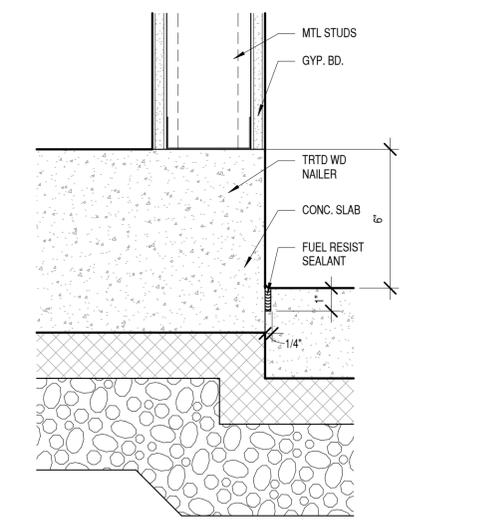
**C3 OH DOOR TRENCH**  
1 1/2" = 1'-0"



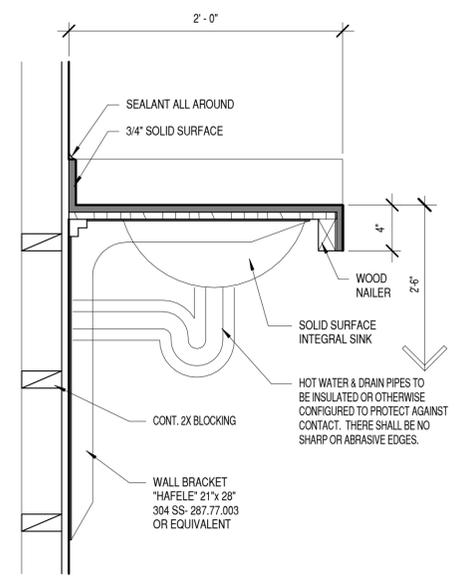
**B4 SLAB DETAIL**  
3" = 1'-0"



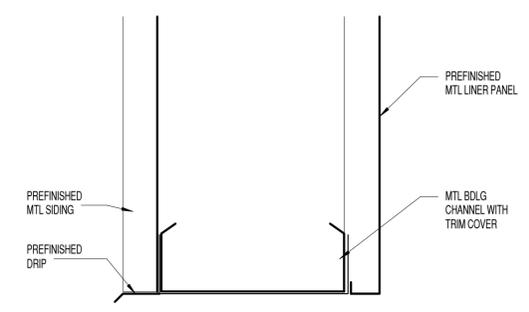
**D5 EDGE DETAIL**  
3" = 1'-0"



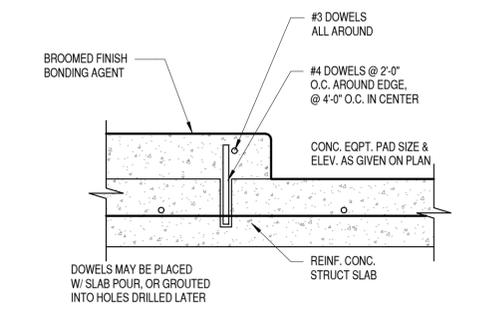
**B5 EDGE DETAIL AT LIQUID RM**  
3" = 1'-0"



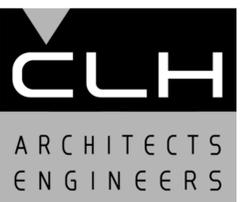
**A3 SOLID SURFACE LAV COUNTERTOP**  
1 1/2" = 1'-0"



**A4 BASE OF WALL AT WASH AREA**  
3" = 1'-0"



**A5 HOUSE CLEANING PAD**  
1 1/2" = 1'-0"



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**GRANT TRUCKING**  
**TRUCK**  
**MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SJP

**PERMIT SET**  
AUGUST 19, 2016

SHEET TITLE

**DETAILS**

SHEET NO:

**A504**

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8/23/2016 2:55:51 PM

DOOR NUMBER	TYPE	DOOR				FRAME		DETAILS			GLAZING	HARDWARE	FIRE RATING	COMMENTS
		MATERIAL	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	HEAD	JAMB	THRESHOLD				
101 A	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL	-	INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
101 B	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B4/A502	A4/A502	D2/A502	TEMP/INSUL	HW1	INSUL DOOR	
101 C	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B4/A502	A4/A502	D2/A502	TEMP/INSUL	HW1	INSUL DOOR	
101 D	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
102 A	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
102 B	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
103 A	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
103 B	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
104 A	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
104 B	SEC	STL	14' - 0"	16' - 0"	2"		STL	D3/A502	C3/A502		TEMP/INSUL		INSUL SECTIONAL DOOR W/ GLAZING- HIGH LIFT TRACK, ANGLE TO MATCH ROOF SLOPE	
104 C	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B4/A502	A4/A502	D2/A502	TEMP/INSUL	HW1	INSUL DOOR	
104 D	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B4/A502	A4/A502	D2/A502	TEMP/INSUL	HW1	INSUL DOOR	
106 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502					
107 A	G	HM	4' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502		1/4" SAFETY WIRED	HW2		
107 B	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW2		
107 C	G3	HM	4' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502		1/4" SAFETY WIRED	HW2		
107 D	OH	STL	8' - 0"	8' - 0"			STL	B3/A502	A3/A502				INSUL COILING DOOR	
107 E	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502	C2/A502		HW4		
107 F	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW5		
108 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G2	HM	B1/A502	A1/A502			HW3		
109 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW4		
110 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW5		
111 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW4		
112 A	OH	STL	8' - 0"	8' - 0"			STL	B3/A502	A3/A502				INSUL COILING DOOR	
113 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW6		
114 A	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502		TEMP	HW6	60 MIN	
114 B	N	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	D4/A502	C4/A502	D2/A502	TEMP/INSUL	HW1	INSUL DOOR	
202 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502			HW6		
202 B	OH	STL	8' - 0"	8' - 0"			STL						PROVIDE OSHA APPROVED FALL PROTECTION	
206 A	F	HM	3' - 0"	7' - 0"	1 3/4"	G1	HM	B1/A502	A1/A502	C2/A502		HW4		
207 A	F	HM	2' - 8"	7' - 0"		G1	HM	B1/A502	A1/A502	C2/A502		HW4		

NOTE: DOOR HARDWARE FOR SECTIONAL AND COILING DOORS TO BE BY DOOR MANUF.

**HARDWARE GROUPS**

HW1-  
3 BALL BEARING HINGES  
ENTRY LOCKSET  
WEATHERSTRIPPING  
THRESHOLD  
FLOOR STOP  
24"x 34" ARMOR PLATE

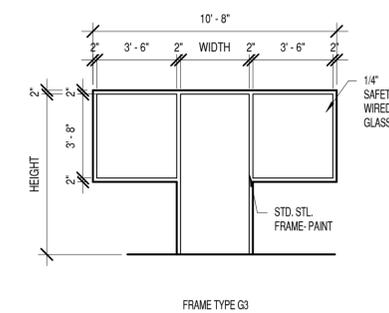
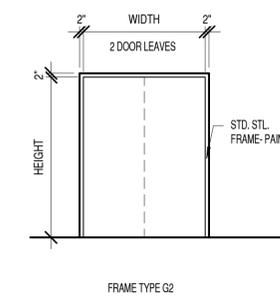
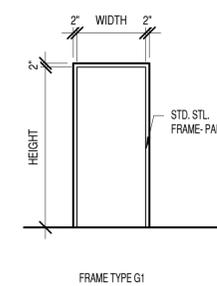
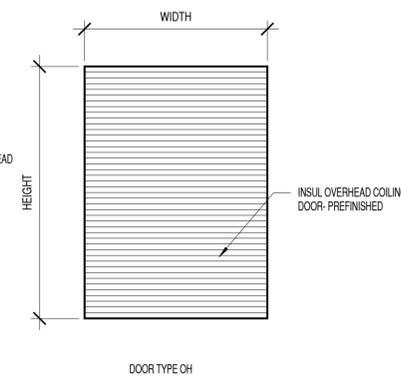
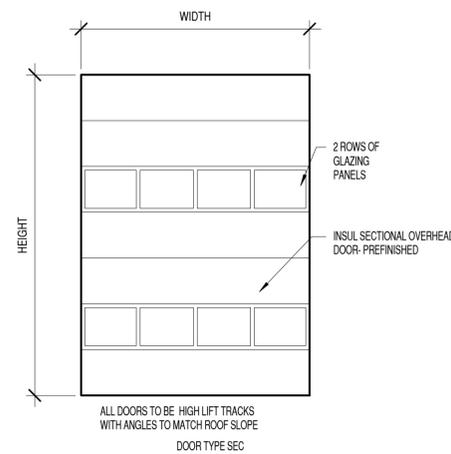
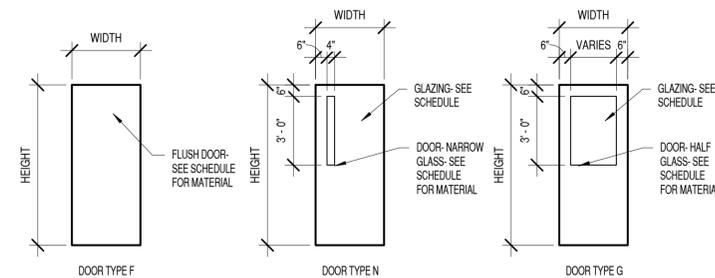
HW2-  
3 BALL BEARING HINGES  
OFFICE LOCKSET  
WALL STOP

HW3-  
6 BALL BEARING HINGES  
STORAGE LOCKSET  
FLUSH BOLT  
ASTRAL  
2. FLOOR STOP  
2. 24"x 34" ARMOR PLATE

HW4-  
3 BALL BEARING HINGES  
PRIVACY LOCKSET  
FLOOR STOP  
10"x 34" MOP PLATE

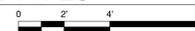
HW5-  
3 BALL BEARING HINGES  
STORAGE LOCKSET  
WALL STOP  
24"x 34" ARMOR PLATE

HW6-  
3 BALL BEARING HINGES  
PASSAGE LOCKSET  
FLOOR STOP  
10"x 34" MOP PLATE



**A3 DOOR AND FRAME TYPES**

1/4" = 1'-0"



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SJP

**PERMIT SET**

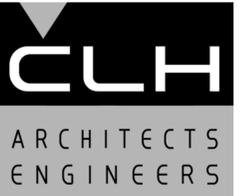
AUGUST 19, 2016

**DOOR SCHEDULE AND TYPES**

SHEET NO:

**A601**

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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SIP

PERMIT SET

AUGUST 19, 2016

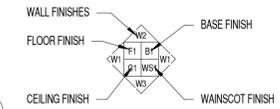
SHEET TITLE

**GROUND LEVEL  
FINISH PLAN**

SHEET NO:

**A602**

**FINISHES LEGEND**



**FINISH SYMBOL**

**FLOOR**

- F1-SEALED CONCRETE
- F2-NA
- F3-CERAMIC TILE
- F4-SHOWER BASE SEE PLUMBING

**BASE**

- B1-RUBBER TOPSET BASE
- B2-COVED CERAMIC TILE

**WAINSCOT**

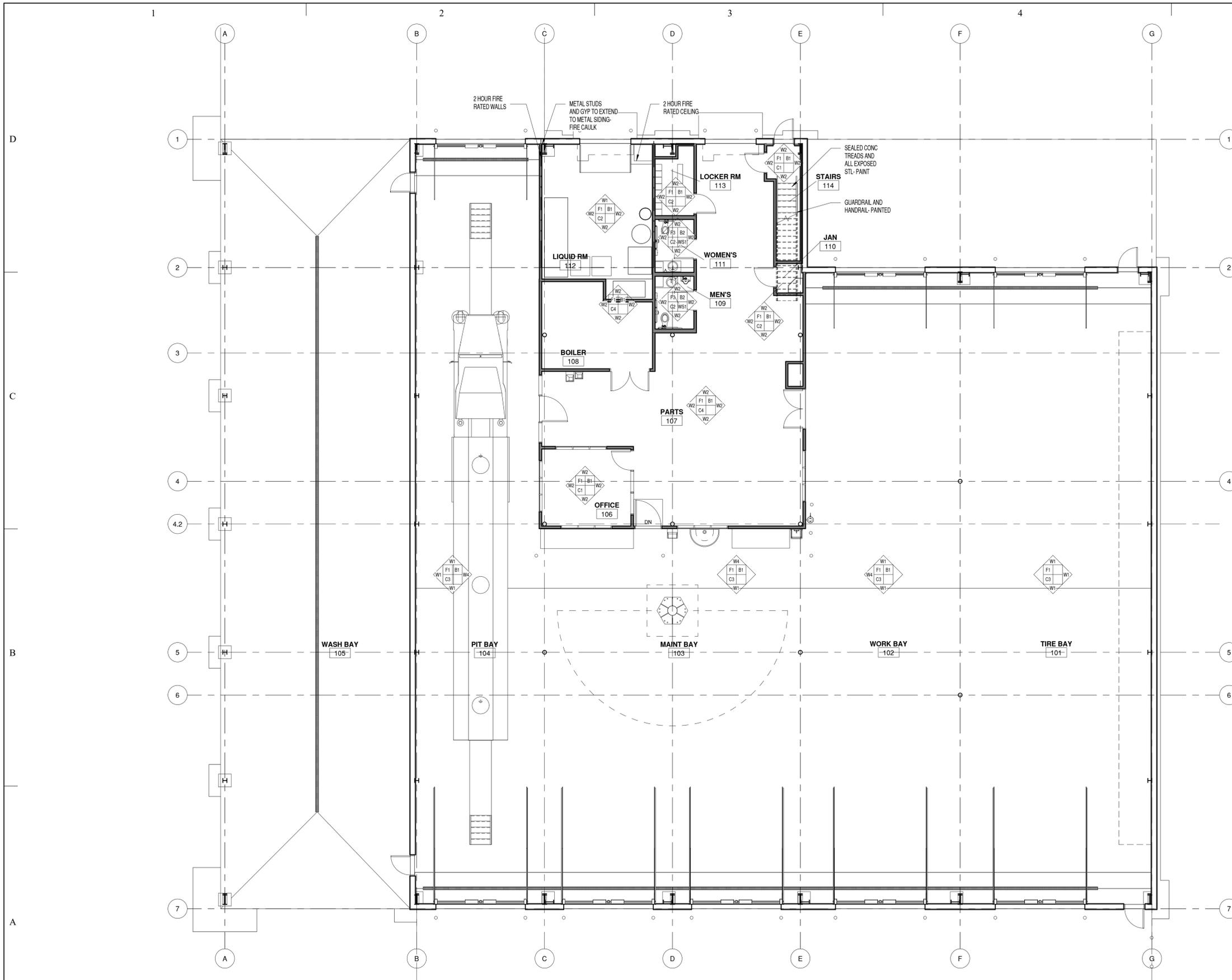
- W1- 4" CERAMIC TILE (18" x 18"
- \*AMERICAN OLEAN® URBAN TONES)

**WALLS**

- W1- PAINTED CONCRETE WALL W/ EXPOSED STRUCTURE AND VINYL FACED INSULATION ABOVE
- W2- GYPSUM BOARD, PAINTED
- W3- STAINLESS STEEL WALL PANEL AND PAINTED GYP. BD. ABOVE
- W4- FIRST 8" PAINTED TOUGH ROCK GYP. BOARD AND PAINTED GYPSUM BOARD ON THE BALANCE OF PARTITION

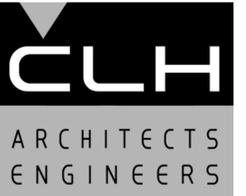
**CEILING**

- C1- SUSPEND ACOUSTIC LAY-IN CEILING SYSTEM
- C2- PAINTED GYPSUM BOARD ON SUSPENSION SYSTEM
- C3- PAINTED EXPOSED STRUCTURE AND VINYL FACED INSULATION
- C4- PAINTED EXPOSED STEEL STRUCTURE



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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	KDL
CHK'D BY:	SIP

PERMIT SET

AUGUST 19, 2016

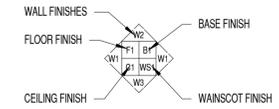
SHEET TITLE

**MEZZANINE  
LEVEL FINISH  
PLAN**

SHEET NO:

**A603**

**FINISHES LEGEND**



**FINISH SYMBOL**

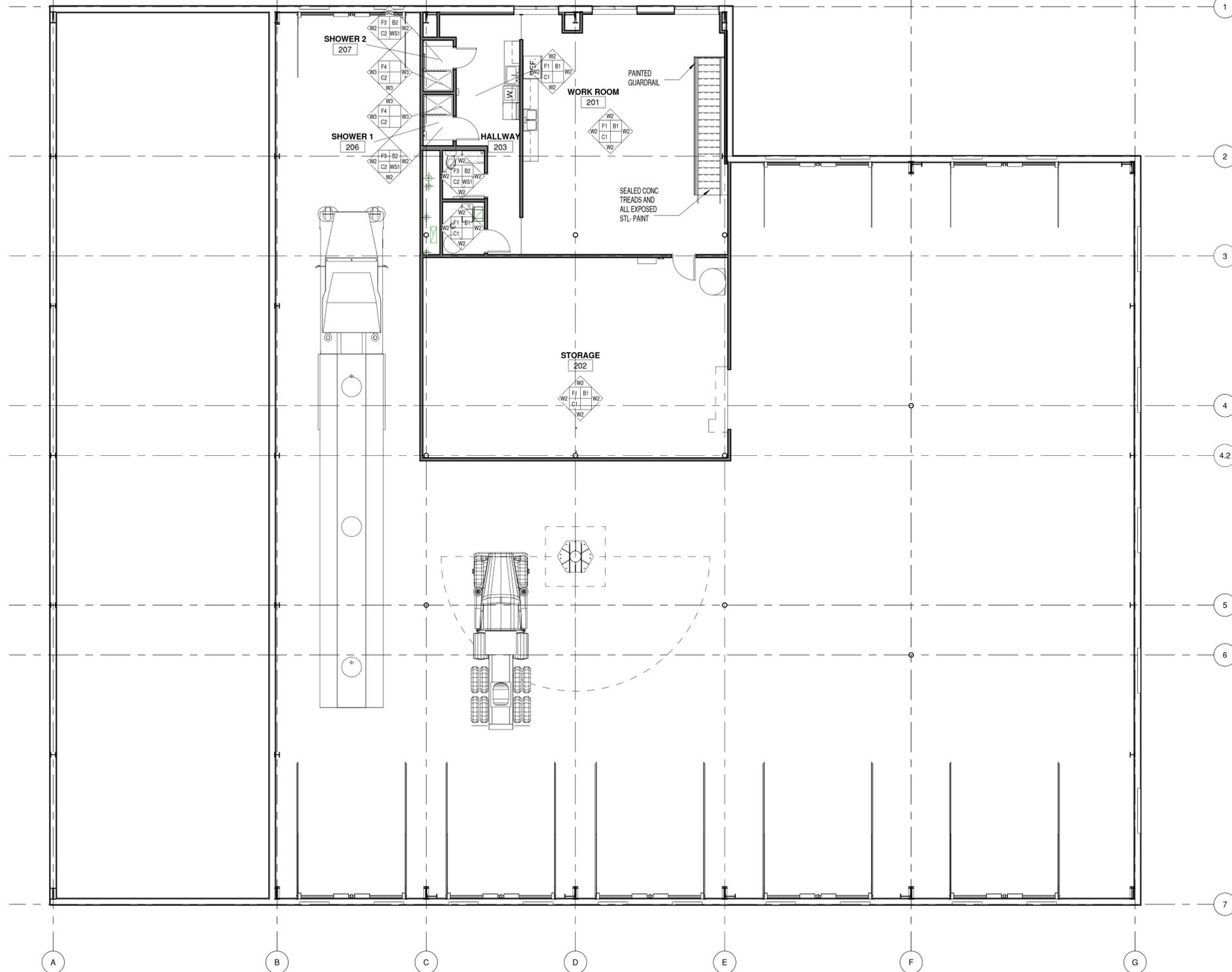
**FLOOR**  
F1- SEALED CONCRETE  
F2- NA  
F3- CERAMIC TILE  
F4- SHOWER BASE SEE PLUMBING

**BASE**  
B1- RUBBER TOPSET BASE  
B2- COVED CERAMIC TILE

**WAINSCOT**  
W1- 4" CERAMIC TILE (18" X 18"  
"AMERICAN OLEAN" URBAN TONES)

**WALLS**  
W1- PAINTED CONCRETE WALL W/ EXPOSED STRUCTURE AND VINYL FACED INSULATION ABOVE  
W2- GYPSUM BOARD- PAINTED  
W3- STAINLESS STEEL WALL PANEL AND PAINTED GYP. BD. ABOVE  
W4- FIRST 8' PAINTED TOUGH ROCK GYP. BOARD AND PAINTED GYPSUM BOARD ON THE BALANCE OF PARTITION

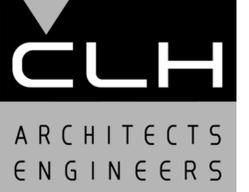
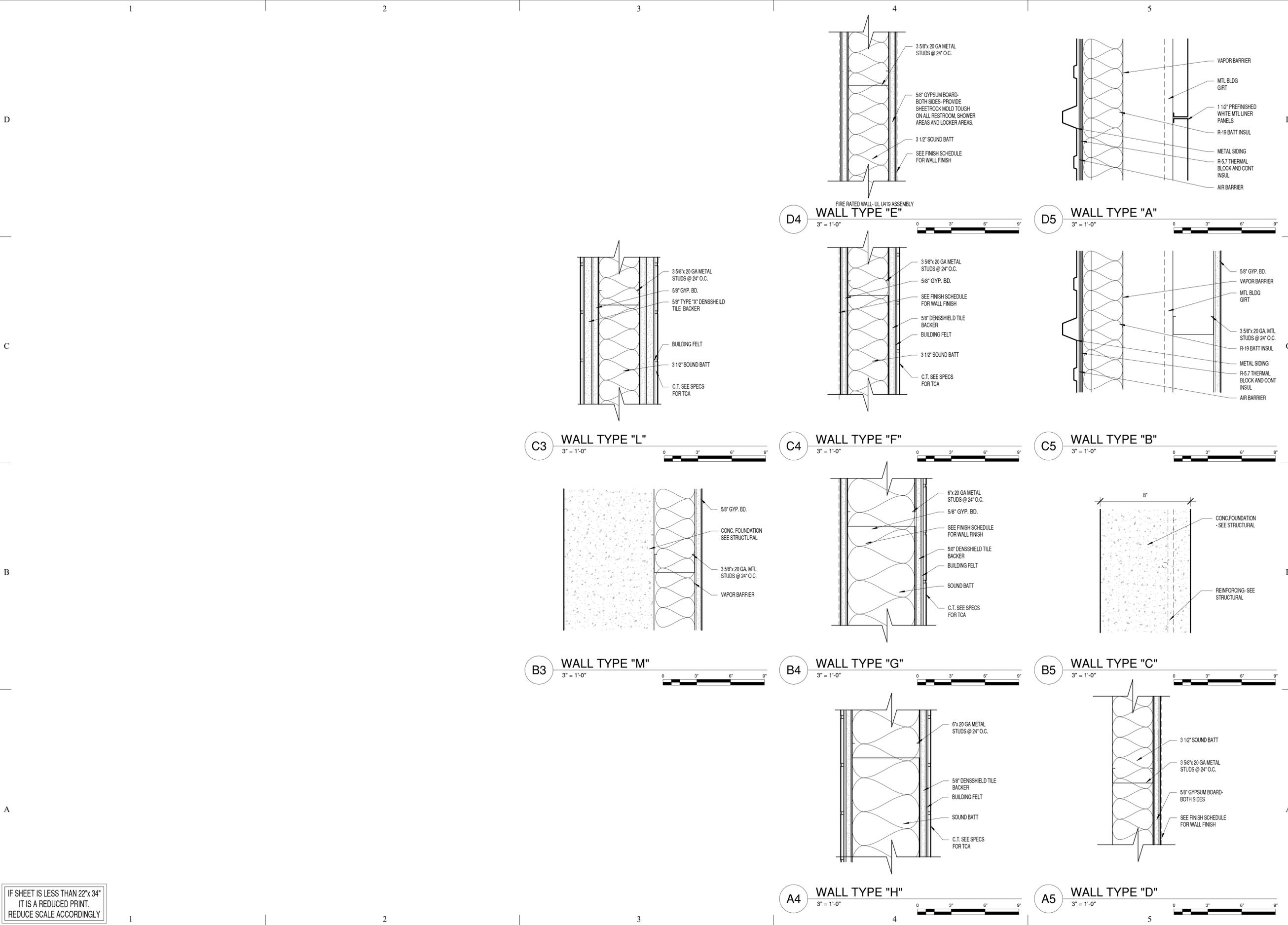
**CEILING**  
C1- SUSPEND ACOUSTIC LAY-IN CEILING SYSTEM  
C2- PAINTED GYPSUM BOARD ON SUSPENSION SYSTEM  
C3- PAINTED EXPOSED STRUCTURE AND VINYL FACED INSULATION  
C4- PAINTED EXPOSED STEEL STRUCTURE



**A1 MEZZANINE LEVEL FLOOR PLAN**  
1/8" = 1'-0"  
0 4' 8' 16'

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**GRANT TRUCKING**  
**TRUCK**  
**MAINTENANCE SHOP**

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MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
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CHK'D BY:	SIP

**PERMIT SET**  
 AUGUST 19, 2016

SHEET TITLE  
**WALL TYPES**

SHEET NO:  
**A701**

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GAS WATER HEATER SCHEDULE												
MARK	MANUFACTURER & MODEL	SYSTEM SERVED	TANK CAPACITY (GAL)	INPUT (BTU/HR)	OUTPUT (BTU/HR)	RECOVERY @ 100°F RISE (GPH)	VOLTS/PHASE	GAS CONN. (IN)	GAS PRESSURE (IN.)	WEIGHT (LBS)	DIMENSIONS HxWxD (IN)	REMARKS
WH-1	A O SMITH GCR-40	DOMESTIC HOT WATER	40	40,000	3	70	-	1/2	4 oz	466	62x20"D	PROVIDE 4" TYPE B FLUE THRU ROOF w/ WEATHER CAP, 0.62 ENERGY FACTOR.

CIRCULATING PUMP SCHEDULE												
MARK	MANUFACTURER & MODEL	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	FLUID	FLUID TEMP	MOTOR		WEIGHT (LBS)	REMARKS	
								AMP	HP			
CP-1	GRUNDFOS UP-15-18B7	DOMESTIC HOT WATER	INLINE	3	12	WATER	140°F	0.5	1/25	120 / 1	6.8	NPSM UNION, 24HR TIMER, 5 FT POWER CORD, CAST BRONZE, PUMP CASING

PIPING AND EQUIPMENT INSULATION SCHEDULE								
SYMBOL	SYSTEM	EXPOSED	CONCEALED	ABOVE CEILING	EXTERIOR EXPOSED	THICKNESS	INDOOR FIELD APPLIED JACKET	OUTDOOR FIELD APPLIED JACKET
DCW	DOMESTIC COLD WATER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	--	SEE THICKNESS TABLE BELOW	--	--
DHW	DOMESTIC HOT WATER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	--	SEE THICKNESS TABLE BELOW	--	--
DHR	DOMESTIC HOT WATER RECIRCULATION	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	--	SEE THICKNESS TABLE BELOW	--	--

MINIMUM PIPE INSULATION THICKNESS TABLE								
FLUID DESIGN OPERATING TEMP. RANGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in.)					
	CONDUCTIVITY Btu-in/(h-ft <sup>2</sup> -°F)	MEAN RATING TEMP. °F	<1"	1" TO <1 1/2"	1 1/2" TO <4"	4" TO <8"	≥ 8"	
<b>DOMESTIC HOT WATER SYSTEM</b>								
105-140	0.22-0.28	100	1.0	1.0	1.5	1.5	1.5	
<b>DOMESTIC COLD WATER AND REFRIGERANT SYSTEMS</b>								
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0	
<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.0	1.5

NOTES:  
 1. ANY PIPE ON THIS SCHEDULE WITHIN THE FACILITY TO BE INSULATED AS DEFINED.  
 2. THESE THICKNESSES ARE BASED ON ENERGY EFFICIENCY CONSIDERATIONS ONLY. ISSUES SUCH AS WATER VAPOR PERMEABILITY OR SURFACE CONDENSATION SOMETIMES REQUIRE VAPOR RETARDERS OR ADDITIONAL INSULATION.

WATER HAMMER ARRESTER SCHEDULE						
MARK	MANUFACTURER & MODEL	FIXTURE UNITS	PIPE SIZE (IN)	HEIGHT (IN)	DIAMETER (IN)	REMARKS
WHA-A	J.R. SMITH 5005	1-11	3/4"	2.62"	3.25"	PROVIDE ACCESS
WHA-B	J.R. SMITH 5010	12-32	1"	2.97"	3.25"	PROVIDE ACCESS
WHA-C	J.R. SMITH 5020	33-60	1"	3.59"	3.25"	PROVIDE ACCESS
WHA-D	J.R. SMITH 5030	61-113	1"	5.14"	3.25"	PROVIDE ACCESS
WHA-E	J.R. SMITH 5040	114-154	1"	5.52"	3.25"	PROVIDE ACCESS
WHA-F	J.R. SMITH 5050	155-330	1"	6.67"	3.25"	PROVIDE ACCESS

NOTE: ALL WATER HAMMER ARRESTERS LISTED IN SCHEDULE MAY NOT APPEAR ON DRAWINGS.

PIPING MATERIAL SCHEDULE			
SYSTEM	MATERIAL	JOINTS	REMARKS
DOMESTIC HOT & COLD WATER	TYPE 1" COPPER	3" & SMALLER BELOW GRADE BRAZED 3" & SMALLER ABOVE GRADE SOLDERED	
NATURAL GAS - ABOVE GRADE	SCH 40 BLACK STEEL	2 PSI OR LESS THREADED MORE THAN 2 PSI WELDED	
NATURAL GAS - BELOW GRADE	HDPE (HIGH DENSITY POLYETHYLENE)	FUSION	INSTALL w/ TRACER WIRE
SANITARY SEWER & VENT	ABS	SOLVENT CEMENT	
CONDENSATE DRAIN	OUTDOOR: COPPER INDOOR: PVC	O: PRO PRESS I: SOLVENT CEMENT	

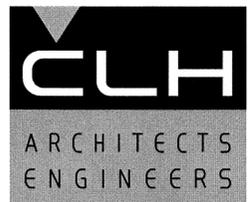
**PLUMBING GENERAL NOTES:**

- THE CONTRACTOR SHALL NOT SHUT-OUT (PUT OUT OF SERVICE) ANY SYSTEM'S SERVICES WITHOUT FIRST COORDINATING ALL DOWNTIME WITH THE OWNER'S PERSONNEL. UTILITY INTERRUPTIONS REQUIRED TO ACCOMMODATE NEW CONNECTIONS MAY REQUIRE ODD HOUR WORK.
- PIPE ROUTING IS APPROXIMATE, DIAGRAMMATIC, AND IS NOT TO BE SCALED. WHERE ALTERNATE ROUTING, OFFSETS AND TRANSITIONS ARE REQUIRED FOR COORDINATION OF ALL WORK, THE CONTRACTOR SHALL MAKE CHANGES WITHOUT ADDITIONAL COSTS.
- THE CONTRACTOR SHALL CLOSELY COORDINATE NEW PLUMBING WITH ALL ELECTRICAL, MECHANICAL, ARCHITECTURAL, AND STRUCTURAL MEMBERS.
- ALL PIPING AND PLUMBING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE, NATIONAL FIRE CODE, AND INTERNATIONAL FUEL GAS CODE.
- GAS PIPING, INCLUDING TAP & SERVICE, SHALL BE INCLUDED. COORDINATE METER LOCATION WITH LOCAL AUTHORITY.
- WHEN CONNECTING NEW PIPING TO EXISTING, CONTRACTOR TO MATCH EXISTING PIPING MATERIAL UNLESS OTHERWISE INDICATED.
- PRIME & PAINT ALL EXPOSED PIPES AND PIPE SUPPORTS.
- ALL EXTERIOR SUPPORTS, BRACES, ANCHORS, ETC. W/ OPEN ENDS TO BE CAPPED & SEALED WEATHERTIGHT.
- ROOF FLASHING MATERIALS: UNLESS NOTED ELSEWHERE, PROVIDE ROOF FLASHING AS REQUIRED / RECOMMENDED BY ROOFING AND/OR PIPING MANUFACTURERS.
- PIPING SEISMIC SUPPORTS SHALL NOT BE REQUIRED IF PIPING IS SUPPORTED BY ROD HANGERS; HANGERS IN THE PIPE RUN 12 INCH OR LESS IN LENGTH FROM TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. PIPING WITH ROD HANGERS; HANGERS IN THE PIPE RUN OVER 12 INCHES IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORT STRUCTURE WILL BE REQUIRED TO BE SEISMICALLY RESTRAINED.
- BACKFLOW PREVENTER MUST BE TESTED WITHIN 10 DAYS OF INITIAL USAGE AND ANNUALLY THEREAFTER. PASSING TEST REPORTS SHALL BE TURNED INTO AUTHORITY HAVING JURISDICTION NO LATER THAN 30 DAYS OF INITIAL PASSING TEST OR PRIOR TO OCCUPANCY (WHICH EVER COMES FIRST).
- PROVIDE ACCESS PANELS FOR SERVICING OF WALL HYDRANT, TRAP PRIMERS, AND WATER HAMMER ARRESTORS.
- SIZE AND SELECT ALL WATER HAMMER ARRESTORS PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR TO SUPPLY PIETRO FIORENTINI GOVERNOR GAS REGULATORS AT EACH CONNECTION TO FIRED EQUIPMENT.

PLUMBING FIXTURE SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER & MODEL	GPM	CONNECTIONS				REMARKS	
				CW	HW	WASTE	VENT		
AG-1	AIR GAP	J.R. SMITH 395 IT	--	--	--	1 1/2"	1 1/2"	3/4" INLET, 1 1/2" OUTLET	
BFP-1	BACKFLOW PREVENTER	WATTS ULF007M1QTS	--	2"	--	--	--	DOUBLE CHECK VALVE ASSEMBLY, LEAD FREE, STRAINER, UNIONS, QUARTER TURN BALL VALVES	
BFP-2	BACKFLOW PREVENTER	WATTS U007M3QTS	--	3/4"	--	--	--	DOUBLE CHECK VALVE ASSEMBLY, STRAINER, UNIONS, QUARTER TURN BALL VALVES	
CB-1	CATCH BASIN	J. R. SMITH 9846	--	--	--	4"	--	4" INLET AND OUTLET, DUCCO COATED CAST IRON FRAME AND GRATE, LOAD CLASS 'C'	
EEW-1	EMERGENCY EYE/FACEWASH	HAWS 7361-7461	3.0	1/2"	--	--	--	PEDESTAL STAND, METAL BOWL	
EW-1	ELECTRIC WATER COOLER	ELKAY EZSTL8C	8.0 GPH	1/2"	--	1 1/2"	1 1/2"	ADA, WALL HUNG, BI-LEVEL, CONTROLS ON FRONT & SIDES, 115V/1" HARD WIRED ELECTRICAL CONNECTION	
EW-2	ELECTRIC WATER COOLER	ELKAY EZS8	8.0 GPH	1/2"	--	1 1/2"	1 1/2"	WALL HUNG, SINGLE BOWL, CONTROLS ON FRONT & SIDES, 115V/1" HARD WIRED ELECTRICAL CONNECTION	
FCO	FLOOR CLEANOUT EXTRA HEAVY DUTY	J. R. SMITH 4100S02-NB	--	--	--	2"	--	FINISH CONCRETE FLOOR, 4" ADJUSTABLE HEIGHT, ROUND TOP, EXTRA HEAVY DUTY, NICKEL BRONZE FIELD VERIFY FOR CORRECT SIZE	
FD-1	SQUARE HEAD FLOOR DRAIN	J. R. SMITH DX 2005Y-B-P050-NB	--	--	--	2"	1 1/2"	NICKEL BRONZE STRAINER, WIDE FLANGE, TRAP PRIMER CONNECTION.	
FD-2	ROUND HEAD FLOOR DRAIN	J. R. SMITH DX 2005Y-A-P050-NB	--	--	--	2"	1 1/2"	NICKEL BRONZE STRAINER, WIDE FLANGE, TRAP PRIMER CONNECTION.	
FS-1	FLOOR SINK	J. R. SMITH 3100 Y-12	--	--	--	2"	1 1/2"	1/2 GRATE	
FWH-1	FREEZELESS WALL HYDRANT	WOODFORD MODEL 65	--	1"	--	--	--	AUTOMATIC DRAINING WITH ANTI-SIPHON, P1 INLET, MOUNT ABOVE LOWER CONCRETE WALL	
HB-1	HOSE BIBB	WATTS SC-3	--	3/4"	--	--	--	WHEEL HANDLE	
LAV-1	WALL HUNG LAVATORY	AMERICAN STANDARD SINK 0419-44EC 7385 003 FAUCET	1.5	1/2"	1/2"	1 1/2"	1 1/2"	SINGLE HANDLE FAUCET, CONCEALED ARM SUPPORT, GRID DRAIN	
LAV-2	WALL HUNG LAVATORY	SINK (SEE ARCH) FAUCET: AM STD 7385 003	1.5	1/2"	1/2"	1 1/2"	1 1/2"	INTEGRAL COUNTERTOP/BASIN. SEE ARCHITECTURAL DRAWINGS FOR SPECS.	
MV-1	MIXING VALVE	LEONARD TM-500A-1T	3.0	3/4"	3/4"	--	--	3/4" OUTLET, SET TO 80°F. INLET THERMOMETERS. USE WITH EEW-1	
MV-2	MIXING VALVE	SYMMONS 5-200-W	--	3/4"	3/4"	--	--	3/4" OUTLET, WALL BRACKET	
S-1	SINGLE BOWL KITCHEN SINK	ELKAY SINK SLP232104 AMERICAN STANDARD 8410SSF	2.2	1/2"	1/2"	1 1/2"	1 1/2"	TOP MOUNT, 3 HOLE, STAINLESS STEEL SINK w/ SOUND GUARD.	
S-2	DOUBLE BOWL KITCHEN SINK	ELKAY CR3321 SINK AMERICAN STANDARD 8410SSF	2.2	1/2"	1/2"	1 1/2"	1 1/2"	TOP MOUNT, 3 HOLE, STAINLESS STEEL SINK w/ SOUND GUARD, w/ BADGER DISPOSAL.	
SS-1	CORNER MOP SERVICE SINK	AMERICAN STANDARD #7741.000 SINK #6344.012 FAUCET	5.0	1/2"	1/2"	2"	1 1/2"	PROVIDE SINK RIM GUARD, FAUCET HAS BACKFLOW PREVENTOR, WALL BRACE, 3/4" HOSE END THREADS, RUBBER HOSE, AND WALL HOOK.	
SS-2	WALL MOUNT SERVICE SINK	AMERICAN STANDARD #7895.0008 SINK #6340.243 FAUCET	10.0	1/2"	1/2"	2"	1 1/2"	2" IRON P-TRAP #7998.020	
SH-1	SINGLE HEAD SHOWER	AMERICAN STANDARD #9026 501.002 FRIGO DESIGN STAINLESS STEEL SHOWER ENCLOSURE	2.5	1/2"	1/2"	2"	1 1/2"	PRESSURE BALANCE VALVE, SINGLE HANDLE CONTROL, STAINLESS STEEL SURROUND AND BASE.	
TD-1	TRENCH DRAIN SYSTEM	JR SMITH 9931-SERIES	--	--	--	4"	--	28 METER SECTIONS, 9870-461-M GRATE CLASS C, CLOSING END CAPS, RANTE ARROWS. 4" OUTLET, J.R. SMITH 9853 SHOVEL HEAD FOR TRENCH DRAIN CLEANOUT.	
TD-2	TRENCH DRAIN SYSTEM	JR SMITH 9931-SERIES	--	--	--	4"	--	32 METER SECTIONS, 9870-461-M GRATE CLASS C, CLOSING END CAPS, RANTE ARROWS. 4" OUTLET, J.R. SMITH 9853 SHOVEL HEAD FOR TRENCH DRAIN CLEANOUT.	
TD-3	TRENCH DRAIN SYSTEM	JR SMITH 9931-SERIES	--	--	--	4"	--	13 METER SECTIONS, 9870-461-M GRATE CLASS C, CLOSING END CAPS, RANTE ARROWS. 4" OUTLET	
TD-4	TRENCH DRAIN SYSTEM	JR SMITH 9931-SERIES	--	--	--	4"	--	5 METER SECTIONS, 9870-461-M GRATE CLASS C, CLOSING END CAPS, RANTE ARROWS. 4" OUTLET	
TP-1	DUAL FLOW TRAP PRIMER	PRECISION PLUMBING PRODUCTS CPO-500	--	1/2"	--	--	--	PROVIDE ACCESS, INSTALL PER MANUFACTURER'S RECOMMENDATIONS, DISTRIBUTION UNIT DU-U WHERE NEEDED	
TP-2	FLUSH VALVE PRIMER	PRECISION PLUMBING PRODUCTS FVP-1VB	--	1/2"	--	--	--	REPLACES FLUSH VALVE TAIL PIECE	
UR-1	WALL HUNG URINAL	AMERICAN STANDARD #6590.001 SLOAN #8186-0.125-OR	0.125 GPF	3/4"	--	2"	1 1/2"	BATTERY POWERED SENSOR VALVE w/OVERRIDE BUTTON	
WB-1	WATER BOX	SIoux CHIEF 696-G101 SERIES	--	1/2"	--	--	--	SINGLE CONNECTION, WATER HAMMER ARRESTOR, MOUNT AT 2'-0" ABOVE FINISHED FLOOR	
WB-2	WATER BOX	SIoux CHIEF 696-G231 SERIES	--	1/2"	1/2"	2"	1 1/2"	DOUBLE WATER SUPPLY CONNECTIONS, WATER HAMMER ARRESTORS, SINGLE DRAIN CONNECTION	
WC-1	FLOOR MOUNTED WATER CLOSET FLUSH VALVE	AMERICAN STANDARD #3451.001 SLOAN 8111-1.28 SMO	1.28 GPF	1"	--	3"	1 1/2"	ELONGATED BOWL, EVER CLEAN SURFACE FINISH, BATTERY OPERATED FLUSH VALVE, SEAT 5901.100.	
WC-2	WATER CLOSET	AMERICAN STANDARD 2034.F14	1.6 GPF	1/2"	--	3"	1 1/2"	SEAT #5325.010	
WCO	WALL CLEANOUT	J. R. SMITH 4472T	--	--	--	LINE SIZE	--	PROVIDE w/ WALL ACCESS COVER	
WF-1	WASH FOUNTAIN	ACORN #3544-2-F	0.5	1/2"	1/2"	1 1/2"	1 1/2"	FOOT OPERATED	

OIL SEPARATOR SCHEDULE			
MARK	MANUFACTURER & MODEL	SIZE	REMARKS
OS-1	J.R. SMITH 8599-25-10-E60-H20	100 GALLON	FLOW RATE OF 25 GPM, OIL STEERAGE TANK OF 100 GALLONS, SEDIMENT BUCKET, GASKETED COVER, CHECK VALVE AND FLOW CONTROL FITTING, HIGH LEVEL SENSOR AND CONTROL PANEL, TRAFFIC RATED COVER, 60" EXTENSION - EXTENDED CLEAN OUTS TO COVER. CONTRACTOR TO VERIFY EXTENSION HEIGHT.

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
---	DOMESTIC COLD WATER PIPING (DCW)
---	DOMESTIC HOT WATER PIPING (DHW)
---	RECIRCULATING HOT WATER PIPING (DHR)
---	VENT PIPING
---	SANITARY SEWER PIPING (ABOVE GROUND)
---	SANITARY SEWER PIPING (UNDERGROUND)
---	SPECIAL WASTE PIPING
---	COMPRESSED AIR PIPING
---	NATURAL GAS PIPING
---	TRAP PRIMER PIPING
---	CONDENSATE DRAIN
---	DIRECTION OF FLOW
BF	BACKFLOW PREVENTOR
□	WATER HAMMER ARRESTER
○	FLOOR CLEANOUT
▽	LUBRICATED PLUG VALVE
◇	GATE VALVE
○	BALL VALVE
◇	BUTTERFLY VALVE
◇	CALIBRATED BALANCING VALVE
◇	PRESSURE REDUCING VALVE (PRV)
◇	CHECK VALVE
◇	STRAINER WITH BLOWDOWN
◇	CONCENTRIC REDUCER
◇	ECCENTRIC REDUCER
◇	THERMOMETER
◇	BLIND FLANGE OR CAP
◇	PIPING TEE DOWN
◇	PIPING UP
◇	PIPING DOWN
◇	SOLENOID VALVE
◇	PRESSURE GAUGE
◇	UNION OR FLANGE
◇	AIR LINE QUICK CONNECT
◇	FLOOR DRAIN OR FLOOR SINK
◇	PUMP
◇	WALL CLEANOUT
◇	HOSE BIBB
◇	POINT OF CONNECTION
◇	POINT OF DISCONNECTION
DETAILED	DETAIL CALLOUT
XX-1	PLUMBING FIXTURE CALLOUT
ABV	ABOVE
AFF	ABOVE FINISH FLOOR
BET	BETWEEN
BLW	BELOW
BOT	BOTTOM
CO	CLEANOUT
COTG	CLEANOUT TO GRADE
DN	DOWN
(E)	EXISTING
FCO	FLOOR CLEANOUT
THRU	THROUGH
TYP	TYPICAL
VTR	VENT THRU ROOF
WCO	WALL CLEANOUT



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**

910 W 24th STREET  
 OGDEN, UTAH 84401

MARK DATE DESCRIPTION

ISSUE DATE: AUGUST 19, 2016  
 PROJECT NO: 15460  
 CAD DWG FILE:  
 DRAWN BY: GM, JAC  
 CHK'D BY: MPM

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

**PLUMBING NOTES, LEGEND, AND SCHEDULES**

SHEET NO:

P001

IF SHEET IS LESS THAN 22"x 34"  
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 REDUCE SCALE ACCORDINGLY



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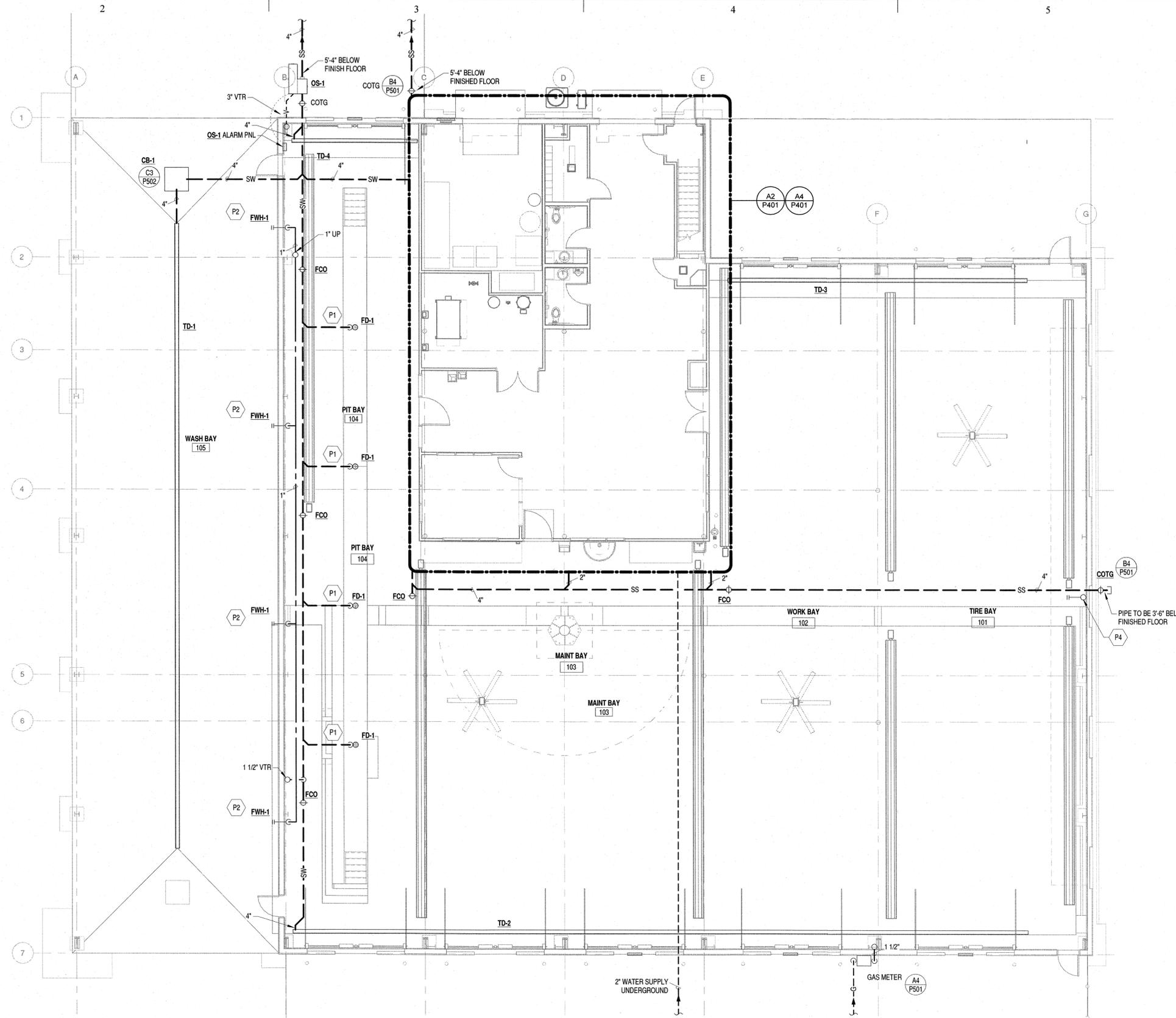
AUGUST 19, 2016

SHEET TITLE

**GROUND LEVEL  
PLUMBING PLAN**

SHEET NO:

P101



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**A3 GROUND LEVEL PLUMBING PLAN**

1/8" = 1'-0"



**PLUMBING KEYED NOTES**

MARK	NOTE
P1	LENGTH OF PIPE BRANCH TRAP TO MAIN PIPE NOT TO EXCEED 8'-0" LENGTH.
P2	COORDINATE FINAL LOCATION w/ OWNER.
P3	INSTALL LINE SIZE FULL PORT BALL VALVE AND CAP FOR FUTURE CONNECTION. INSULATE PIPE.
P4	ROUTE 3/4" DCW DOWN ALONG WALL. TERMINATE 3'-0" ABOVE FINISHED FLOOR WITH HOSE BIBB HB-1 AND INSULATE PIPE.



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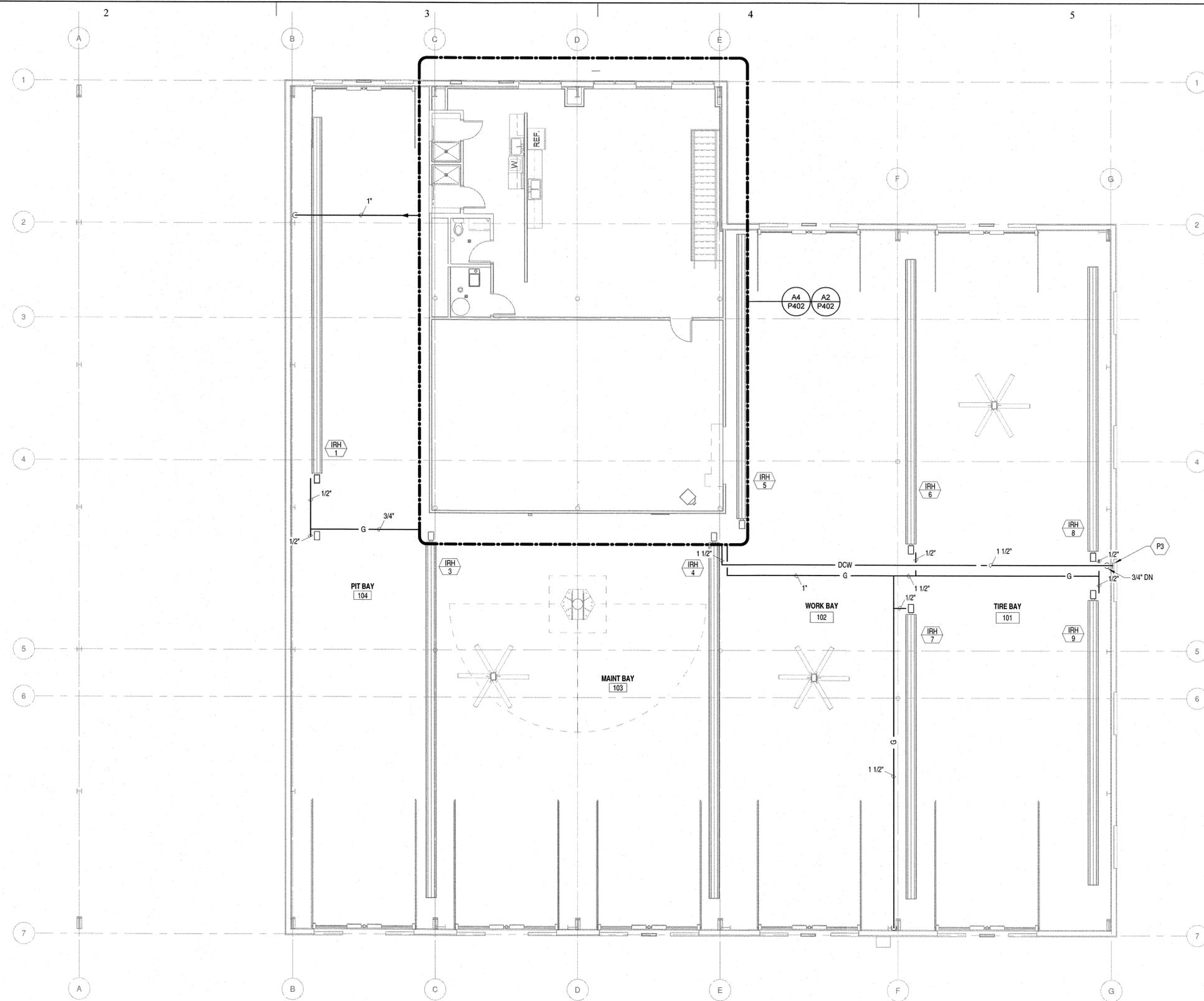
AUGUST 19, 2016

SHEET TITLE

**MEZZANINE  
LEVEL  
PLUMBING PLAN**

SHEET NO:

P102



PLUMBING KEYED NOTES	
MARK	NOTE
P1	LENGTH OF PIPE BRANCH TRAP TO MAIN PIPE NOT TO EXCEED 8'-0" LENGTH.
P2	COORDINATE FINAL LOCATION w/ OWNER.
P3	INSTALL LINE SIZE FULL PORT BALL VALVE AND CAP FOR FUTURE CONNECTION. INSULATE PIPE.
P4	ROUTE 3/4" DCW DOWN ALONG WALL. TERMINATE 3'-0" ABOVE FINISHED FLOOR WITH HOSE BIBB HB-1 AND INSULATE PIPE.

**A3 MEZZANINE LEVEL PLUMBING PLAN**  
1/8" = 1'-0"

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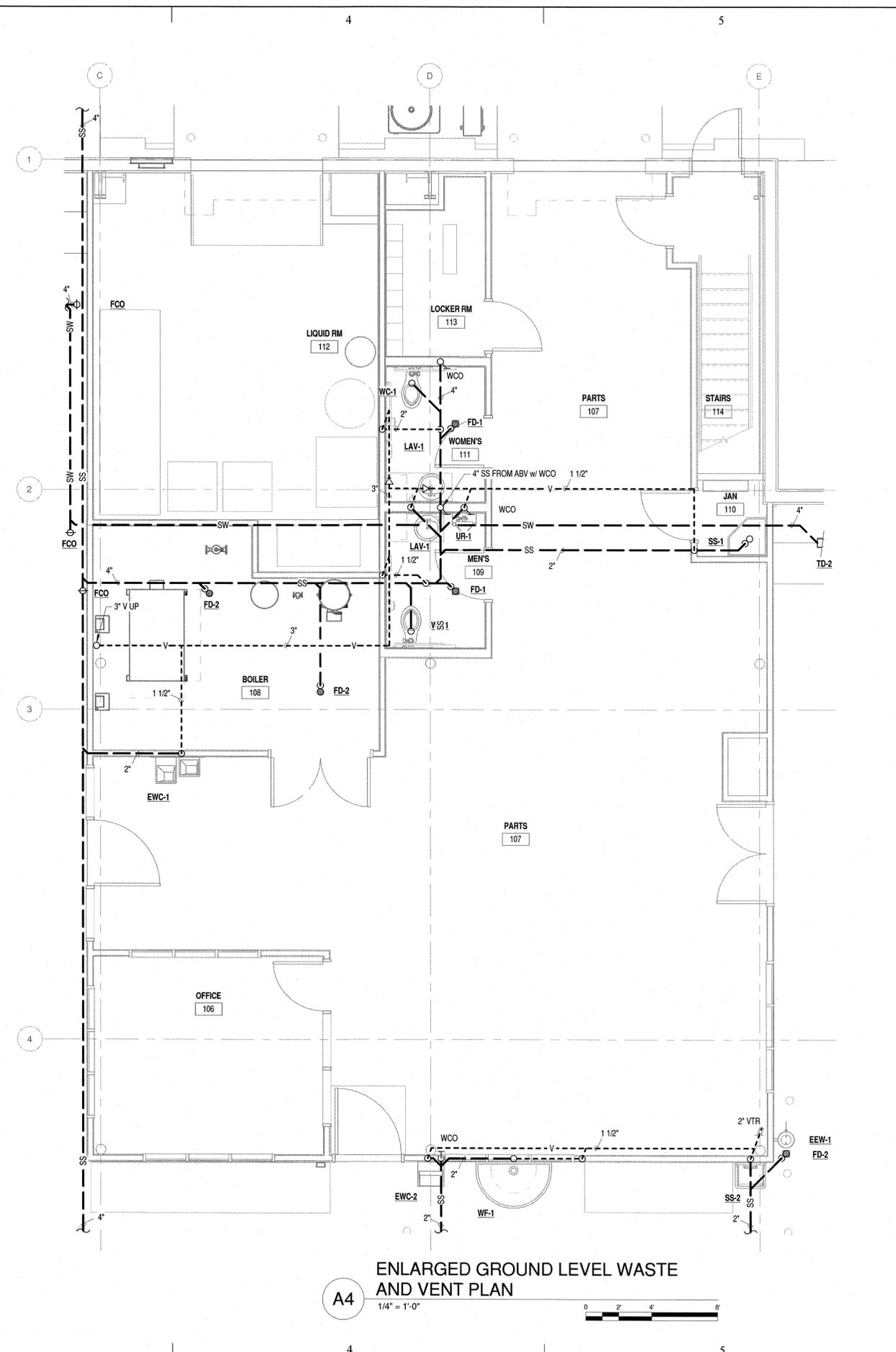
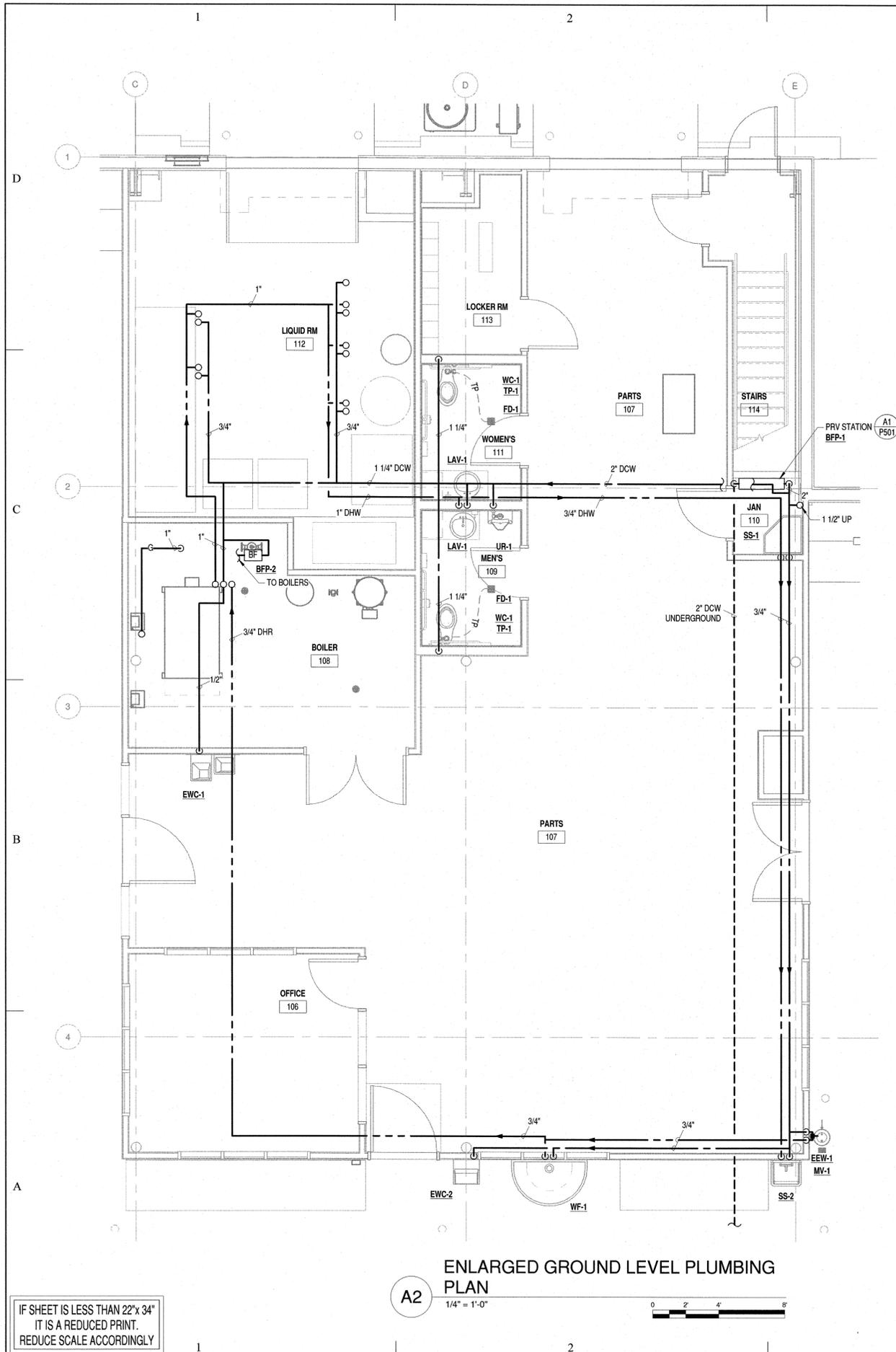
AUGUST 19, 2016

SHEET TITLE

**ENLARGED  
PLUMBING  
PLANS**

SHEET NO:

**P401**



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REDUCE SCALE ACCORDINGLY

8/18/2016 11:09:20 AM



**GRANT TRUCKING**  
**TRUCK**  
**MAINTENANCE SHOP**

910 W 24th STREET  
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MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
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CAD DWG FILE:	
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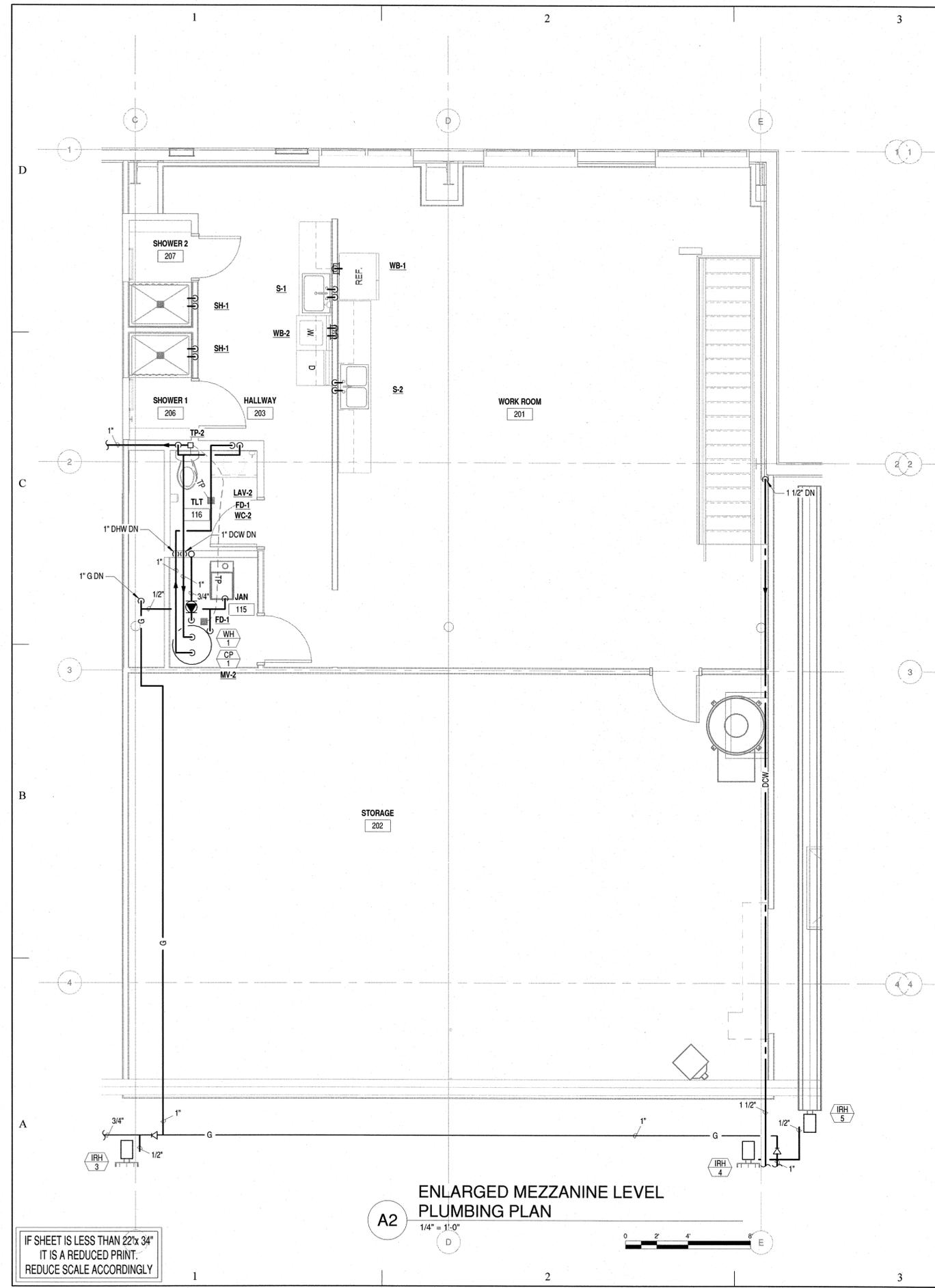
AUGUST 19, 2016

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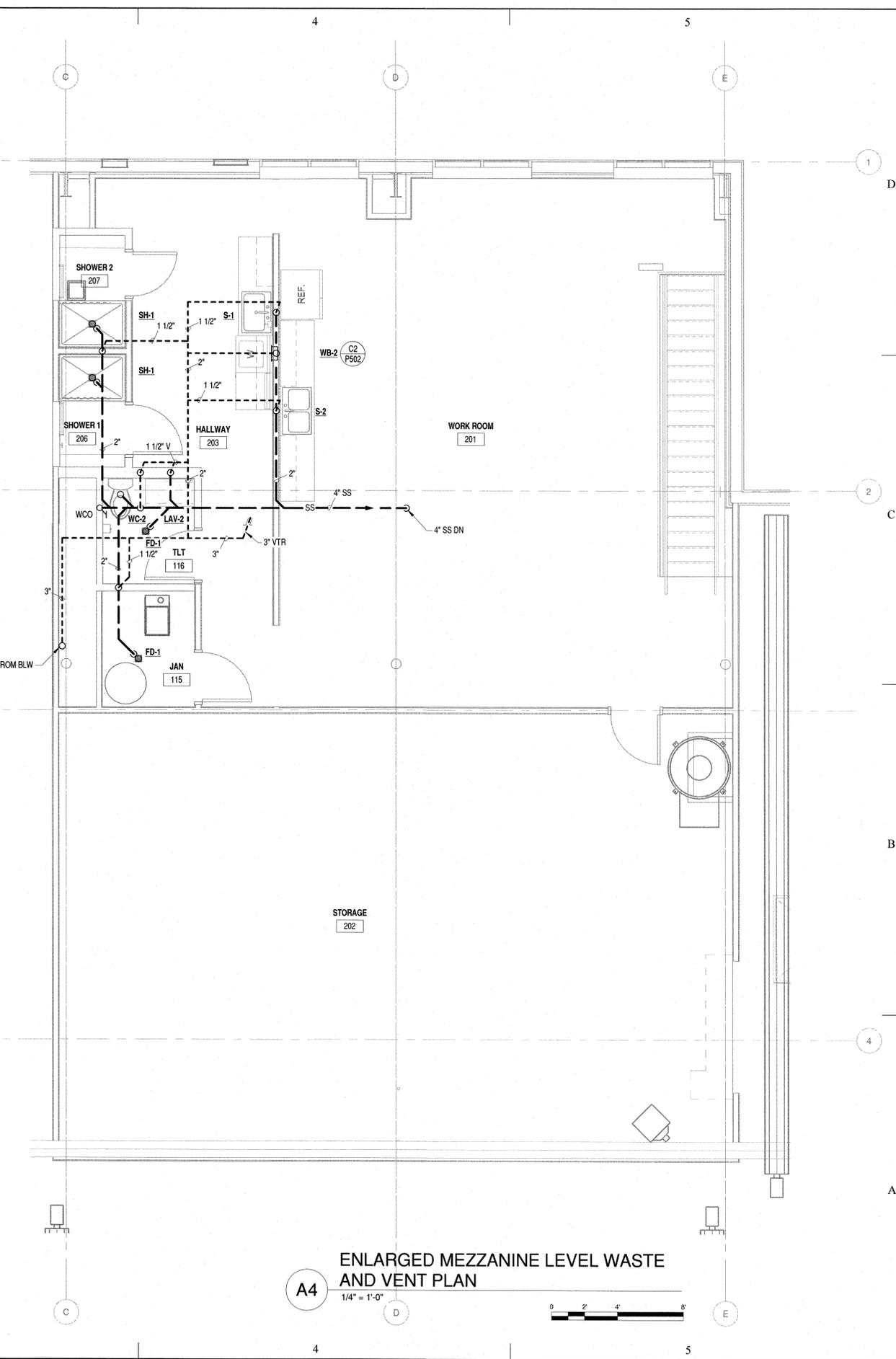
**ENLARGED  
PLUMBING  
PLANS**

SHEET NO:

**P402**



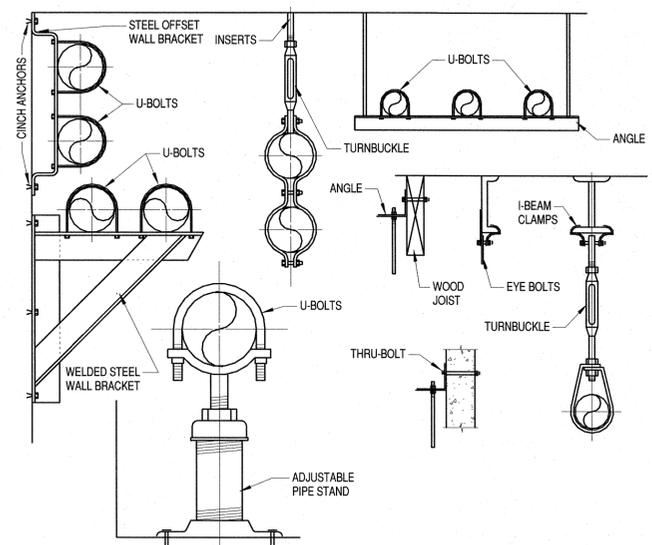
**A2**  
**ENLARGED MEZZANINE LEVEL  
PLUMBING PLAN**  
1/4" = 1'-0"



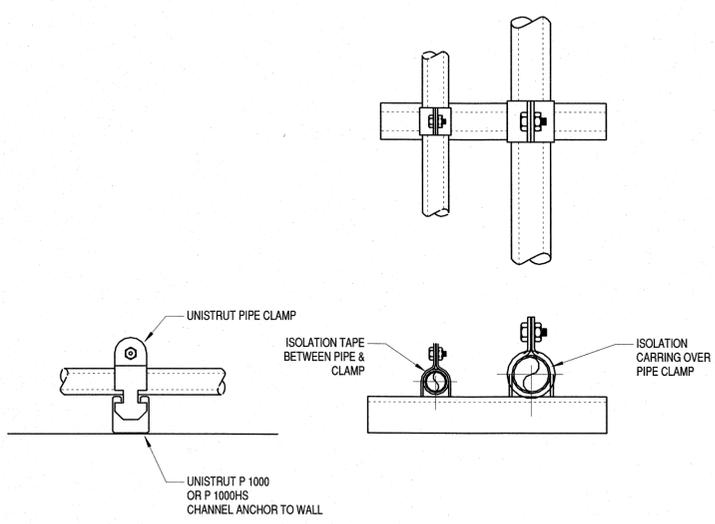
**A4**  
**ENLARGED MEZZANINE LEVEL WASTE  
AND VENT PLAN**  
1/4" = 1'-0"



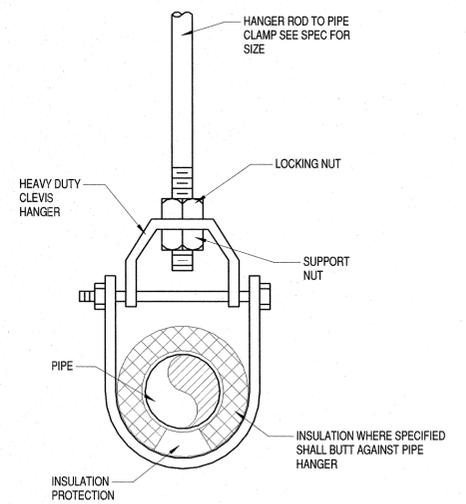
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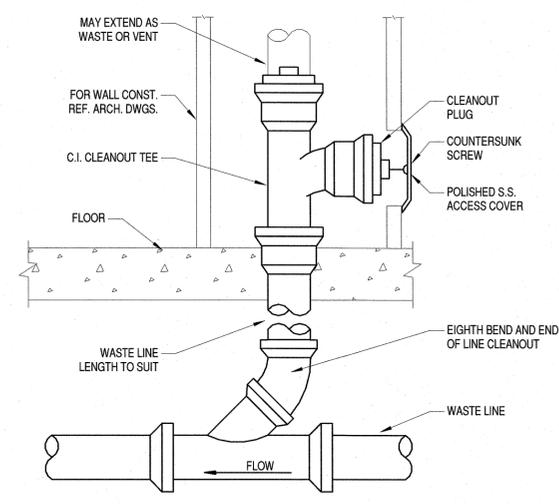
**C1 TYPICAL PIPE SUPPORT DETAIL**  
NO SCALE



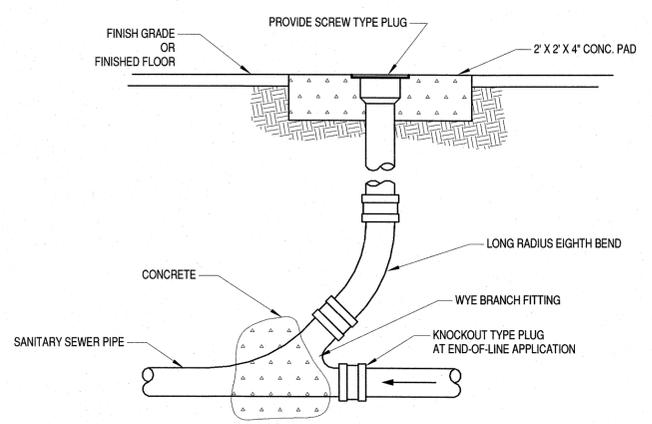
**C2 TYPICAL UNISTRUT PIPE SUPPORT DETAIL**  
NO SCALE



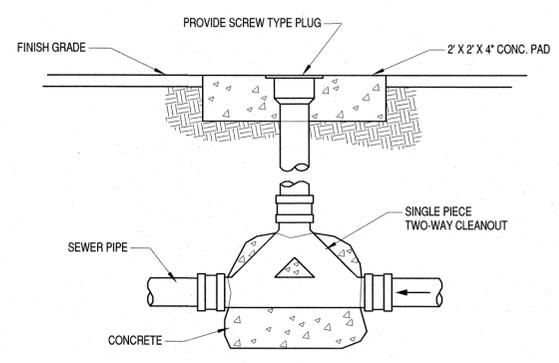
**C4 PIPE HANGER DETAIL**  
NO SCALE



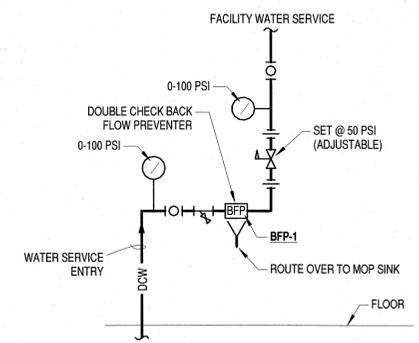
**B1 TYPICAL WALL CLEANOUT**  
NO SCALE



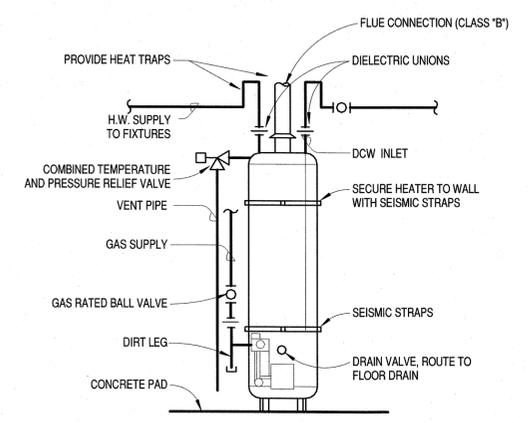
**B2 SANITARY SEWER CLEANOUT (FCO)**  
NO SCALE



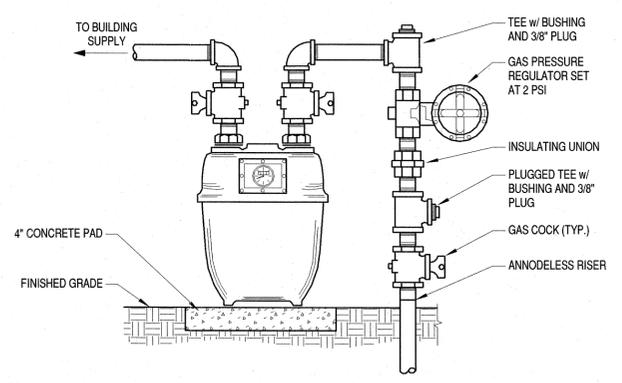
**B4 TWO-WAY (BAFFLE) CLEANOUT TO GRADE (COTG)**  
NO SCALE



**A1 PRV STATION DETAIL**  
NO SCALE

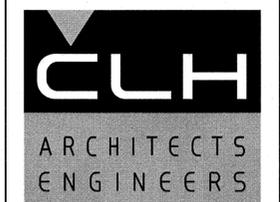


**A2 GAS FIRED WATER HEATER DETAIL**  
NO SCALE



**A4 GAS SERVICE DETAIL**  
NO SCALE

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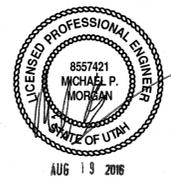
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AUGUST 19, 2016

SHEET TITLE

**PLUMBING DETAILS**

SHEET NO:

**P501**



**GRANT TRUCKING  
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MAINTENANCE SHOP**

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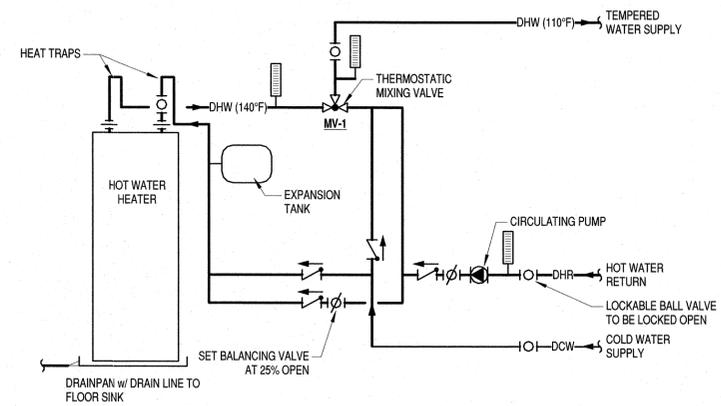
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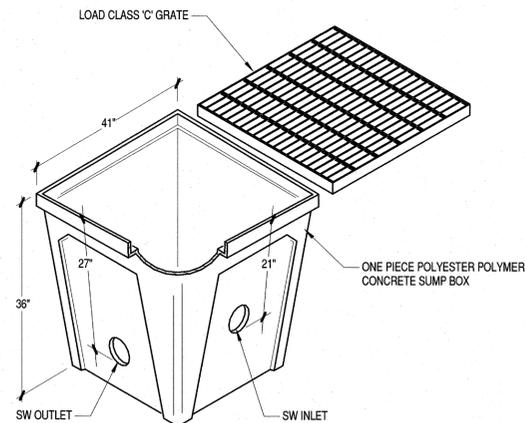
**PLUMBING  
DETAILS**

SHEET NO:

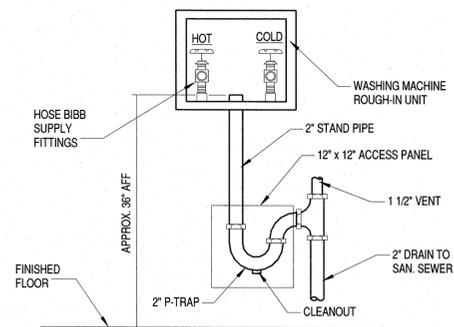
**P502**



**C4** HOT WATER RECIRCULATION  
SCHEMATIC  
NO SCALE



**C3** CATCH BASIN DETAIL  
NO SCALE



**C2** WASHING MACHINE HOOK-UP DETAIL  
NO SCALE

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DUCT INSULATION SCHEDULE			
DUCT TYPE	DUCT LOCATION	INSULATION R-VALUE	REMARKS
SUPPLY, RETURN	NOT WITHIN CONDITIONED SPACE: ON EXTERIOR OF BUILDING, ON ROOF, IN ATTIC, IN ENCLOSED CEILING SPACE, IN WALLS, IN GARAGE, IN CRAWL SPACES	R-6	
OUTSIDE AIR INTAKE	WITHIN CONDITIONED SPACE	R-6	

**NOTE:**  
 REQUIREMENTS APPLIED TO THE DUCT TYPE LISTED, WHETHER HEATED OR MECHANICALLY COOLED. MECHANICALLY COOLED DUCTS REQUIRING INSULATION SHALL HAVE A VAPOR RETARDER, WITH A PERM RATING NOT GREATER THAN 0.5 AND ALL JOINTS SEALED.  
 INSULATION TYPES: MINIMUM DENSITIES AND OUT OF PACKAGE THICKNESS. NOMINAL R-VALUES ARE FOR THE INSULATION AS INSTALLED AND DO NOT INCLUDE AIR FILM RESISTANCE.  
 R-6: 3.0 INCH 0.75 lb/cu.ft. MINERAL OR GLASS FIBER BLANKET, 2.0 INCH 1.5 TO 3.0 lb/cu.ft. DUCT LINER, MINERAL OR GLASS FIBER BLANKET, 2.0 INCH 3.0 TO 7.0 lb/cu.ft. MINERAL OR GLASS FIBER BOARD OR EQUIVALENT TO PROVIDE AN INSTALLED TOTAL THERMAL RESISTANCE OF AT LEAST R-6.

MINIMUM NOMINAL MOTOR FULL-LOAD EFFICIENCY						
SYNCHRONOUS SPEED (RPM)	OPEN MOTOR			CLOSED MOTOR		
	3,600	1,800	1,200	3,600	1,800	1,200
	EFFICIENCY (%)			EFFICIENCY (%)		
HP						
1.0	-	82.5	80.0	75.5	82.5	80.0
1.5	82.5	84.0	84.0	82.5	84.0	85.5
2.0	84.0	84.0	85.5	84.0	84.0	86.5
3.0	84.0	86.5	86.5	85.5	87.5	87.5
5.0	85.5	87.5	87.5	87.5	87.5	87.5
7.5	87.5	88.5	88.5	88.5	89.5	89.5
10	88.5	89.5	90.2	89.5	89.5	89.5
15	89.5	91.0	90.2	90.2	91.0	90.2
20	90.2	91.0	91.0	90.2	91.0	90.2
25	91.0	91.7	91.7	91.0	92.4	91.7
30	91.0	92.4	92.4	91.0	92.4	91.7
40	91.7	93.0	93.0	91.7	93.0	93.0
50	92.4	93.0	93.0	92.4	93.0	93.0
60	93.0	93.6	93.6	93.0	93.6	93.6
75	93.0	94.1	93.6	93.0	94.1	93.6

**EXCEPTIONS:**  
 1. MOTORS IN SYSTEMS DESIGNED TO USE MORE THAN ONE SPEED OF A MULTI-SPEED MOTOR.  
 2. MOTORS THAT ARE AN INTEGRAL PART (I.E. NOT EASILY REMOVED AND REPLACED) OF SPECIALIZED PROCESS EQUIPMENT (I.E. EQUIPMENT WHICH REQUIRES A SPECIAL MOTOR, SUCH AS AN EXPLOSION PROOF MOTOR).

DUCT SEALING REQUIREMENTS		
STATIC PRESSURE RANGE (IN WG)	SEALING REQUIREMENT	APPLICATION
1 1/2" TO 2"	SEAL TRAVERSE JOINTS	EXHAUST DUCTS, DUCTS DOWNSTREAM OF VAV BOXES, OUTDOOR AIR, RETURN, AND RELIEF DUCTS; SUPPLY AIR DUCTS FROM AH-2
2" TO 3"	SEAL TRAVERSE JOINTS AND LONGITUDINAL SEAMS	SUPPLY AIR DUCTS FROM AIR HANDLER TO VAV BOX INLETS
ABOVE 3"	SEAL TRAVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS	

**NOTE:** DUCT TAPE AND OTHER PRESSURE SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT WHERE DUCTS ARE DESIGNED TO OPERATE AT STATIC PRESSURES OF 1 INCH W.G. OR GREATER.

**MECHANICAL GENERAL NOTES:**

- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST STATE ADOPTED EDITION OF THE INTERNATIONAL MECHANICAL CODE AND SMACNA.
- MECHANICAL PLANS ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE THEIR WORK WITH OTHER TRADES, AND ACTUAL JOB SITE CONDITIONS. CONTRACTOR TO FIELD VERIFY QUANTITIES AND DIMENSIONS.
- CONTRACTOR TO PROVIDE ALL NECESSARY MATERIALS, DUCTWORK, HANGERS, FITTINGS, OFFSETS, INSULATION AND ACCESSORIES LOGICALLY REQUIRED FOR A COMPLETE FUNCTIONAL AIR DELIVERY SYSTEM.
- DUCT DIMENSIONS ON DRAWINGS ARE INSIDE DIMENSIONS. MINIMUM DUCTWORK GAUGE TO BE 26 GAUGE.
- CONTRACTOR SHALL COORDINATE ALL SUPPLY DIFFUSER PLACEMENTS.
- ALL SQUARE ELBOWS IN SUPPLY AND RETURN DUCTWORK SHALL HAVE SINGLE THICKNESS TURNING VANES.
- INSULATED FLEXIBLE DUCT NOT TO EXCEED 4 FEET IN LENGTH.
- CONNECTIONS TO SUPPLY DIFFUSERS TO BE MADE WITH A RIDGED CONNECTION SO THAT CLEAR AND UNOBSTRUCTED AIRFLOW IS ACHIEVED.
- MOUNT BOTTOM OF THERMOSTAT 60 INCHES ABOVE FINISHED FLOOR. RUN WIRING FROM THERMOSTAT LOCATION TO AIR HANDLER AND TERMINATE TO PROVIDE FOR A FULLY FUNCTIONAL SYSTEM. REFER TO THE CONTROL DRAWINGS FOR SPECIFICS.
- CONTRACTOR TO FURNISH FILTERS.
- CONTRACTOR TO FURNISH AND INSTALL CONDENSATE P-TRAP ON ALL NEW AIR HANDLERS PER DETAILS SHOWN ON DRAWING.
- ALL PIPING THAT COMES IN CONTACT WITH A DISSIMILAR METAL TO BE PROTECTED AGAINST GALVANIC CORROSION.
- REMOTE CONCEALED CEILING CABLE REGULATOR REQUIRED FOR ALL MANUAL VOLUME DAMPERS AND HARD LID CEILING APPLICATIONS.
- SEISMIC SUPPORTS ARE NOT REQUIRED FOR HVAC DUCTWORK IF DUCTS ARE SUSPENDED FROM HANGARS 12 INCH OR LESS IN LENGTH.

EXHAUST FAN SCHEDULE											
MARK	MANUFACTURER & MODEL	TYPE	AREA SERVED	CFM	STATIC PRESS. (IN WG)	RPM	SOUND RATING (DBA)	ELECTRICAL VOLTS/PHASE	WEIGHT (LBS)	REMARKS	
EF 1	COOK GN-542	CENTRIFUGAL	PITBAY 104	294	0.5	1000	49	91	120 / 1	52	PROVIDE RDA-8 DUCT ADAPTER, WALL CAP
EF 2	COOK GN-542	CENTRIFUGAL	PITBAY 104	294	0.5	1000	49	91	120 / 1	52	PROVIDE RDA-8 DUCT ADAPTER, WALL CAP
EF 3	BROAN XB80	CEILING MOUNT	LOCKER 113	50	0.25	--	< 0.3	5.1	120 / 1	12.5	4" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 4	BROAN XB80	CEILING MOUNT	WOMENS 111	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 5	BROAN XB80	CEILING MOUNT	MENS 109	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 6	BROAN XB80	CEILING MOUNT	JAN 110	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 7	BROAN XB80	CEILING MOUNT	SHOWER 2 207	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 8	BROAN XB80	CEILING MOUNT	SHOWER 1 206	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 9	BROAN XB80	CEILING MOUNT	TLT 116	79	0.25	--	< 0.3	5.0	120 / 1	12.5	6" DUCT DISCHARGE, WALL CAP MODEL 885 AL
EF 10	LOREN COOK 300CMX	CENTRIFUGAL INLINE	PIT BAY 104, MAINT BAY 103, WORK BAY 102, TIRE BAY 101	7500	0.35	1725	56	1.5 HP	460 / 3	1129	SPARE BELTS, STD DISCONNECT, FLANGED INLET, FLEX OUTLET, ACCESS DOOR, INLET COMPANION
EF 11	NOT USED										
EF 12	LOREN COOK GC-542	CEILING MOUNT	LIQUIDS RM 112	300	0.250	1600	51	125	120 / 1	39	BACKDRAFT DAMPER, RDA-8 DUCT ADAPTER, WCR-8 WALLCAP, RC-75 ISOLATORS
EF 13	LOREN COOK GC-960	CEILING MOUNT	BOILER/AIR COMP 108	1550	0.25	1112	55	1/8 HP	120 / 1	105	RG-75 ISOLATORS, 26"10" WALL CAP

**REMARKS:**  
 1. ALL CONDITIONS ARE FOR AN ELEVATION OF 4,400 FEET ABOVE SEA LEVEL.  
 2. FURNISH FAN WITH FACTORY MOUNTED DISCONNECT SWITCH.  
 3. FACTORY MANUFACTURED AND SIZED OUTLET FLANGE AND HOUSED VIBRATION ISOLATORS TO BE PROVIDED WITH FAN.  
 4. PROVIDE UNIT WITH FACTORY MOUNTED GRAVITY BACKDRAFT DAMPER.

AIR COOLED CONDENSING UNIT SCHEDULE											
MARK	MANUFACTURER & MODEL #	SYSTEM SERVED	REFRIG. TYPE	NOMINAL TONNAGE	SEER	ELECTRICAL			WEIGHT (lbs)	REMARKS	
						MOCAP	MCA	VOLTS/PHASE			
CU 1	LENNOX 13ACXN018	CC 1	R-410A	1.5	14.5	20	12.0	230 / 1	138	PROVIDE LINE SETS 3/8" L 5/8" S, TXV, FILTER/ DRIER & SIGHT GLASS, CRANK CASE HEATER, LOW AMBIENT KIT, PRECAST CONCRETE PAD.	

CENTRIFUGAL PUMP SCHEDULE											
MARK	MANUFACTURER & MODEL	SYSTEM SERVED	GPM	HEAD (FT)	FLUID	FLUID TEMP	MOTOR			WEIGHT	REMARKS
							RPM	HP	VOLTS/PHASE		
P 1a	TACO 2445	B 1a	25	20	25% PG	180	3450	1/3	120 / 1	15	
P 1b	TACO IL132	B 1b	37	22	25% PG	180	1725	1/2	120 / 1	108	
P 2	TACO 0012-F3-VS	RADIANT HEAT PRIMARY LOOP	30	10	25% PG	180	3250	1/6	120 / 1	12	VARIABLE SPEED PUMP, TEMPERATURE SELECTABLE.
MP 1	TACO IL138	M 1	29.4	29.5	25% PG	180	1725	1	460 / 3	118	
MP 2	TACO IL138	M 2	28.2	30.4	25% PG	180	1725	1	460 / 3	118	
MP 3	TACO 2445	M 3	16.2	27.4	25% PG	180	3450	1/3	120 / 1	15	
MP 4	TACO 2450	M 4	15.7	37	25% PG	180	3450	1/2	120 / 1	16	
MP 5	TACO IL113	M 5	82	12.0	25% PG	180	3250	1/4	120 / 1	20	

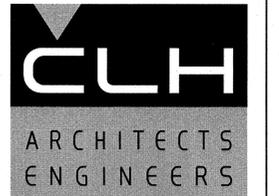
FAN CIRCULATOR SCHEDULE											
MARK	MANUFACTURER & MODEL	DIAMETER (FT)	AREA SERVED	ACFM	RPM	FAN TYPE	SOUND RATING (DBA)	ELECTRICAL HP	VOLTS/PHASE	WEIGHT (LBS)	REMARKS
FC 1	MACROAIR AIRVOLUTION D550	10	PIT BAY 104	84,000	170	PROP	59	1.05	480 / 3	137	
FC 2	MACROAIR AIRVOLUTION D550	10	WORK BAY 102, TIRE BAY 101	84,000	170	PROP	59	1.05	480 / 3	137	VARIABLE SPEED, GEARLESS DIRECT DRIVE, PROVIDE ONE MACROAIR CONTROLLER 6 TO CONTROL ALL FANS
FC 3	MACROAIR AIRVOLUTION D550	10	WORK BAY 102, TIRE BAY 101	84,000	170	PROP	59	1.05	480 / 3	137	

\* SEE MINIMUM NOMINAL MOTOR FULL-LOAD EFFICIENCY SCHEDULE

AIR AND DIRT SEPARATOR SCHEDULE											
MARK	MANUFACTURER & MODEL	SYSTEM SERVED	CONN. SIZE (IN)	DESIGN GPM	PD FT HD	DIMENSIONS				REMARKS	
						DIA. (IN)	H (IN)	FLG TO FLG (IN)	DRY WT (LBS)		
AS 1	SPIRO VENT VDT 200 FA	HEATING HOT WATER	2	35	0.5	6.3	25.3	15.2	66	66	FLANGED

COOLING COIL SCHEDULE									
MARK	MANUFACTURER & MODEL #	SYSTEM SERVED	MAX CFM	NOM MBH	REFRIG. TYPE	DIMENSIONS WxHxD (in)	WEIGHT (lbs)	REMARKS	
CC 1	LENNOX CX-34-18/24-6F	F 1	600	1.5	R-410A	14.5 x 16.5 x 21	31	FOR UP-FLOW UNIT, 3/4" CONDENSATE CONNECTIONS.	

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
	LIQUID REFRIGERANT
	SUCTION REFRIGERANT
	MANUAL VOLUME CONTROL DAMPER
	EXHAUST AIR DUCT - UP / DOWN
	RETURN/OUTSIDE AIR DUCT - UP / DOWN
	SUPPLY AIR DUCT - UP / DOWN
	MITERED ELBOW W/ TURNING VANES
	FLEX DUCT (MAX. LENGTH 4 FT.)
	GATE VALVE
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CALIBRATED BALANCING VALVE
	PRESSURE REDUCING VALVE (PRV)
	CHECK VALVE
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	STRAINER WITH BLOWDOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	DIRECTION OF FLOW
	BLIND FLANGE OR CAP
	PIPING DOWN
	PIPING UP
	PIPING TEE DOWN
	FLANGE
	UNION
	PUMP
	THERMOSTAT
	EQUIPMENT SYMBOL
	DETAIL SYMBOL
	SHEET KEYNOTE
	AIRFLOW DIRECTION
	ABOVE FINISH FLOOR EXISTING
	NORMALLY OPEN
	NORMALLY CLOSED
	THROUGH
	TYPICAL



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GRANT TRUCKING TRUCK MAINTENANCE SHOP

910 W 24th STREET  
 OGDEN, UTAH 84401

MARK DATE DESCRIPTION

ISSUE DATE: AUGUST 19, 2016  
 PROJECT NO: 15460  
 CAD DWG FILE:  
 DRAWN BY: GM, JAC  
 CHKD BY: MPM

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

MECHANICAL NOTES, LEGEND, AND SCHEDULES

SHEET NO:

M001

IF SHEET IS LESS THAN 22"x 34"  
 IT IS A REDUCED PRINT.  
 REDUCE SCALE ACCORDINGLY

PIPING AND EQUIPMENT INSULATION SCHEDULE										
SYMBOL	SYSTEM	EXPOSED	CONCEALED	ABOVE CEILING	EXTERIOR EXPOSED	THICKNESS	INDOOR FIELD APPLIED JACKET	OUTDOOR FIELD APPLIED JACKET		
HWS HWR	HOT WATER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	PRE-FORMED MINERAL FIBER	--	SEE THICKNESS TABLE BELOW	--	--		
L S	REFRIGERANT PIPING	FLEXIBLE ELECTROMETRIC	FLEXIBLE ELECTROMETRIC	FLEXIBLE ELECTROMETRIC	FLEXIBLE ELECTROMETRIC	SEE THICKNESS TABLE BELOW	--	ALUMINUM		

MINIMUM PIPE INSULATION THICKNESS TABLE							
FLUID DESIGN OPERATING TEMP. RANGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (in.)				
	CONDUCTIVITY Btu-in/(h-ft <sup>2</sup> -°F)	MEAN RATING TEMP. °F	<1"	1" TO <1 1/2"	1 1/2" TO <4"	4" TO <8"	≥ 8"
<b>HEATING SYSTEMS (HOT WATER HEATING)</b>							
141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0
105-140	0.22-0.28	100	1.0	1.0	1.5	1.5	1.5
<b>COOLING SYSTEMS (CHILLED WATER, AND REFRIGERANT)</b>							
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0
<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.5

NOTES:  
 1. ANY PIPE ON THIS SCHEDULE WITHIN THE FACILITY TO BE INSULATED AS DEFINED.  
 2. PIPING INSULATION IS NOT REQUIRED BETWEEN THE CONTROL VALVE AND COIL ON RUN-OUTS WHEN THE CONTROL VALVE IS LOCATED WITHIN 4 FT OF THE COIL AND THE PIPE SIZE IS 1 IN. OR LESS.  
 3. THESE THICKNESSES ARE BASED ON ENERGY EFFICIENCY CONSIDERATIONS ONLY. ISSUES SUCH AS WATER VAPOR PERMEABILITY OR SURFACE CONDENSATION, SOMETIMES REQUIRE VAPOR RETARDERS OR ADDITIONAL INSULATION.

REGISTER, GRILLE & DIFFUSER SCHEDULE										
MARK	MANUFACTURER & MODEL	DESCRIPTION	MATERIAL	FINISH	FRAME	DAMPER	MAX. NC	MAX. CFM	NECK SIZE	REMARKS
S-1	TITUS TDV-AA	CEILING LOUVERED SUPPLY DIFFUSER	ALUMINUM	WHITE	LAY-IN	--	30	140	6"ø	
S-2	TITUS TDV-AA	CEILING LOUVERED SUPPLY DIFFUSER	ALUMINUM	WHITE	LAY-IN	--	30	325	8"ø	
S-3	TITUS TDV-AA	CEILING LOUVERED SUPPLY DIFFUSER	ALUMINUM	WHITE	SURFACE MOUNT	--	30	325	10"ø	
S-4	TITUS TDV-AA	CEILING LOUVERED SUPPLY DIFFUSER	ALUMINUM	WHITE	LAY-IN	--	30	525	12"ø	
S-5	TITUS TDV-AA	CEILING LOUVERED SUPPLY DIFFUSER	ALUMINUM	WHITE	LAY-IN	--	23	640	14"ø	
R-1	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	LAY-IN	--	19	520	12"ø	
R-2	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	LAY-IN	--	16	220	8x8"	
R-3	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	LAY-IN	--	19	350	10x10"	
R-4	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	LAY-IN	--	19	700	14x14"	
R-5	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	LAY-IN	--	19	520	12x12"	
R-6	TITUS 350R	WALL/CEILING LOUVERED RET. / EXHAUST GRILLE	ALUMINUM	WHITE	SURFACE MOUNT	--	21	920	16"ø	
T-7	TITUS 350RL	WALL TRANSFER GRILLE	ALUMINUM	WHITE	SURFACE MOUNT	--	--	800	18x18"	
T-8	TITUS 350RS	WALL TRANSFER GRILLE	ALUMINUM	WHITE	SURFACE MOUNT	--	28	7500	42x48"	
T-9	TITUS 350RL	WALL TRANSFER GRILLE	ALUMINUM	WHITE	SURFACE MOUNT	--	--	1550	30x24"	

NOTE: ALL DIFFUSERS AND GRILLES LISTED IN SCHEDULE MAY NOT APPEAR ON DRAWINGS.

DIRECT EXPANSION SPLIT HEAT PUMP SYSTEM SCHEDULE																					
MARK	AREA SERVED	NOM. TONS	SEER	REFRIG.	TOTAL MBH COOL	INDOOR UNIT						OUTDOOR UNIT				REMARKS					
						MANUFACTURER & MODEL	OSA (CFM)	CFM	COOL EAT (°Fdb/wb)	COOL LAT (°Fdb/wb)	MOTOR HP	VOLTS/PHASE	DIMENSIONS HxWxD (IN)	WEIGHT (LBS)	MANUFACTURER & MODEL		CONN. SIZES (IN.)	VOLTS/PHASE	MCA	DIMENSIONS HxWxD (IN)	WEIGHT (LBS)
DX 1	LOWER LEVEL OFFICE	1.5	14	R-410A	18	CARRIER FX48NF030	250	800	84 / 59	62 / 50	1/4	230 / 1	43x15x22	112	CARRIER 25HCE4-18	3/8 5/8	230 / 1	11.8	35 x 23 x 23	135	21x13 FILTER

ELECTRIC UNIT HEATER SCHEDULE										
MARK	MANUFACTURER & MODEL	AREA SERVED	HEATING		ELECTRICAL		DIMENSIONS WxDxH (IN)	WT (LBS)	REMARKS	
			CFM	KW	OUTPUT MBH	AMPS				VOLTS/PHASE
UH 1	MARKEL P3P103CA1N	STORAGE 202	400	3.3	11.2	4	480 / 3	15 x 7 x 18	25	24V CONTROL LINE, PROVIDE WALL BRACKET, HEATER BRACKET, DUST COVER.

EXPANSION TANK SCHEDULE													
MARK	MANUFACTURER & MODEL	SYSTEM SERVED	TYPE	TEMP (°F)	FLUID	TANK VOL (GAL)	ACCEP. VOL (GAL)	PRE-CHARGE (PSI)	PRESS. GA.	DRAIN VALVE	DIMENSIONS DIAxH (IN)	WEIGHT (LBS)	REMARKS
ET 1	TACO CA-215-125	HOT WATER	BUTYL BLADDER	180	25% PG	57	--	12	0-125	3/4"	20x64	290	

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HOT WATER BOILER SCHEDULE																			
MARK	MANUFACTURER & MODEL	CHARACTERISTICS						BURNER					WATERFLOW PD (PSI)	ELECTRICAL VOLT/PHASE	FLA	DIMENSIONS DxDxH (IN)	WEIGHT (LBS)	REMARKS	
		ASME PRESSURE RATING (PSI)	MINIMUM RELIEF VALVE (PSI)	FLUE MATERIAL	FLUE SIZE (IN)	COMB. AIR SIZE (IN)	MIN INLET WATER TEMP °F	INPUT @ ALT. (MBH)	OUTPUT @ ALT. (MBH)	EFF. (%)	FUEL	GAS CONN. (IN)							OIL CONSUMPTION (GPH)
B 1a	CLEAN BURN CB-350-CTB	160	125	CAT IV SS	8	10	140	350	260	74	WASTE OIL	2	2.5	3.0	115 / 1	10	74 x 39 x 41	1240	USED OIL BOILER (BOILER ON TOP)
B 1b	CLEAN BURN CB-500-CTB	160	125	CAT IV SS	10	10	140	500	372	74	WASTE OIL	2	3.57	3.0	115 / 1	10	85.5 x 43.5 x 48	1600	USED OIL BOILER (BOILER ON BOTTOM)

ADDITIONAL BOILER SPECIFICATIONS  
 • HYDROSTATICALLY TESTED TO 160 PSI IN ACCORDANCE WITH SECTION IV OF ASME BOILER AND PRESSURE CODE.  
 • COMBUSTION AIR REQUIREMENTS OF NATIONAL FUEL GAS CODE AND ANSI Z223.1 OR Z223.2.  
 • START UP AND TRAINING BY FACTORY TRAINED PERSON EMPLOYED BY MANUFACTURER OR MANUFACTURER REPRESENTATIVE.

ADDITIONAL BOILER SPECIFICATIONS (CONT'D)  
 • ANY SERVICE OR SETUP DURING FIRST YEAR WARRANTY TO BE INCLUDED.  
 • COMPRESSED AIR - 2.5CFM @ 25 PSI.  
 • RECOMMENDED CLEANOUT - 1,000 HRS.

ADDITIONAL BOILER SPECIFICATIONS (CONT'D)  
 • PROVIDE HAND START / STOP SWITCH ON BOILER.  
 • PROVIDE 2-WAY CONTROL VALVE. VALVE TO BE CONTROLLED BY BOILER.  
 • BOILER TO OPEN VALVE WHEN BOILER ACTIVATES.

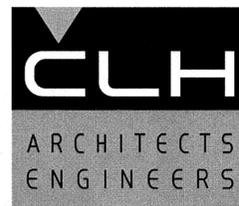
GAS FURNACE SCHEDULE															
MARK	MANUFACTURER & MODEL #	DESCRIPTION	AREA SERVED	MAX CFM	OSA CFM	EXT. STATIC PRESS. (in. w.c.)	GAS TYPE	HTG. CAP INPUT (MBH)	AFUE %	ELECTRICAL HP	VOLTS/PHASE	DIMENSIONS HxWxD (IN)	WEIGHT (lbs)	REMARKS	
F 1	LENNOX SL280UH070V36A	UPFLOW FURNACE	WORKROOM 201	650	170	0.45	40Z NG	66	80.0	1/2	120 / 1	33 x 14.5 x 29	143	PROVIDE HIGH ALTITUDE PRESSURE SWITCH KITS. PROVIDE 20x25x1 FILTER, SIDE RETURN, 80% EFFICIENT, LENNOX COMFORT FULLY PROGRAMMABLE THERMOSTAT, 3/4" CONDENSATE DRAIN CONNECTION.	

ALL PERFORMANCE BASED ON SITE ELEVATION OF 4,500 FT. ABOVE SEA LEVEL.

GAS INFRARED HEATER SCHEDULE												
MARK	MANUFACTURER & MODEL	AREA SERVED	HEATING COIL			ELECTRICAL WATTS	VOLTS/PHASE	TUBE LENGTH DIMENSIONS (FT)	WEIGHT (LBS)	REMARKS		
			INPUT MBH	FUEL	FUEL PRESS.							
IRH 1	SRP LX80-50	PIT BAY 104	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	50	257	RATED AT 4,500 H ELEVATION, THERMOSTAT, 45° TILT.		
IRH 2	SRP LX80-50	PIT BAY 104	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	50	257	RATED AT 4,500 H ELEVATION, THERMOSTAT, 45° TILT.		
IRH 3	SRP LX80-50	MAINT BAY 103	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	50	257	RATED AT 4,500 H ELEVATION, THERMOSTAT.		
IRH 4	SRP LX80-50	MAINT BAY 103	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	50	257	RATED AT 4,500 H ELEVATION, THERMOSTAT.		
IRH 5	SRP LX80-40	WORK BAY 102	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	40	257	RATED AT 4,500 H ELEVATION, THERMOSTAT, 45° TILT.		
IRH 6	SRP LX80-40	WORK BAY 102	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	40	257	RATED AT 4,500 H ELEVATION, THERMOSTAT.		
IRH 7	SRP LX80-40	WORK BAY 102	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	40	257	RATED AT 4,500 H ELEVATION, THERMOSTAT.		
IRH 8	SRP LX80-40	TIRE BAY 101	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	40	257	RATED AT 4,500 H ELEVATION, THERMOSTAT, 45° TILT.		
IRH 9	SRP LX80-40	TIRE BAY 101	80	NAT. GAS	7.0 TO 14.0	120	120 / 1	40	257	RATED AT 4,500 H ELEVATION, THERMOSTAT, 45° TILT.		

LOUVER SCHEDULE										
MARK	MANUFACTURER & MODEL	AREA SERVED	CFM	FACE VELOCITY (FPM)	FREE AREA (SF)	DIMENSIONS HxWxD (IN)	MATERIAL	FINISH	REMARKS	
L 1	RUSKIN ELF375DX	PIT BAY 104	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 2	RUSKIN ELF375DX	WORK BAY 102	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 3	RUSKIN ELF375DX	TIRE BAY 101	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 4	RUSKIN ELF375DX	TIRE BAY 101	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 5	RUSKIN ELF375DX	WORK BAY 102	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 6	RUSKIN ELF375DX	MAINT BAY 103	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 7	RUSKIN ELF375DX	MAINT BAY 103	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 8	RUSKIN ELF375DX	PIT BAY 104	1500	513	2.92	36 x 24 x 4	ALUMINUM	MILL	PROVIDE RUSKIN 36x24 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 9	RUSKIN ELF6375DX	BOILER 108	1550	630	2.46	30 x 24 x 6	ALUMINUM	MILL	INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 10	RUSKIN ELF6375DX	MEZZ 207,206,116	-	-	-	8 x 18 x 6	ALUMINUM	MILL	INSTALL PER MANUFACTURERS METAL PANEL DETAIL.	
L 11	RUSKIN ELF6375DX	LIQUID 112	300	471	0.61	18 x 12 x 6	ALUMINUM	MILL	FLANGE FRAME, PROVIDE RUSKIN 10x12 IL35 DAMPER, 120V ACTUATORS, INSTALL PER MANUFACTURER'S FLANGE MOUNT FRAME DETAIL.	

HOT WATER MANIFOLD SCHEDULE										
MARK	MANUFACTURER & MODEL	AREA SERVED	HEAD LOSS (FT H <sub>2</sub> O)	MAX LOOPS	LOOP S/R PIPE SIZE (IN)	SIZE (IN)	MAX SUPPLY TEMP (°F)	FLOW (GPM)	HEATING CAPACITY (MBH)	REMARKS
M 1	ROTH 2315005107	TIRE BAY 101	29.38	7	3/4 BPEX	1 1/2	135	20	195.74	
M 2	ROTH 2315005106	WORK BAY 102	28.02	6	3/4 BPEX	1 1/2	135	16	159.46	
M 3	ROTH 2315005705	MAINT BAY 103	35.70	5	3/4 BPEX	1 1/2	135	16	155.03	
M 4	ROTH 2315005106	PIT BAY 104	20.48	6	3/4 BPEX	1 1/2	135	16	159.63	
M 5	ROTH 23150031013	LIQUIDS 112, PARTS 107	8.4	6	3/4 BPEX	1 1/4	135	8.2	81.0	



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 TRUCK  
 MAINTENANCE SHOP

910 W 24th STREET  
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MARK DATE DESCRIPTION

ISSUE DATE: AUGUST 19, 2016  
 PROJECT NO: 15460  
 CAD DWG FILE:  
 DRAWN BY: GM, JAC  
 CHKD BY: MPM

PERMIT SET  
 AUGUST 19, 2016

SHEET TITLE

MECHANICAL  
 SCHEDULES

SHEET NO:

M002

**COMcheck Software Version 4.0.4.1**  
**Mechanical Compliance Certificate**

**Project Information**

Energy Code: 2015 IECC  
 Project Title: Grant Trucking  
 Location: Ogden, Utah  
 Climate Zone: 5b  
 Project Type: New Construction

Construction Site: 910 west 2400 S Ogden, UT 84401  
 Owner/Agent:  
 Designer/Contractor:

**Additional Efficiency Package**  
 Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

**Mechanical Systems List**

Quantity	System Type & Description
1	DX-1 (Single Zone w/ PerimeterSystem): Split System Heat Pump Heating Mode: Capacity = 11 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF Cooling Mode: Capacity = 18 kBtu/h, Proposed Efficiency = 14.00 SEER, Required Efficiency = 14.00 SEER Fan System: DX-1   Parts 107 - Compliance (Motor nameplate HP method) : Passes  Fans: FAN 1 Supply, Constant Volume, 800 CFM, 0.1 motor nameplate hp, 80.0 fan efficiency
1	F-1, CU-1 (Single Zone w/ PerimeterSystem): Heating: 1 each - Central Furnace, Gas, Capacity = 65 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency = 80.00% Et Cooling: 1 each - Split System, Capacity = 18 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: None Proposed Efficiency = 14.50 SEER, Required Efficiency = 13.00 SEER Fan System: F-1   Mezzanine - Compliance (Motor nameplate HP method) : Passes  Fans: FAN 2 Supply, Constant Volume, 650 CFM, 0.5 motor nameplate hp, 80.0 fan efficiency
1	UH-1 (Unknown): Heating: 1 each - Unit Heater, Electric, Capacity = 11 kBtu/h No minimum efficiency requirement applies Fan System: UH-1   storage 202 - Compliance (Motor nameplate HP method) : Passes  Fans: UH1 Supply, Constant Volume, 400 CFM, 0.1 motor nameplate hp, 80.0 fan efficiency
1	IRH-1 thru 9 (Single Zone w/ PerimeterSystem): Heating: 1 each - Radiant Heater, Gas, Capacity = 80 kBtu/h No minimum efficiency requirement applies Fan System: None
1	boiler B-1a: Heating: Hot Water Boiler, Capacity 350 kBtu/h, Residual Oil Proposed Efficiency: 83.00 % Et, Required Efficiency: 82.00 % Et

Project Title: Grant Trucking  
 Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck  
 Report date: 08/17/16  
 Page 1 of 14

**Quantity System Type & Description**

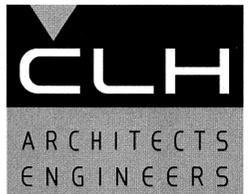
1	boiler B-1b: Heating: Hot Water Boiler, Capacity 500 kBtu/h, Residual Oil Proposed Efficiency: 83.00 % Et, Required Efficiency: 82.00 % Et
1	water heater WH-1: Gas Storage Water Heater, Capacity: 40 gallons, Input Rating: 40 Bluh w/ Circulation Pump Proposed Efficiency: 0.62 EF, Required Efficiency: 0.54 EF

**Mechanical Compliance Statement**

*Compliance Statement:* The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.0.4.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Mike Morgan - Mechanical Engineer  
 Name - Title  
 Signature  
 Date: 17 Aug 2017

Project Title: Grant Trucking  
 Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck  
 Report date: 08/17/16  
 Page 2 of 14



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ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	GM, JAC
CHK'D BY:	MPM

**PERMIT SET**

AUGUST 19, 2016

**SHEET TITLE**

**MECHANICAL**  
**COMPLIANCE**  
**CERTIFICATE**

**SHEET NO:**

**M003**

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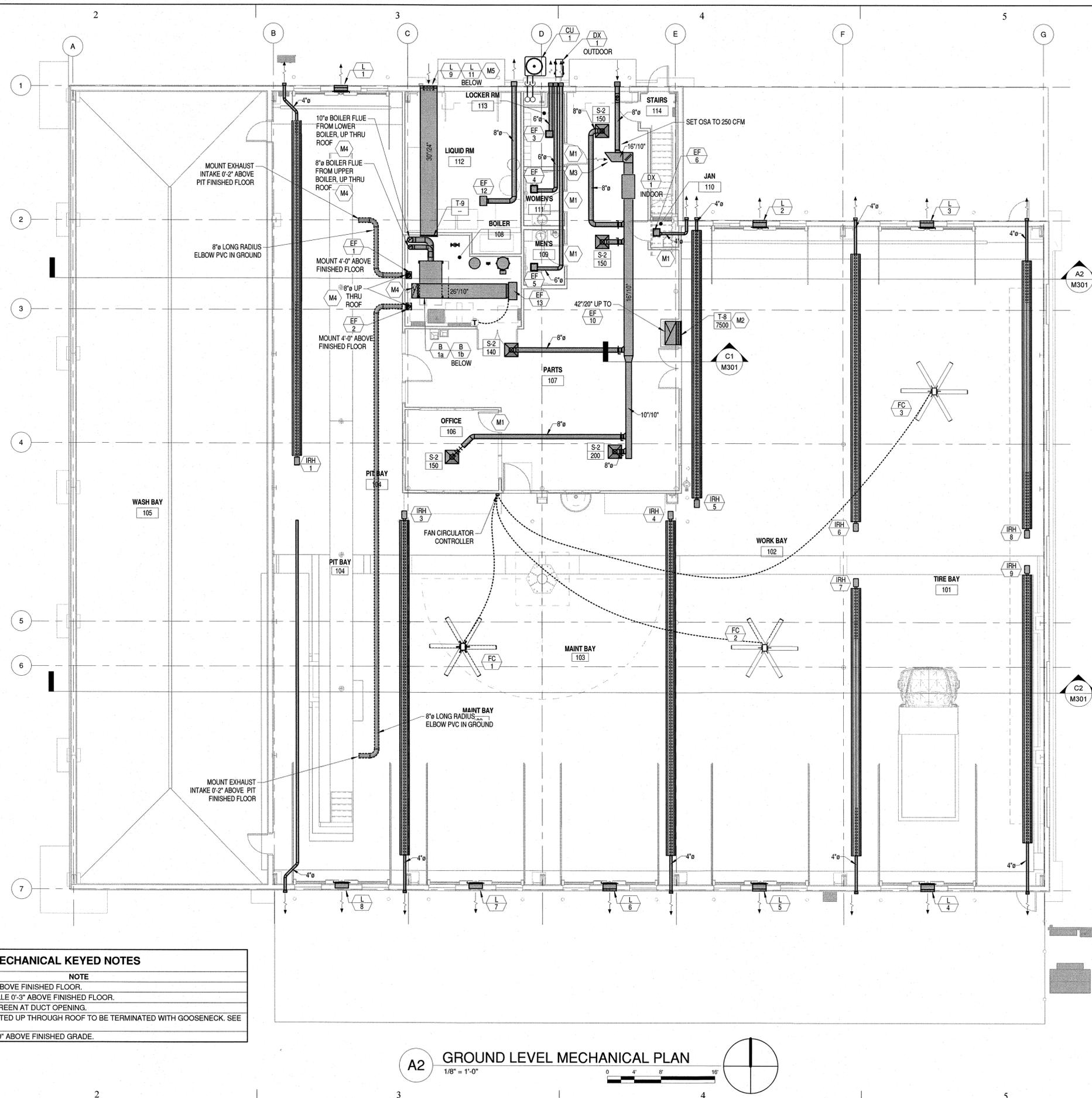
MARK	DATE	DESCRIPTION

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AUGUST 19, 2016

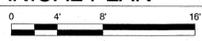
SHEET TITLE  
**GROUND LEVEL  
MECHANICAL  
PLAN**

SHEET NO:  
**M101**

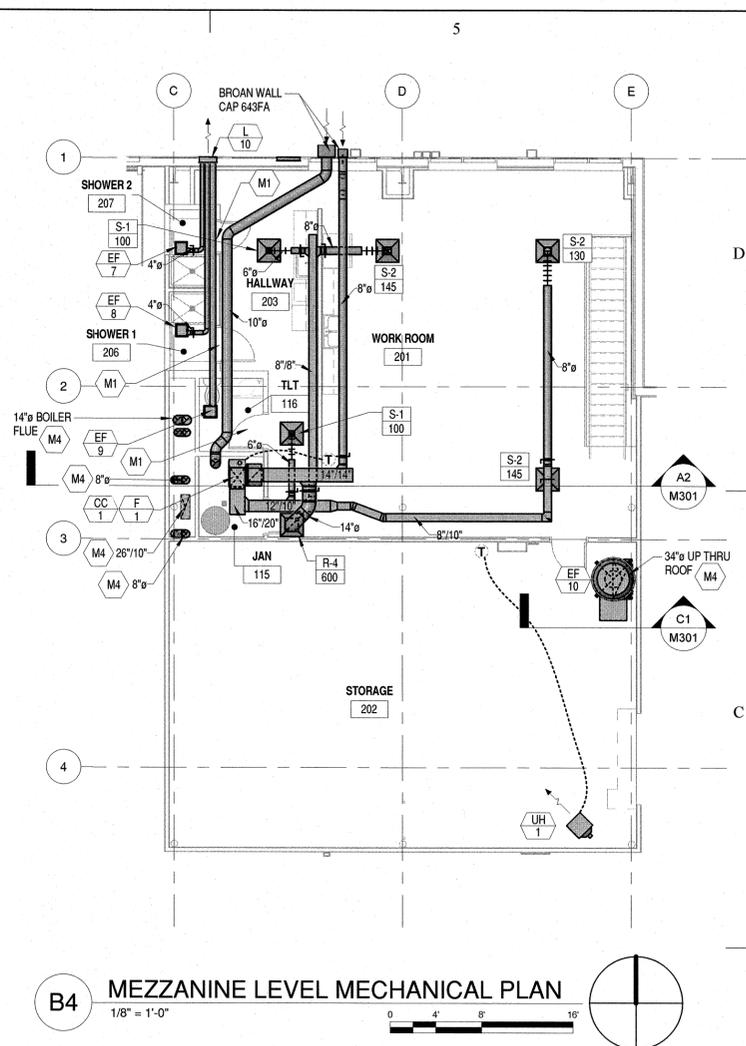
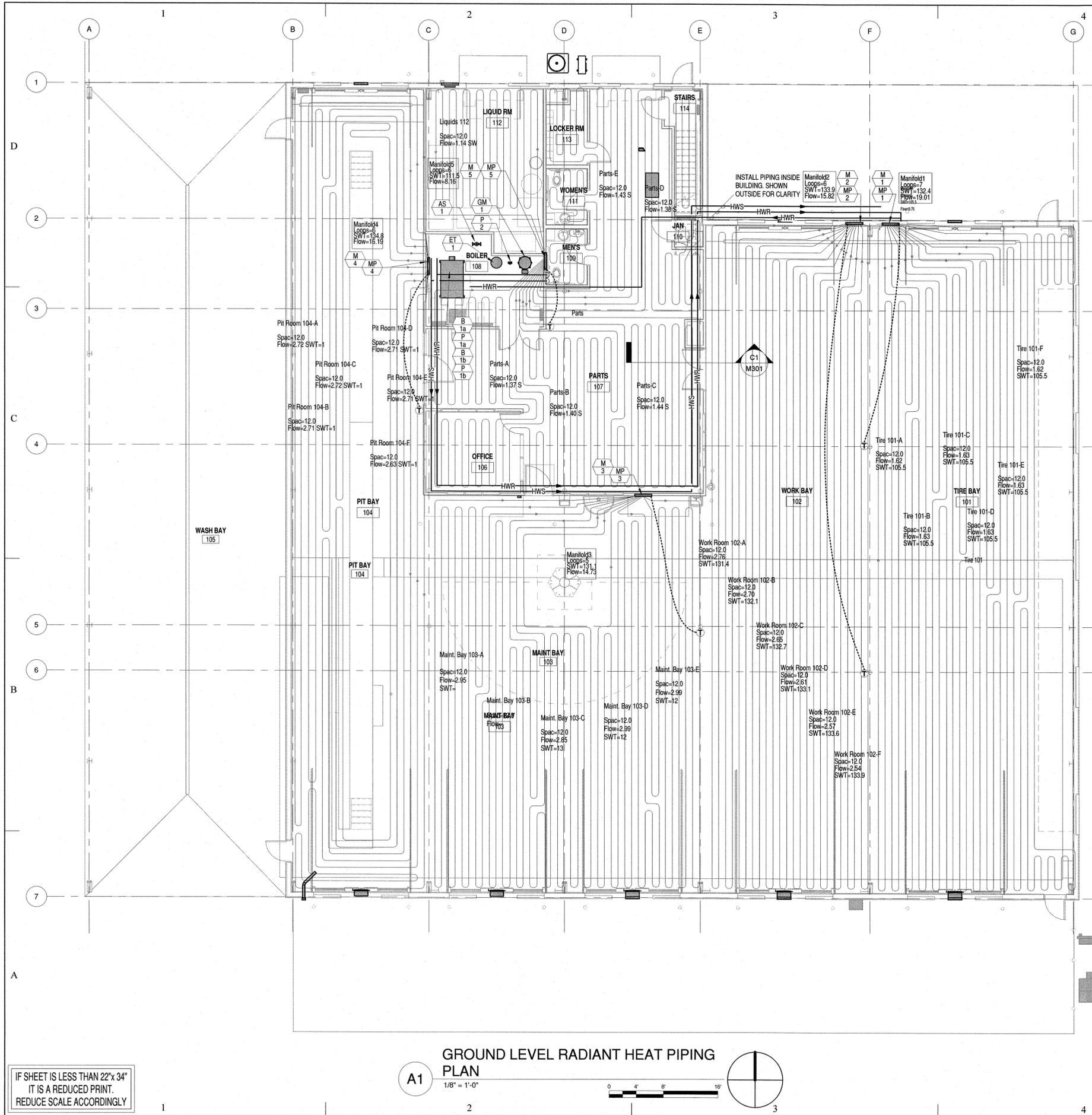


MECHANICAL KEYED NOTES	
MARK	NOTE
M1	UNDER CUT DOOR 0'-1" ABOVE FINISHED FLOOR.
M2	MOUNT BOTTOM OF GRILLE 0'-3" ABOVE FINISHED FLOOR.
M3	PROVIDE WIRE MESH SCREEN AT DUCT OPENING.
M4	ALL EXHAUST DUCT ROUTED UP THROUGH ROOF TO BE TERMINATED WITH GOOSENECK. SEE DETAIL C2/M502.
M5	INSTALL LOUVER L-11 1'-0" ABOVE FINISHED GRADE.

**A2 GROUND LEVEL MECHANICAL PLAN**  
1/8" = 1'-0"



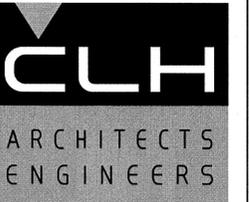
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**MECHANICAL KEYED NOTES**

MARK	NOTE
M1	UNDER CUT DOOR 0'-1" ABOVE FINISHED FLOOR.
M2	MOUNT BOTTOM OF GRILLE 0'-3" ABOVE FINISHED FLOOR.
M3	PROVIDE WIRE MESH SCREEN AT DUCT OPENING.
M4	ALL EXHAUST DUCT ROUTED UP THROUGH ROOF TO BE TERMINATED WITH GOOSENECK. SEE DETAIL C2/M502.
M5	INSTALL LOUVER L-11 1'-0" ABOVE FINISHED GRADE.

**NOTE:**  
FOR PIPING SIZE SEE PIPING SCHEMATIC ON B3/M601.



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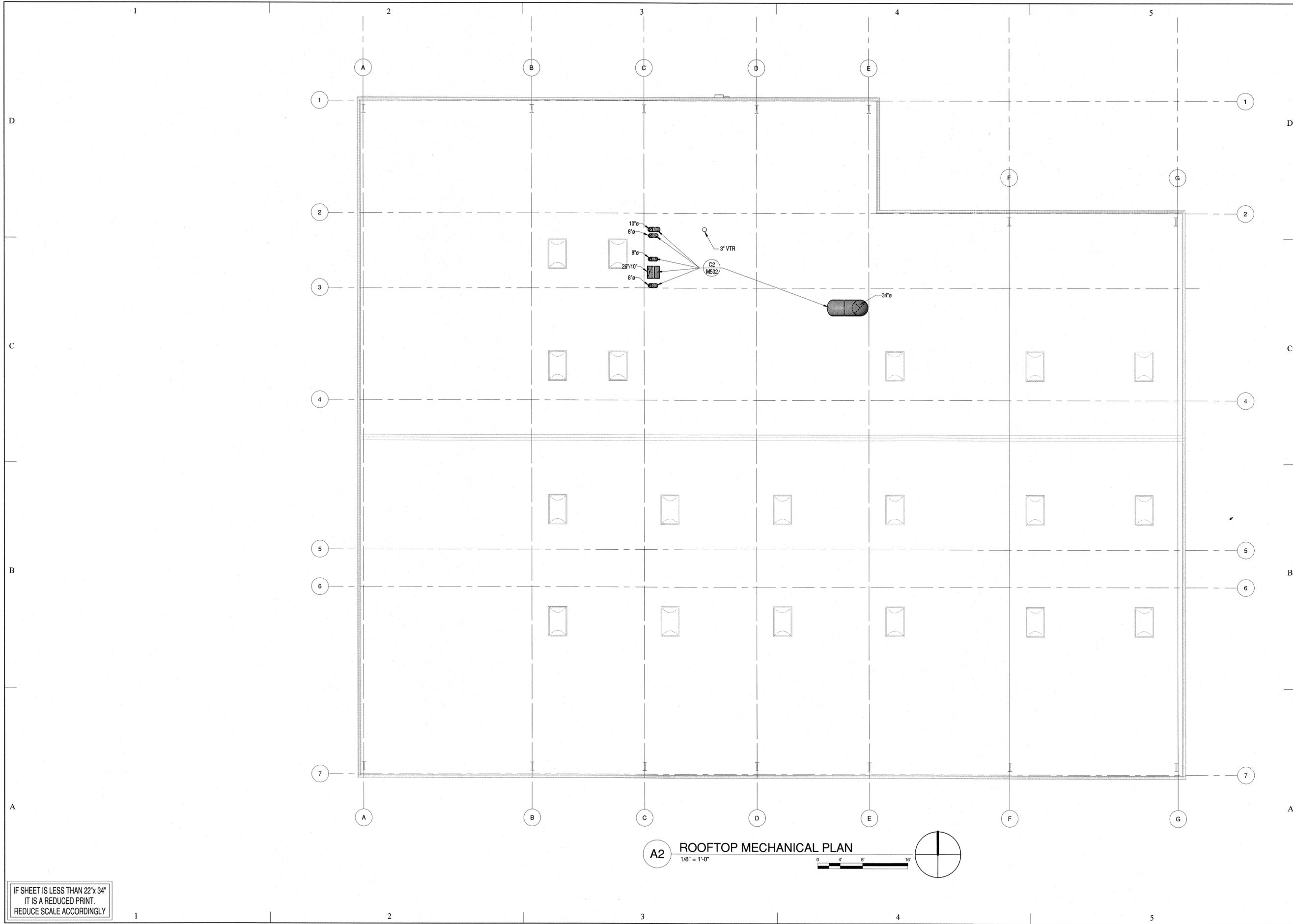
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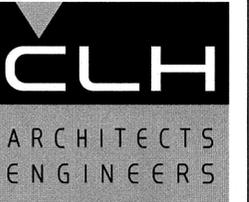
SHEET TITLE  
**GROUND LEVEL RADIANT HEAT PLAN AND MEZZ. MECH. PLAN**

SHEET NO:

M102



**A2 ROOFTOP MECHANICAL PLAN**  
 1/8" = 1'-0"  
 0 4 8 16



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SHEET TITLE  
**ROOFTOP MECHANICAL PLAN**

SHEET NO:  
**M103**

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DRAWN BY:	Author
CHK'D BY:	Checker

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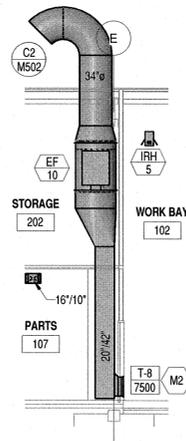
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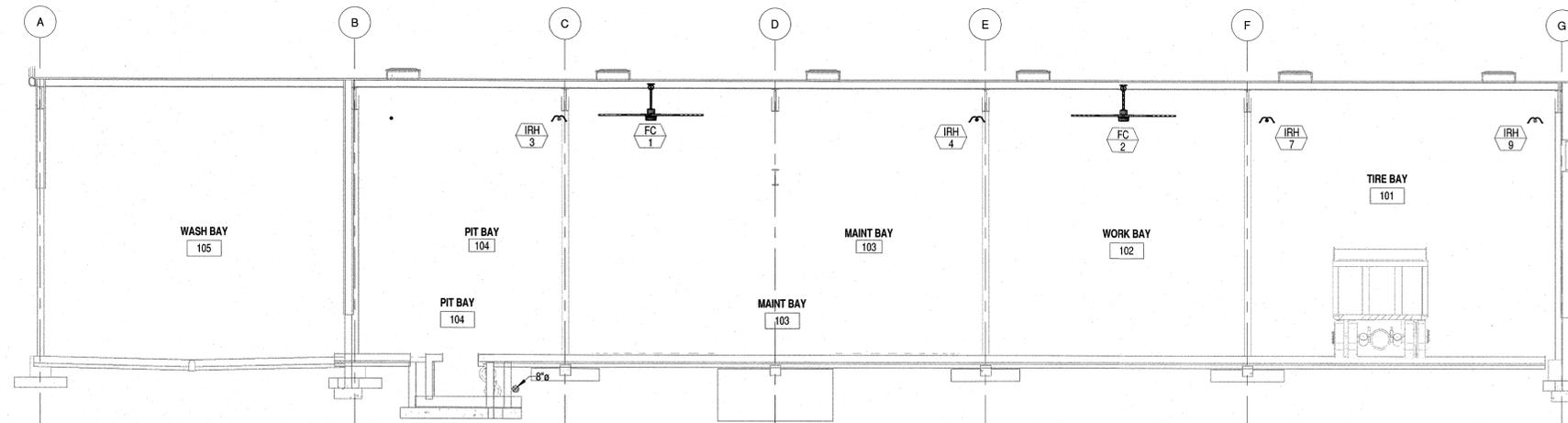
**MECHANICAL  
SECTIONS**

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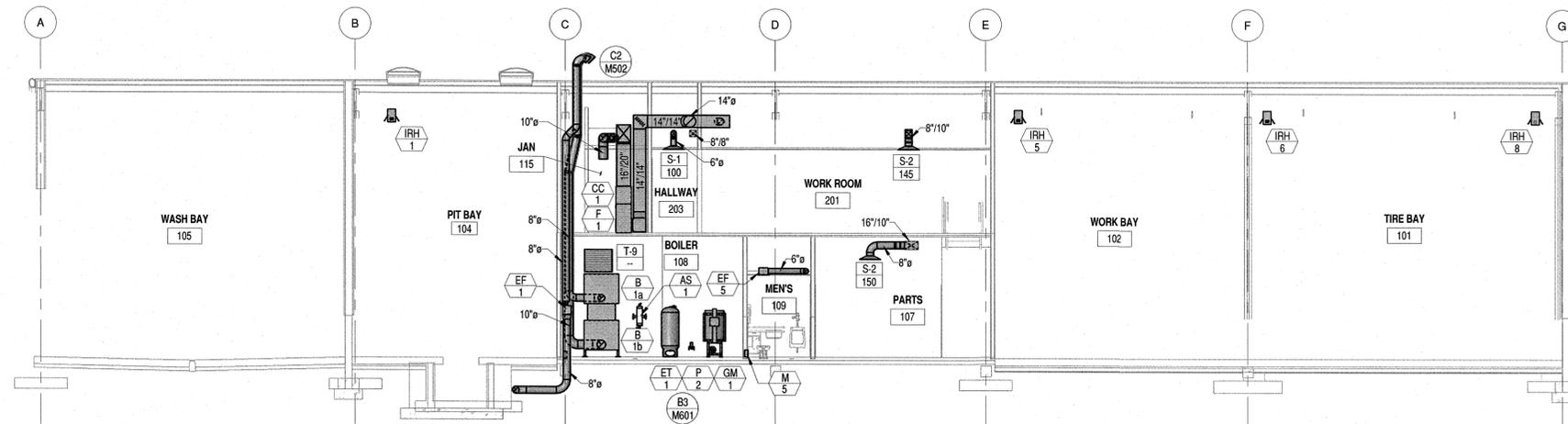
**M301**



**C1 MECHANICAL SECTION 1**  
1/8" = 1'-0"  
0 4' 8' 16'



**C2 MECHANICAL SECTION 2**  
1/8" = 1'-0"  
0 4' 8' 16'

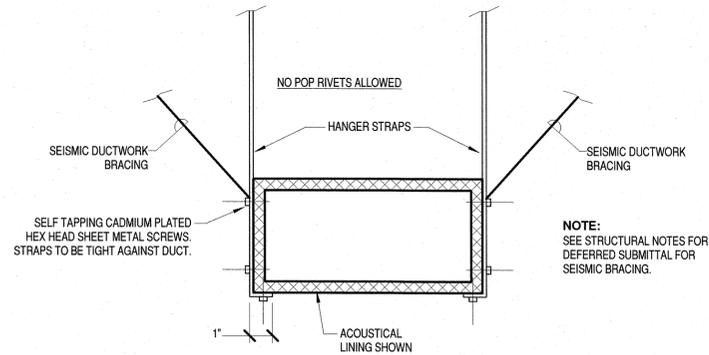


**A2 MECHANICAL SECTION 3**  
1/8" = 1'-0"  
0 4' 8' 16'

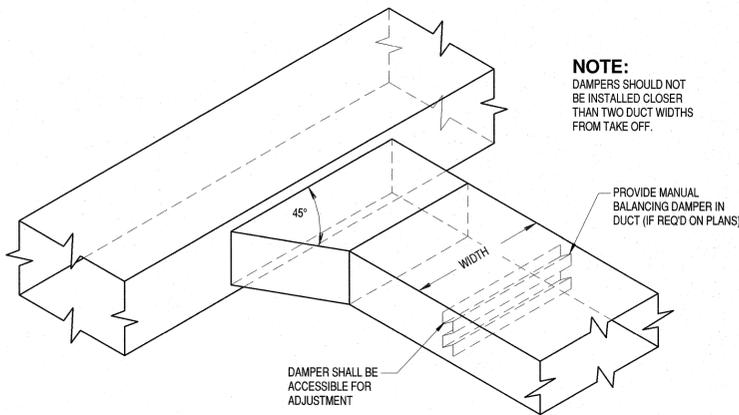
MECHANICAL KEYED NOTES	
MARK	NOTE
M1	UNDER CUT DOOR 0'-1" ABOVE FINISHED FLOOR.
M2	MOUNT BOTTOM OF GRILLE 0'-3" ABOVE FINISHED FLOOR.
M3	PROVIDE WIRE MESH SCREEN AT DUCT OPENING.
M4	ALL EXHAUST DUCT ROUTED UP THROUGH ROOF TO BE TERMINATED WITH GOOSENECK. SEE DETAIL C2/M502.
M5	INSTALL LOUVER L-11 1'-0" ABOVE FINISHED GRADE.

IF SHEET IS LESS THAN 22"x 34"  
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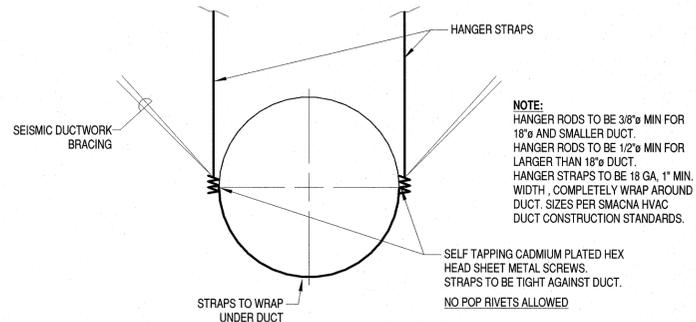
HANGER SIZES FOR RECTANGULAR DUCT			
MAX. SIDE	HORIZONTAL SUPPORT ANGLE	HORIZONTAL SUPPORT ANGLE	MAX. SPACING
30"	1" WIDE 18 GA. STRAP	NONE REQUIRED	10'-0"
36"	1/4" ROUND ROD	1 1/2" x 1 1/2" x 1/8"	8'-0"
48"	1/4" ROUND ROD	2" x 2" x 1/8"	8'-0"
60"	5/16" ROUND ROD	2" x 2" x 1/8"	8'-0"
84"	3/8" ROUND ROD	2" x 2" x 1/8"	8'-0"



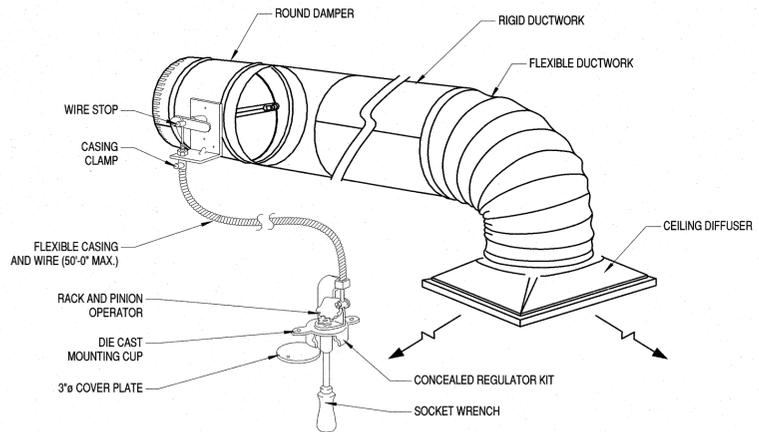
**C1 DUCT STRAP HANGER DETAIL**  
NO SCALE



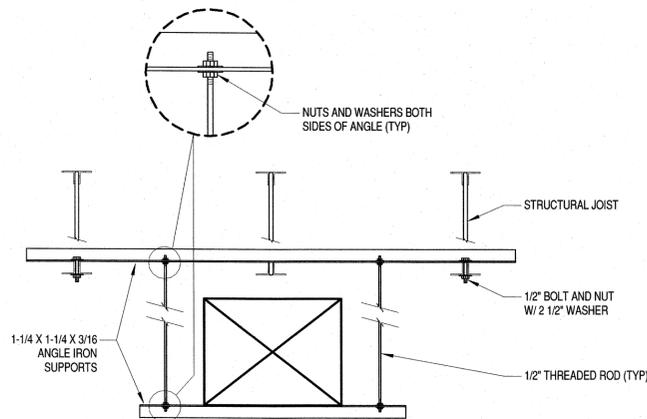
**B1 RECTANGULAR BRANCH TAKE-OFF FITTING DETAIL**  
NO SCALE



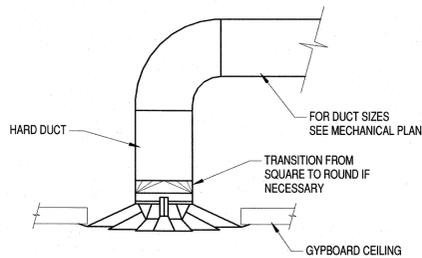
**A1 ROUND DUCT HANGER WITH SEISMIC BRACING DETAIL**  
NO SCALE



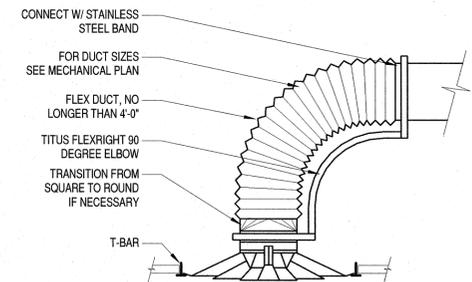
**C3 BOWDEN CABLE CONTROL SYSTEM DETAIL**  
NO SCALE



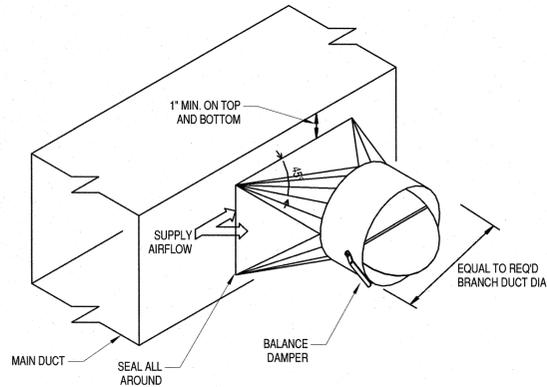
**B3 RECTANGULAR DUCT HANGER DETAIL**  
NO SCALE



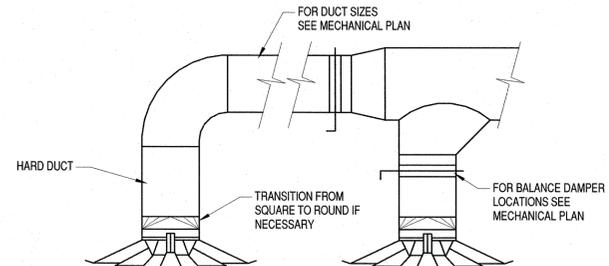
**A3 DIFFUSER IN HARD CEILING INSTALLATION DETAIL**  
NO SCALE



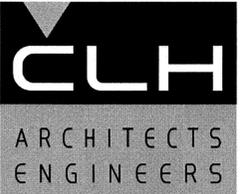
**C4 DIFFUSER IN LAY-IN CEILING INSTALLATION DETAIL**  
NO SCALE



**B4 ROUND BRANCH TAKE-OFF FITTING DETAIL**  
NO SCALE



**A4 DIFFUSER IN OPEN CEILING AREAS**  
NO SCALE



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CHK'D BY:	MPM

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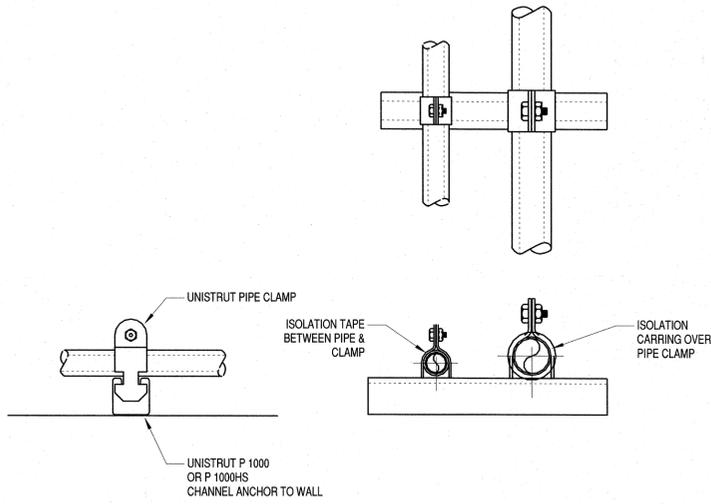
**MECHANICAL DETAILS**

SHEET NO:

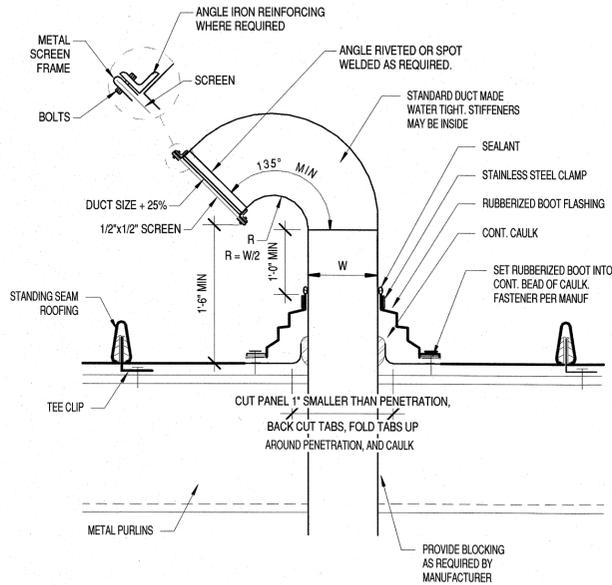
**M501**

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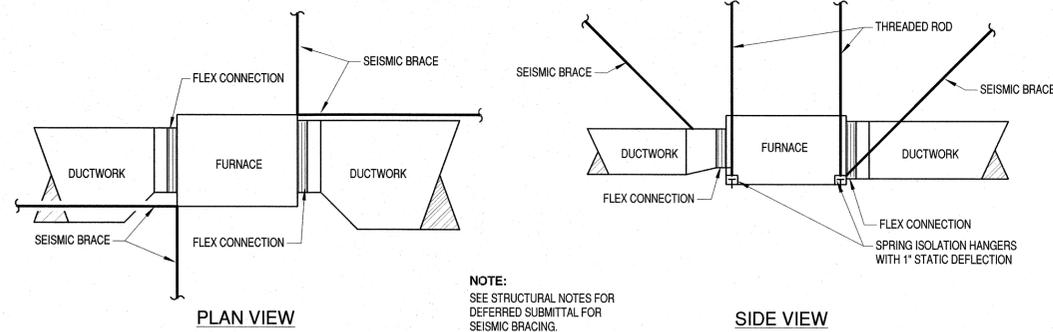
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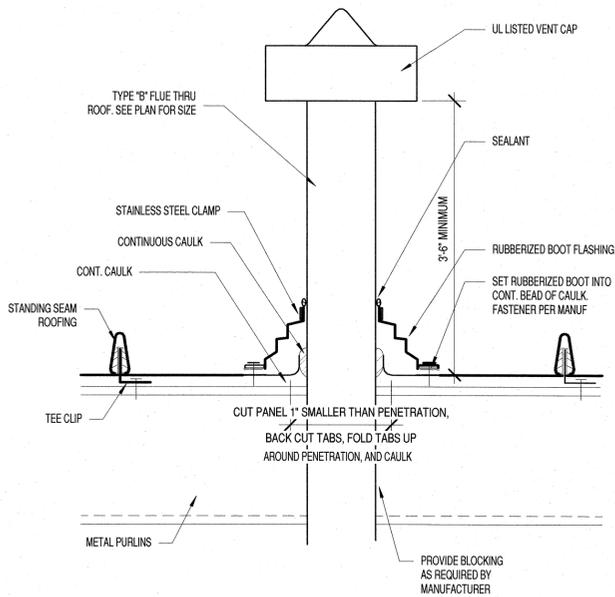
**C1** TYPICAL UNISTRUT PIPE SUPPORT  
DETAIL  
NO SCALE



**C2** GOOSENECK DETAIL  
NO SCALE

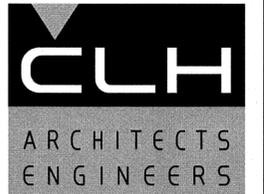


**C4** FURNACE HORIZONTAL MOUNTING  
DETAIL  
NO SCALE



**A1** BOILER FLUE INSTALLATION DETAIL  
NO SCALE

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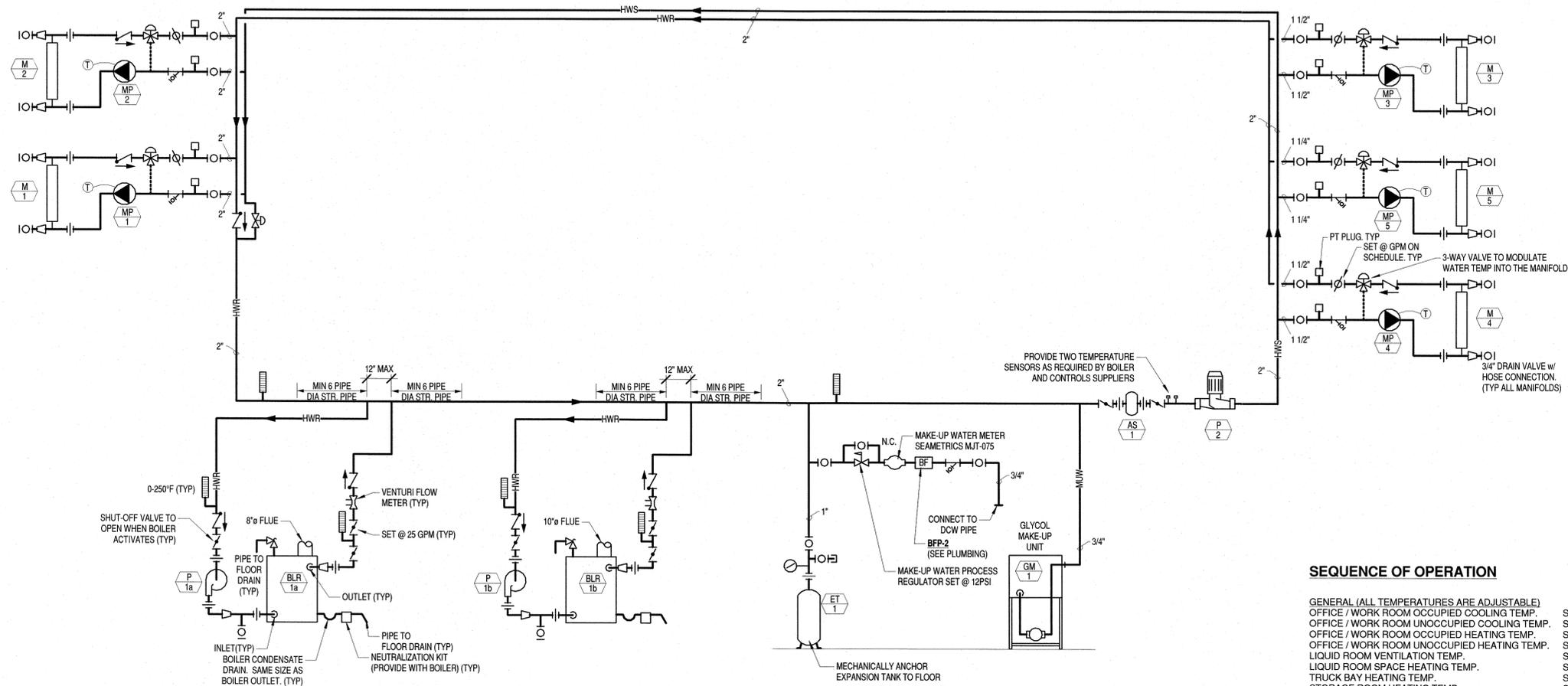
AUGUST 19, 2016

SHEET TITLE

**MECHANICAL  
DETAILS**

SHEET NO:

**M502**



**B3 HEATING HOT WATER SYSTEM PIPING SCHEMATIC**  
SCALE NONE

**SEQUENCE OF OPERATION**

- GENERAL (ALL TEMPERATURES ARE ADJUSTABLE)
- OFFICE / WORK ROOM OCCUPIED COOLING TEMP. SETPOINT: 75°F
  - OFFICE / WORK ROOM UNOCCUPIED COOLING TEMP. SETPOINT: 85°F
  - OFFICE / WORK ROOM OCCUPIED HEATING TEMP. SETPOINT: 70°F
  - OFFICE / WORK ROOM UNOCCUPIED HEATING TEMP. SETPOINT: 55°F
  - LIQUID ROOM VENTILATION TEMP. SETPOINT: 85°F
  - LIQUID ROOM SPACE HEATING TEMP. SETPOINT: 65°F
  - TRUCK BAY HEATING TEMP. SETPOINT: 60°F
  - STORAGE ROOM HEATING TEMP. SETPOINT: 60°F
  - BOILER ROOM VENTILATION TEMP. SETPOINT: 85°F
  - BOILER SUPPLY WATER TEMP. SETPOINT: 180°F
  - BOILER RETURN WATER TEMP. SETPOINT: 140°F

THERMOSTATIC CONTROLS TO HAVE A 5°F DEADBAND

**RADIANT FLOOR HEATING CONTROL SYSTEM (PRIMARY HEATING SYSTEM)**  
TACO SR 506 EXP TO CONTROL BOILERS (BLR-1A, 1B), PUMPS (P-1A, 1B, 2, MP-1 THRU MP-5), MP-1 THRU MP-5 TO EACH BE CONTROLLED BY THEIR ASSOCIATED THERMOSTAT. PROVIDE TACO SR 506 EXP CONTROLLER WITH PC610 UNIVERSAL TIMER, PC702 TWO STAGE BOILER RESET CONTROL, AND PC705 VARIABLE SPEED PUMP INJECTION MIXING CONTROL.

**INFRARED RADIANT HEATER (IRH-1 THRU IRH-9) (SECONDARY HEATING SYSTEM)**  
UNIT SHALL CYCLE TO MAINTAIN TRUCK BAY HEATING TEMPERATURE SETPOINT. UNIT SHALL HAVE ITS OWN USER ADJUSTABLE THERMOSTAT.

**EXHAUST FAN (EF-1,2)**  
USER CONTROLLED VIA TOGGLE SWITCH(ES) IN BAY.

**EXHAUST FAN (EF-3,4,5,6,7,8,9)**  
FANS SHALL INTERLOCK WITH ROOM LIGHT CONTROLS ON / OFF.

**EXHAUST FAN (EF-10), LOUVERS (L-1 THRU L-8)**  
FAN SHALL INITIATE AND TURN ON DURING OCCUPIED HOURS AND SHUT DOWN DURING UNOCCUPIED HOURS. LOUVERS SHALL INTERLOCK WITH EF-10 CONTROLS AND OPEN WHEN EF-10 INITIATES.

**EXHAUST FAN (EF-12,13)**  
FANS SHALL CYCLE TO MAINTAIN LIQUID ROOM, BOILER ROOM VENTILATION TEMPERATURE SETPOINT. EF-13 TO INTERLOCK WITH LOUVER L-11 DAMPER.

**FAN CIRCULATOR (FC-1,2)**  
FAN SHALL HAVE ITS OWN STANDALONE FAN SPEED CONTROLS.

**AIR-COOLED CONDENSING UNIT (CU-1), COOLING COIL(CC-1), FURNACE (F-1)**

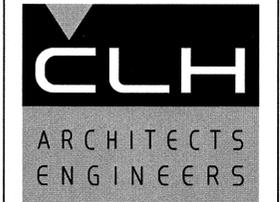
THE COOLING AND HEATING OF EACH UNIT SHALL OPERATE WITH FACTORY UNIT CONTROLS, BASED ON SPACE TEMPERATURE INPUTS FROM THE ROOM THERMOSTAT.

DURING UNOCCUPIED MODE, THE UNITS SHALL OPERATE TO MAINTAIN UNOCCUPIED SETBACK TEMPERATURES.

**AIR-COOLED HEAT PUMP UNITS (DX-1 OUTDOOR), FAN COIL UNITS (DX-1 INDOOR)**  
THE INDOOR UNIT SHALL CYCLE TO MAINTAIN OFFICE OCCUPIED COOLING / HEATING TEMPERATURE SETPOINT. ASSOCIATED HEAT PUMP UNIT (DX-1) SHALL ACTIVATE BASED ON HEATING AND COOLING DEMAND.

DURING UNOCCUPIED HOURS, THE HEAT PUMP SYSTEM SHALL RUN TO MAINTAIN NIGHT TIME UNOCCUPIED SETBACK TEMPERATURE SETPOINTS.

**ELECTRIC UNIT HEATER (UH-1)**  
UNIT SHALL CYCLE TO MAINTAIN STORAGE ROOM HEATING TEMPERATURE SETPOINT.



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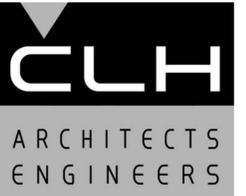
ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	GM, JAC
CHK'D BY:	MPM

**PERMIT SET**  
AUGUST 19, 2016

**PIPING SCHEMATIC AND SEQUENCE OF OPERATION**

SHEET NO:  
**M601**

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08/19/2016



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
LEGEND**

SHEET NO:

**E001**

**LIGHTING**

- FIXTURE - RECESSED, SURFACE OR PENDANT MOUNT, NUMBER INDICATES FIXTURE TYPE
- FIXTURE - RECESSED OR SURFACE MOUNT WITH EMERGENCY BATTERY PACK, NUMBER INDICATES FIXTURE TYPE
- FIXTURE WITH INBOARD/OUTBOARD SWITCHING. SWITCH Sa CONTROLS OUTBOARD LAMPS AND SWITCH Sb CONTROLS INBOARD LAMP(S).
- NUMBER INDICATES FIXTURE TYPE, NL (NIGHT LIGHT) POWERED AT ALL TIMES
- FIXTURE - CHAIN, RECESSED, SURFACE OR PENDANT HUNG NUMBER INDICATES FIXTURE TYPE
- SMALL LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE, NUMBER INDICATES TYPE OF FIXTURE
- EXIT LIGHT, TOP MOUNTED, DARKENED AREA REPRESENTS LETTERED FACE
- EXIT LIGHT, WALL MOUNTED, DARKENED AREA REPRESENTS LETTERED FACE
- EXIT LIGHT, TOP MOUNTED, ARROW INDICATES DIRECTION OF EGRESS
- EXIT LIGHT, WALL MOUNTED, ARROW INDICATES DIRECTION OF EGRESS
- PHOTO-CELL CONTROL

**SWITCHES (+48" UNLESS NOTED)**

- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- FOUR-WAY SWITCH
- OCCUPANCY SENSOR WALL SWITCH
- SWITCH WITH PILOT LAMP
- SPECIAL SWITCHING, CONTROLS LIGHT FIXTURE WITH SAME SUBSCRIPT
- FLUORESCENT/LED DIMMER SWITCH
- NETWORK ENABLED SWITCH, MANUAL ON, AUTO OFF, DIMMING
- OCCUPANCY SENSOR WALL SWITCH NETWORK ENABLED SWITCH
- MOTION SENSOR WATT STOPPER DT-305 w/1-BZ-150 OR EQUIVALENT
- MOTION SENSOR SLAVE WATT STOPPER DT-305 OR EQUIVALENT
- NETWORK ENABLED DUAL TECHNOLOGY MOTION SENSOR
- NETWORK ENABLED DUAL TECHNOLOGY MOTION SENSOR w/PHOTOCELL
- LIGHTING RELAY POWER PACK - NETWORK ENABLED
- DAY LIGHTING SENSOR - NETWORK ENABLED
- 1 POLE, DOUBLE THROW SWITCH, SPRING RETURN
- DIGITAL TIMER SWITCH - 0-1 HR
- KEYPED SWITCH
- SPEAKER VOLUME CONTROL

**CIRCUITING**

- WIRING CONCEALED IN CEILING OR WALL
- WIRING CONCEALED IN FLOOR
- WIRING EXISTING
- CROSSLINES INDICATE NUMBER OF #12 CONDUCTORS. GROUND IS REPRESENTED BY CROSSLINE WITH DOT ON TOP. OTHER CONDUCTORS AND CONDUIT AS INDICATED.
- BRANCH CIRCUIT HOMERUN TO PANELBOARD; NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATION IDENTIFIES PANEL AND CIRCUIT NUMBER(S).

**EXTERIOR COMMUNICATIONS**

- UNDERGROUND COMMUNICATION CONDUIT

**PANELBOARDS AND POWER EQUIPMENT**

- FLUSH MOUNTED PANELBOARD AND CABINET
- SURFACE MOUNTED PANELBOARD AND CABINET
- SWITCHBOARD OR DISTRIBUTION PANELBOARD (AS NOTED)
- CIRCUIT BREAKER DISCONNECT
- SAFETY DISCONNECT SWITCH - UNFUSED
- MANUAL MOTOR STARTER
- MAGNETIC MOTOR STARTER
- COMBINATION STARTER & DISCONNECT SWITCH
- FUSED DISCONNECT
- MOTOR OUTLET, HORSEPOWER AS INDICATED
- PUSHBUTTON STATION
- REFERS TO MECHANICAL OR OWNERS EQUIPMENT ITEM SEE SCHEDULES

**RECEPTACLES (+18" UNLESS NOTED)**

- SINGLE RECEPTACLE, NEMA 5-20R, GROUNDING TYPE
- DUPLEX RECEPTACLE, NEMA 5-20R, GROUNDING TYPE
- QUAD RECEPTACLE (DOUBLE DUPLEX), NEMA 5-20R, GROUNDING TYPE
- DUPLEX RECEPTACLE, 5-20R, GROUNDING TYPE, RECESS MOUNTED IN THE FLOOR
- SPECIAL PURPOSE OUTLET - 208 V., 1 PHASE - NUMBER INDICATES AMPERAGE. NO NUMBER INDICATES 20 AMPS
- SPECIAL PURPOSE OUTLET - 208 V., 3 PHASE - NUMBER INDICATES AMPERAGE. NO NUMBER INDICATES 20 AMPS
- SPECIAL PURPOSE OUTLET - 480 V., 1 PHASE - NUMBER INDICATES AMPERAGE. NO NUMBER INDICATES 20 AMP
- SPECIAL PURPOSE OUTLET - 480 V., 3 PHASE - NUMBER INDICATES AMPERAGE. NO NUMBER INDICATES 20 AMPS
- PLUGMOLD OUTLET STRIP
- CORD DROP WITH PHASE AND AMPERAGE
- JUNCTION BOX
- TRANSIENT VOLTAGE SURGE SUPPRESSOR
- PULL BOX
- GROUND ROD - 3/4" x 10'-0"
- HOT WATER TANK
- THERMOSTAT

**COMMUNICATIONS SYSTEMS**

- TELEPHONE OUTLET w/ 3/4" C. TO CABLE TRAY. PROVIDE 1 EA. CAT. 6, 4 PAIR CABLE ON SINGLE GANG PLATE w/MODULAR JACKS, 1-RJ45
- DATA OUTLET w/ 3/4" C. TO CABLE TRAY. PROVIDE 2 EA. CAT. 6, 4 PAIR CABLES ON SINGLE GANG PLATE w/MODULAR JACKS, 2-RJ45
- TELEPHONE / DATA OUTLET w/ 3/4" C. TO CABLE TRAY. PROVIDE 1 EA. CAT. 6 AND 1 EA. CAT 6 - 4 PAIR CABLE ON SINGLE GANG PLATE w/MODULAR JACKS, 2-RJ45 FLOOR MOUNTED.
- TELEPHONE / DATA OUTLET w/ 3/4" C. TO CABLE TRAY. PROVIDE 1 EA. CAT. 6 AND 1 EA. CAT 6 - 4 PAIR CABLE ON SINGLE GANG PLATE w/MODULAR JACKS, 2-RJ45 FLOOR MOUNTED.
- TELEPHONE OUTLET IN NEMA 4 PHENOLIC PHONE SET ENCLOSURE
- TELEPHONE TERMINAL BACKBOARD
- VOIP AND DATA WALL MOUNT 19 INCH RACK, 36" TALL

**EXTERIOR (NEW)**

- UNDERGROUND DUCT LINE
- PRIMARY CIRCUIT
- SECONDARY CIRCUIT
- 1/0 BARE COPPER GROUND WIRE PLACED IN OR ALONGSIDE FOOTINGS
- TRANSFORMER
- METER
- HANDHOLE
- POWER POLE

**ONE-LINE DIAGRAM**

- TRANSFORMER
- FUSE
- MOLDED CASE CIRCUIT BREAKER
- CURRENT TRANSFORMER, NUMBER AS INDICATED
- DISCONNECT SWITCH
- CIRCUIT BREAKER TRIP SETTING  
CIRCUIT BREAKER FRAME SIZE

**ABBREVIATIONS**

- KEYED NOTE CALLOUT - NUMBER AS INDICATED
- 3R NEMA 3R ENCLOSURE
- 12 NEMA 12 ENCLOSURE
- 4 NEMA 4 ENCLOSURE
- 4X NEMA 4X ENCLOSURE
- A AMPERE
- ACSR ALUMINUM CONDUCTOR, STEEL REINFORCED
- AFF ABOVE FINISHED FLOOR
- AIC AMPERES INTERRUPTING CAPACITY
- APPROX APPROXIMATELY
- BC BARE COPPER
- C CONDUIT
- CB CIRCUIT BREAKER
- CKT CIRCUIT
- CO CONDUIT ONLY
- CONC CONCRETE
- CT CURRENT TRANSFORMER
- CU COPPER
- DTC DATA TERMINAL CABINET
- (E) EXISTING
- EMCS ENERGY MONITORING AND CONTROL SYSTEM
- EMT ELECTRICAL METALLIC TUBING
- EPS EMERGENCY POWER SUPPLY
- EXP EXPLOSION PROOF
- FA FIRE ALARM
- FLR FLOOR
- FT FEET
- GF1 GROUND FAULT CIRCUIT-INTERRUPTER
- GND or GRD GROUND
- HID HIGH INTENSITY DISCHARGE
- HPF HIGH POWER FACTOR
- HPS HIGH PRESSURE SODIUM VAPOR
- IC INTERCOM
- IG ISOLATED GROUND
- IMC INTERMEDIATE METAL CONDUIT
- IN INCHES
- INCAND INCANDESCENT
- IP INPUT
- KVA KILOVOLT AMPERE
- KVAR KILOVOLT CAPACITANCE
- KWH KILOWATT HOUR
- LAN LOCAL AREA NETWORK
- LPS LOW PRESSURE SODIUM
- MAX MAXIMUM
- MCC MOTOR CONTROL CENTER
- MDP MAIN DISTRIBUTION PANELBOARD
- MH METAL HALIDE
- MIN MINIMUM
- MOV METAL OXIDE VARISTOR
- MV MERCURY VAPOR
- (N) NEW
- NEC NATIONAL ELECTRICAL CODE
- NEMA NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION
- NIC NOT IN CONTRACT
- NL NIGHT LIGHT ON UNSWITCHED CIRCUIT
- OFOI OWNER FURNISHED OWNER INSTALLED
- OFCI OWNER FURNISHED CONTRACTOR INSTALLED
- O.C. ON CENTER
- O.H. OVERHEAD
- O/P OUTPUT
- PA PUBLIC ADDRESS
- PT POTENTIAL TRANSFORMER
- RM ROOM
- RGC RIGID GALVANIZED CONDUIT
- TC TERMINAL CABINET
- TTB TELEPHONE TERMINAL BOARD
- TYP TYPICAL
- UON UNLESS OTHERWISE NOTED
- V VOLT
- W WATT
- WI WITH
- WP WEATHERPROOF
- XFMR TRANSFORMER
- +12" MOUNTING HEIGHT ABOVE FINISHED FLOOR OR GRADE

IF SHEET IS LESS THAN 22"x 34"  
IT IS A REDUCED PRINT.  
REDUCE SCALE ACCORDINGLY



COMcheck Software Version 4.0.3.0  
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC  
Project Title: Grant Trucking  
Project Type: New Construction

Construction Site: 910 west 2400 S Ogden, UT 84401  
Owner/Agent: [Blank]  
Designer/Contractor: [Blank]

Additional Efficiency Package  
Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Automotive Facility	16395	0.72	11804
Total Allowed Watts =			11804

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Watt. (C X D)	E (C X D)
<b>1-Automotive Facility</b>				
LED 1: T-1: HIGH BAY LED: Other:	1	30	241	7230
LED 3: T-3: LED RECESSED: LED Other Fixture Unit 50W:	1	4	52	210
LED 6: T-6: LED WALL SURFACE: LED Panel 40W:	1	51	40	2014
LED 8: T-8: LED-CLASS 1 DIV 2: LED Other Fixture Unit 50W:	1	11	48	528
LED 9: T-9: LED DOWNLIGHT: LED Panel 36W:	1	4	35	140
LED 2: T-2: LED RECESSED: LED Other Fixture Unit 46W:	1	12	47	560
Total Proposed Watts =			10683	

Interior Lighting PASSES: Design 10% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.0.3.0 and to comply with the mandatory requirements listed in the Inspection Checklist.

Kevin J. Lewis P.E. [Signature] [Date: 2016.08.01 12:20:57 -0600]

Project Title: Grant Trucking Report date: 08/01/16  
Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck Page 1 of 8



COMcheck Software Version 4.0.3.0  
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC  
Project Title: Grant Trucking  
Project Type: New Construction  
Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site: 910 west 2400 S Ogden, UT 84401  
Owner/Agent: [Blank]  
Designer/Contractor: [Blank]

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Free standing/attached sales canopy	3525 ft <sup>2</sup>	0.6	Yes	2115
Main entry	3 ft of door	20	Yes	60
Other door (not main entry)	134 ft of	20	Yes	2680
Illuminated area of facade wall or surface	220 ft <sup>2</sup>	0.1	No	22
Total Allowed Watts =				4855
Total Allowed Supplemental Watts (b) =				4877
Total Allowed Supplemental Watts (b) =				600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Watt. (C X D)	E (C X D)
<b>Free standing/attached sales canopy (3525 ft<sup>2</sup>): Tradable Wattage</b>				
LED 1: T-1: HIGH BAY LED: Other:	1	12	241	2892
<b>Main entry (3 ft of door width): Tradable Wattage</b>				
LED 5: T-5: LED WALL PACK: LED Panel 70W:	1	1	74	74
<b>Other door (not main entry) (134 ft of door width): Tradable Wattage</b>				
LED 5: T-5: LED WALL PACK: LED Panel 70W:	1	7	74	518
<b>Illuminated area of facade wall or surface (220 ft<sup>2</sup>): Non-tradable Wattage</b>				
LED 5: T-5: LED WALL PACK: LED Panel 70W:	1	4	74	296
Total Tradable Proposed Watts =			3484	

Exterior Lighting PASSES: Design 33% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.0.3.0 and to comply with the mandatory requirements listed in the Inspection Checklist.

Project Title: Grant Trucking Report date: 08/01/16  
Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck Page 2 of 8

Kevin J. Lewis P.E.  
Name - Title

[Signature]  
Signature

Digitally signed by 0.cilent-channelgoogle.com  
DN: ou=Created by http://www.fiddler2.com,  
ou=DO\_NOT\_TRUST,cn=client-channel-google.com  
Date: 2016.08.01 12:21:16 -06'00'  
Date

Project Title: Grant Trucking Report date: 08/01/16  
Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck Page 3 of 8



COMcheck Software Version 4.0.3.0  
Inspection Checklist

Energy Code: 2015 IECC

Requirements: 42.0% were addressed directly in the COMcheck software  
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C103.2 [PR8] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EP601 FOR LIGHTING FIXTURE AND E02 FOR CALCULATIONS.
C406 [PR9] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Grant Trucking Report date: 08/01/16  
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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C402.2.6 [FO12] <sup>1</sup>	Radiant heating systems panels insulated to >=R-3.5 on face opposite space being heated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE E002 FOR EFFICIENT LIGHTING. <i>See the Envelope Assemblies table for values.</i>

Additional Comments/Assumptions:

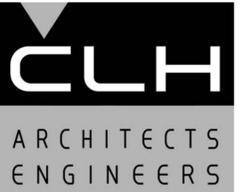
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Grant Trucking Report date: 08/01/16  
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.1 [EL15] <sup>1</sup>	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> AREAS THAT ARE CONTROLLED BY AN OCCUPANCY SENSOR. SEE EL102 FOR LIGHTING PLAN.
C405.2.1 [EL18] <sup>1</sup>	Occupancy sensors installed in required spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL102 FOR LIGHTING PLAN SECOND FLOOR.
C405.2.1 [EL23] <sup>3</sup>	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 FOR REFERENCE.
C405.2.2 [EL22] <sup>2</sup>	Automatic controls to shut off all building lighting installed in all buildings.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Lighting controlled by occupancy sensors. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.3 [EL16] <sup>2</sup>	Daylight zones provided with individual controls that control the lights independent of general area lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.3 [EL20] <sup>1</sup>	Primary sidelighted areas are equipped with required lighting controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.3 [EL23] <sup>3</sup>	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.4 [EL4] <sup>1</sup>	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.4 [EL8] <sup>2</sup>	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.2.5 [EL25] <sup>out</sup>	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.
C405.3 [EL6] <sup>1</sup>	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EP601 FOR LIGHTING FIXTURE SCHEDULE.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Grant Trucking Report date: 08/01/16  
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08/19/2016



GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP

910 W 24th STREET  
OGDEN, UTAH 84401

MARK DATE DESCRIPTION

ISSUE DATE: AUGUST 19, 2016  
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DRAWN BY: J.M.S.  
CHK'D BY: K.J.L.

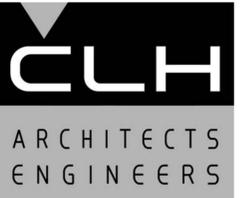
PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

ELECTRICAL  
COMCHECK

SHEET NO:

E002



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SHEET TITLE

ELECTRICAL  
COMCHECK

SHEET NO:

E003

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6, C405.6.1 [EL24]	Exterior grounds lighting meets exterior lighting power requirements.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Grant Trucking Report date: 08/01/16  
Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck Page 7 of 8

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [F117]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.4.1 [F118]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
C405.5.1 [F119]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.
C408.2.5.1 [F116]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.3 [F133]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met. <b>Location on plans/spec:</b> SEE EL101 AND EL102 FOR LIGHTING PLAN

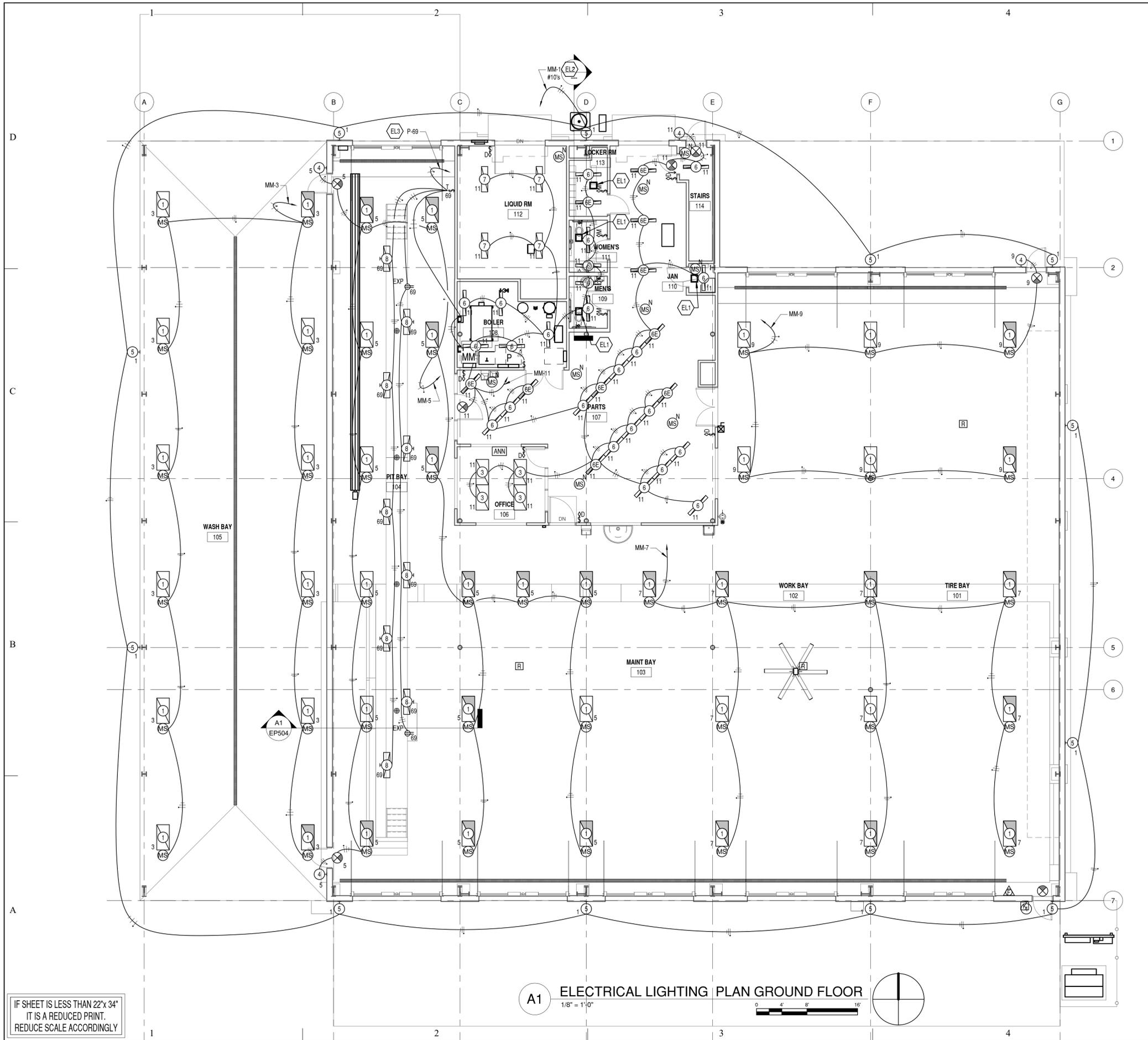
Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

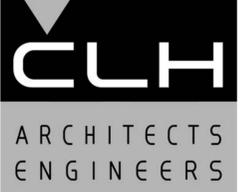
Project Title: Grant Trucking Report date: 08/01/16  
Data filename: F:\Projects\15460\_Grant Trucking (Next Construction)\DesignAnalysis\COMcheck\New 2015 ComCHECK.cck Page 8 of 8

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ELECTRICAL LIGHTING KEYED NOTES	
MARK	NOTE
EL1	PROVIDE POWER PACK TO CONTROL EXHAUST FAN.
EL2	PROVIDE 7-DAY PROGRAMMABLE TIME CLOCK NEAR PANEL "MM" WITH PHOTOCELL OVERRIDE ABOVE ROOF.
EL3	PROVIDE DIGITAL TIMER/SWITCH 0-4 HR. TO INTERLOCK PIT EXHAUST FANS SUCH THAT BOTH FANS MUST BE ON TO ALLOW POWER TO THE PIT CLASS I, DIV. II LIGHTS & RECEPTACLES.



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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

AUGUST 19, 2016

SHEET TITLE  
**ELECTRICAL  
LIGHTING PLAN  
GROUND FLOOR**

SHEET NO:

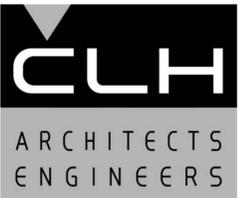
**EL101**

**A1 ELECTRICAL LIGHTING PLAN GROUND FLOOR**  
1/8" = 1'-0"  
0 4' 8' 16'

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ELECTRICAL LIGHTING KEYED NOTES	
MARK	NOTE
EL1	PROVIDE POWER PACK TO CONTROL EXHAUST FAN.
EL2	PROVIDE 7-DAY PROGRAMMABLE TIME CLOCK NEAR PANEL "MM" WITH PHOTOCELL OVERRIDE ABOVE ROOF.
EL3	PROVIDE DIGITAL TIMER/SWITCH 0-4 HR. TO INTERLOCK PIT EXHAUST FANS SUCH THAT BOTH FANS MUST BE ON TO ALLOW POWER TO THE PIT CLASS I, DIV. II LIGHTS & RECEPTACLES.



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DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

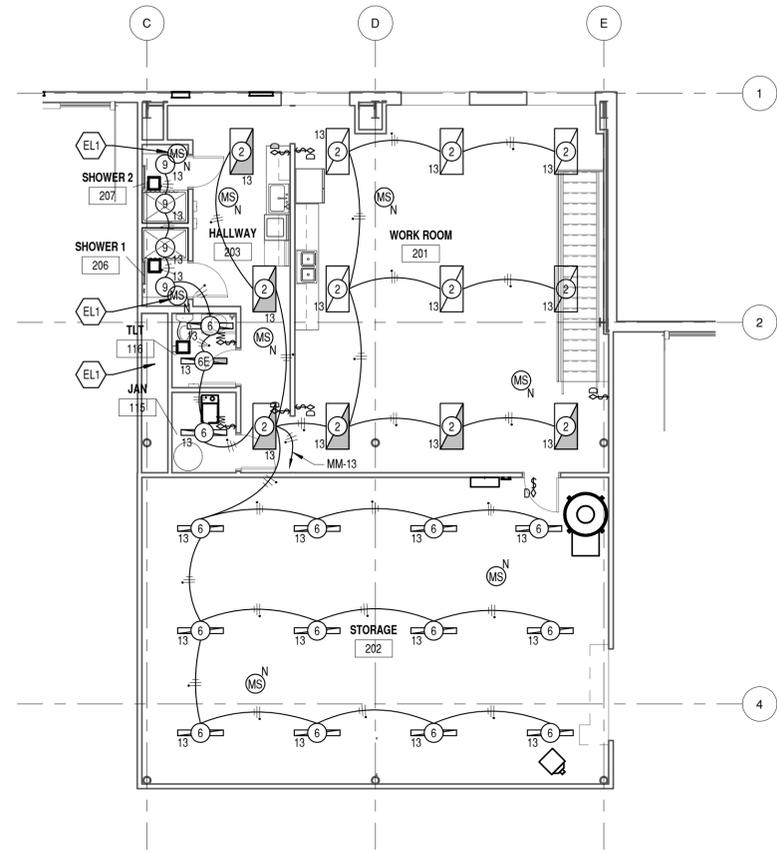
PERMIT SET  
AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
LIGHTING PLAN  
SECOND FLOOR**

SHEET NO:

EL102



**B2 ELECTRICAL LIGHTING PLAN SECOND FLOOR**  
1/8" = 1'-0"  
0 4 8 16'

IF SHEET IS LESS THAN 22"x 34"  
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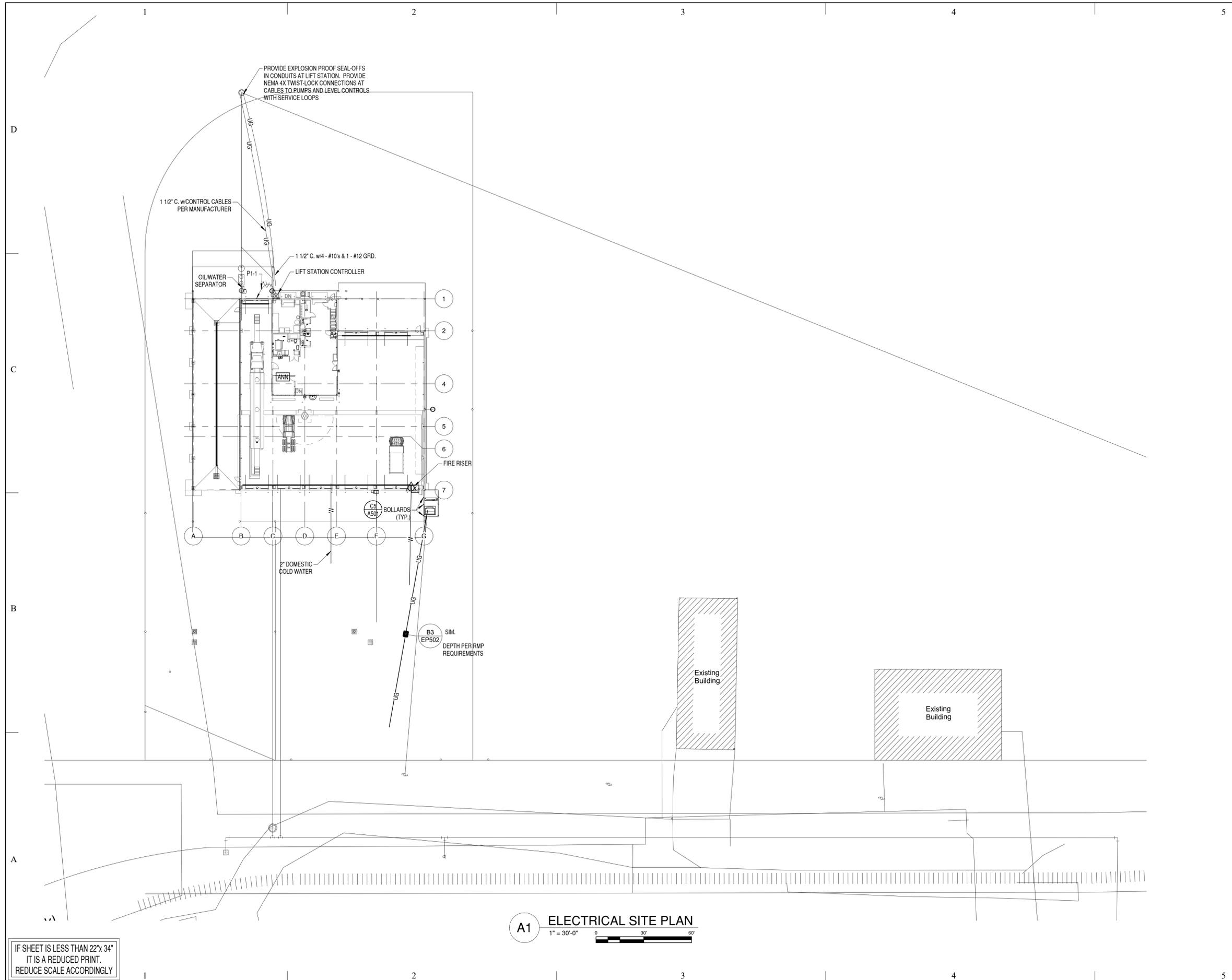
AUGUST 19, 2016

SHEET TITLE

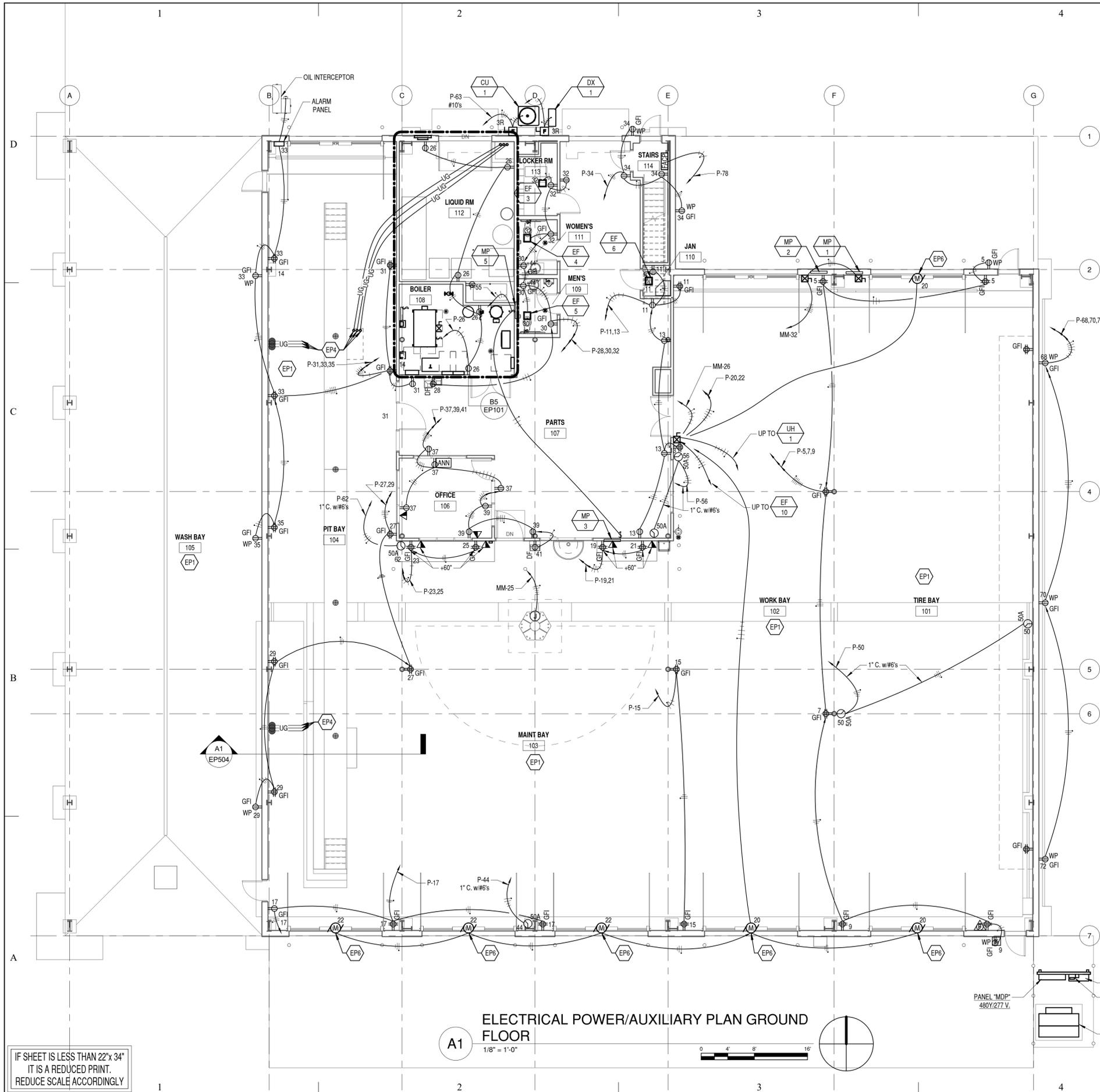
**ELECTRICAL SITE  
PLAN**

SHEET NO:

**EP100**

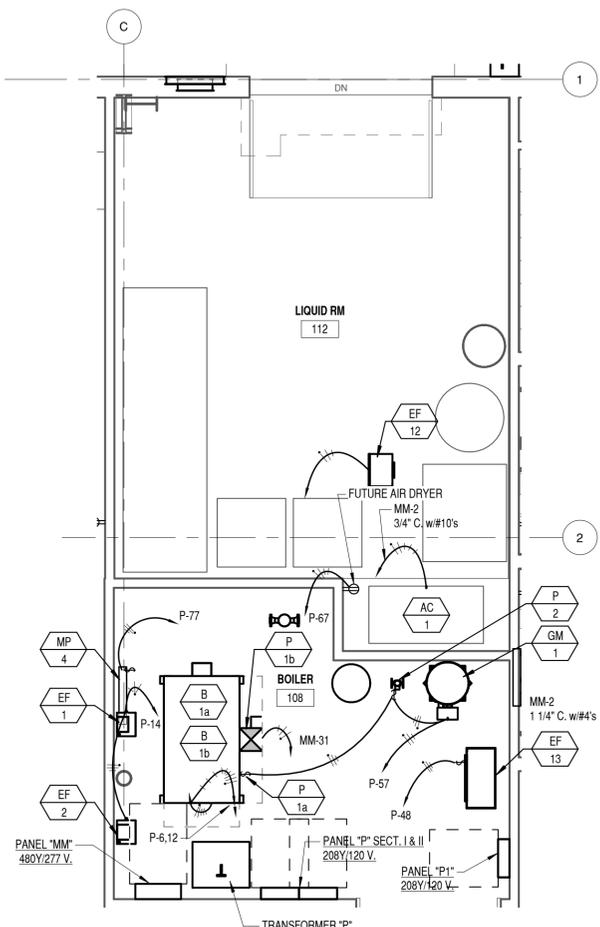


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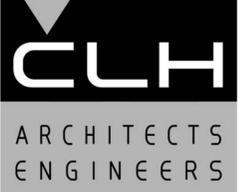


**A1**  
ELECTRICAL POWER/AUXILIARY PLAN GROUND FLOOR  
1/8" = 1'-0"

ELECTRICAL POWER KEYED NOTES	
MARK	NOTE
EP1	ALL DEVICES THIS SPACE TO BE A MINIMUM OF 36" A.F.F.
EP2	BOND TO COLUMN.
EP3	LOCATE AS DIRECTED BY OWNER TO OWNER SUPPLIED WORKBENCH.
EP4	PROVIDE 3 - 4" PVC CONDUITS WITH 24" RADIUS ELLS FROM PIT REEL BLOCKOUT TO 6" A.F.F.
EP5	PROVIDE ALL FIELD DOOR SAFETY & CONTROL WIRING.
EP6	INTERLOCK WITH EF-10.



**B5**  
ENLARGED BOILER/AIR COMP PLAN  
1/4" = 1'-0"



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**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
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CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

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AUGUST 19, 2016

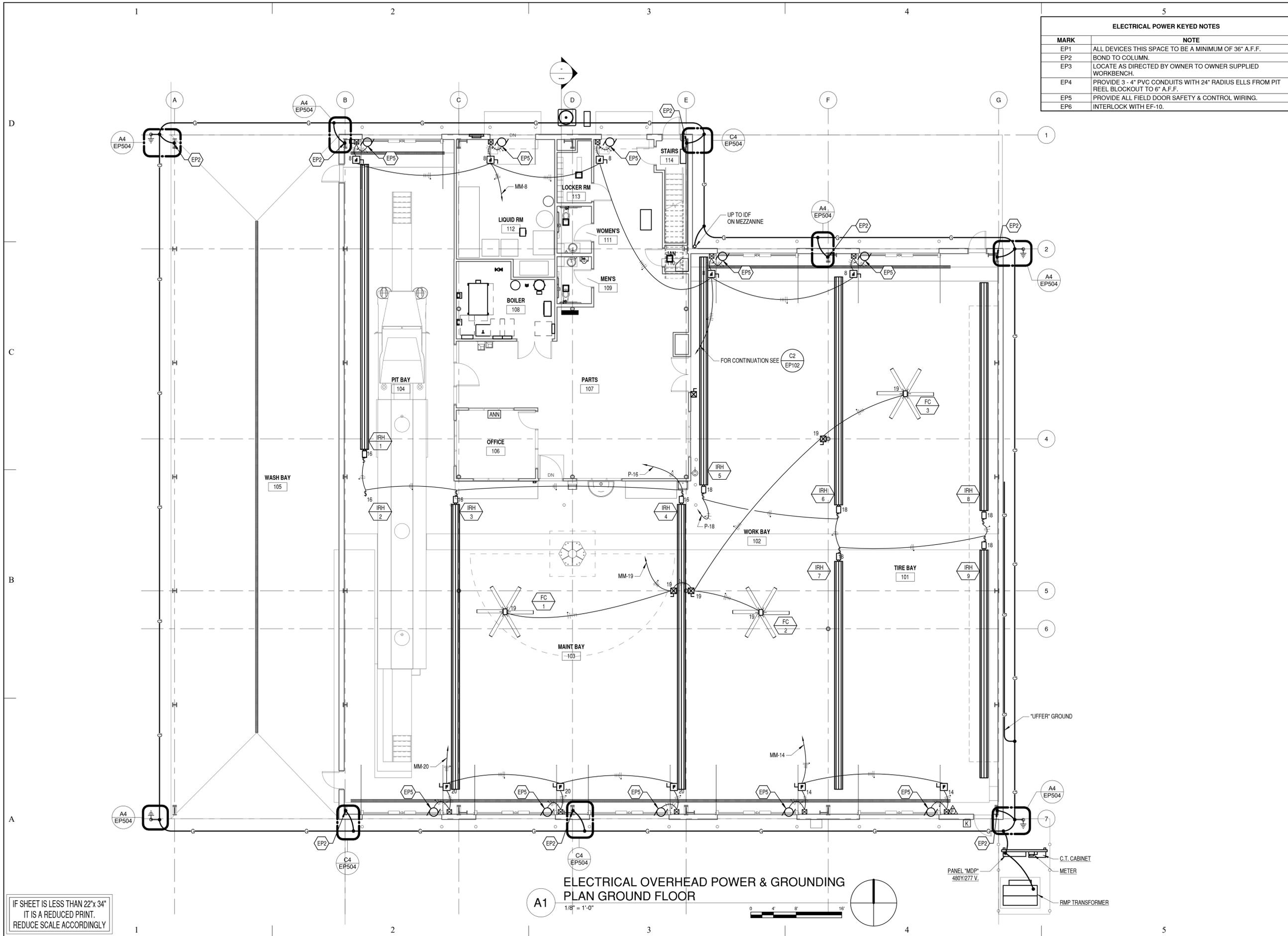
SHEET TITLE  
**ELECTRICAL  
POWER/AUXILIARY  
PLAN GROUND  
FLOOR**

SHEET NO:

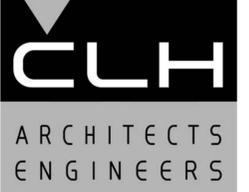
**EP101**

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REDUCE SCALE ACCORDINGLY

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ELECTRICAL POWER KEYED NOTES	
MARK	NOTE
EP1	ALL DEVICES THIS SPACE TO BE A MINIMUM OF 36" A.F.F.
EP2	BOND TO COLUMN.
EP3	LOCATE AS DIRECTED BY OWNER TO OWNER SUPPLIED WORKBENCH.
EP4	PROVIDE 3 - 4" PVC CONDUITS WITH 24" RADIUS ELLS FROM PIT REEL BLOCKOUT TO 6" A.F.F.
EP5	PROVIDE ALL FIELD DOOR SAFETY & CONTROL WIRING.
EP6	INTERLOCK WITH EF-10.



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TRUCK  
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OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

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AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
OVERHEAD  
POWER PLAN**

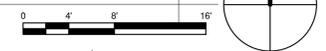
SHEET NO:

EP101a

**ELECTRICAL OVERHEAD POWER & GROUNDING  
PLAN GROUND FLOOR**

A1

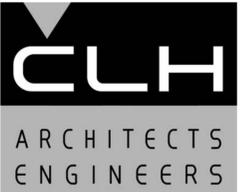
1/8" = 1'-0"



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MARK DATE DESCRIPTION

ISSUE DATE: AUGUST 19, 2016  
PROJECT NO: 15460  
CAD DWG FILE:  
DRAWN BY: J.M.S.  
CHK'D BY: K.J.L.

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AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
RISER DIAGRAM  
& SCHEDULES**

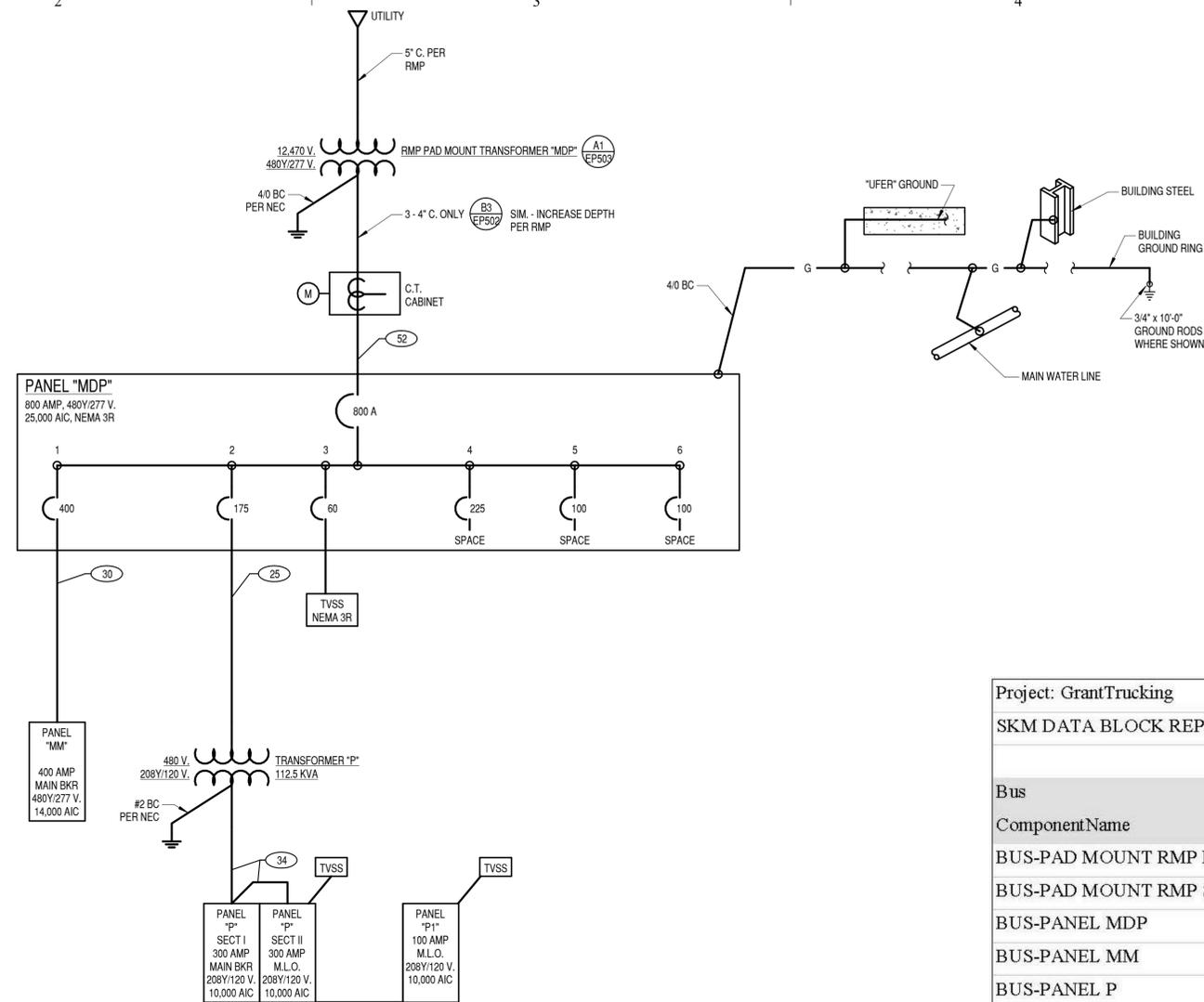
SHEET NO:

**EP501**

**CONDUIT AND CONDUCTOR SCHEDULE  
(COPPER)**

TYPE	AMPS (1)	CONDUIT SIZE (3)	CONDUCTOR			NOTES
			QTY	SIZE (1)	GND (2)	
1	20	0.75	2	12	12	-
2	20	0.75	3	12	12	-
3	20	0.75	4	12	12	-
4	30	0.75	2	10	10	-
5	30	0.75	3	10	10	-
6	30	0.75	4	10	10	-
7	40	0.75	2	8	10	-
8	40	0.75	3	8	10	-
9	40	0.75	4	8	10	-
10	55	0.75	2	6	8	-
11	55	0.75	3	6	8	-
12	55	1	4	6	8	-
13	70	1	2	4	8	-
14	70	1	3	4	8	-
15	70	1.25	4	4	8	-
16	85	1.25	2	3	8	-
17	85	1.25	3	3	8	-
18	85	1.25	4	3	8	-
19	95	1.25	3	2	6	-
20	95	1.25	4	2	6	-
21	110	1.25	3	1	6	-
22	110	1.5	4	1	6	-
23	150	1.5	3	1/0	6	-
24	150	2	4	1/0	6	-
25	175	2	3	2/0	6	-
26	175	2	4	2/0	6	-
27	200	2	3	3/0	6	-
28	200	2	4	3/0	6	-
29	230	2.5	3	4/0	4	-
30	230	2.5	4	4/0	4	-
31	255	2.5	3	250	4	-
32	255	2.5	4	250	4	-
33	310	2.5	3	350	3	-
34	310	3	4	350	3	-
35	380	3	3	500	3	-
36	380	4	4	500	3	-
37	400	2 EA 2	3	3/0	3	-
38	400	2 EA 2	4	3/0	3	-
39	420	3	3	600	2	-
40	420	4	4	600	2	-
41	460	2 EA 2	3	4/0	2	-
42	460	2 EA 2.5	4	4/0	2	-
43	510	2 EA 2.5	3	250	1	-
44	510	2 EA 2.5	4	250	1	-
45	620	2 EA 2.5	3	350	1/0	-
46	620	2 EA 3	4	350	1/0	-
47	760	2 EA 3	3	500	1/0	-
48	760	2 EA 4	4	500	1/0	-
49	820	2 EA 3	3	600	2/0	-
50	820	2 EA 4	4	600	2/0	-
51	855	3 EA 2.5	3	300	2/0	-
52	855	3 EA 3	4	300	2/0	-
53	1000	3 EA 3	3	400	2/0	-
54	1000	3 EA 3	4	400	2/0	-
55	1140	3 EA 3	3	500	3/0	-
56	1140	3 EA 4	4	500	3/0	-
57	1240	4 EA 2.5	3	350	3/0	-
58	1240	4 EA 3	4	350	3/0	-
59	1260	3 EA 3	3	600	3/0	-
60	1260	3 EA 4	4	600	3/0	-
61	1675	5 EA 3	4	400	4/0	-
62	1680	4 EA 4	4	600	4/0	-
63	2010	6 EA 3	4	400	250	-
64	2100	5 EA 4	4	600	250	-
65	2520	6 EA 4	4	600	350	-
66	2660	7 EA 4	4	500	350	-
67	2940	7 EA 4	4	600	400	-
68	3040	8 EA 4	4	500	400	-
69	4180	11 EA 4	4	500	500	-
70	4200	10 EA 4	4	600	500	-

NOTES:  
1 CONDUCTOR SIZE USING NEC TABLE 310-16; 60 DEG. C UP TO #1 AWG PER NEC 110.14(C)(1)(A)  
2 SIZED USING NEC TABLE 250.122  
3 CONDUIT SIZED FOR THHN OR THWN OR THWN-2 IN RNC (SCH 40)



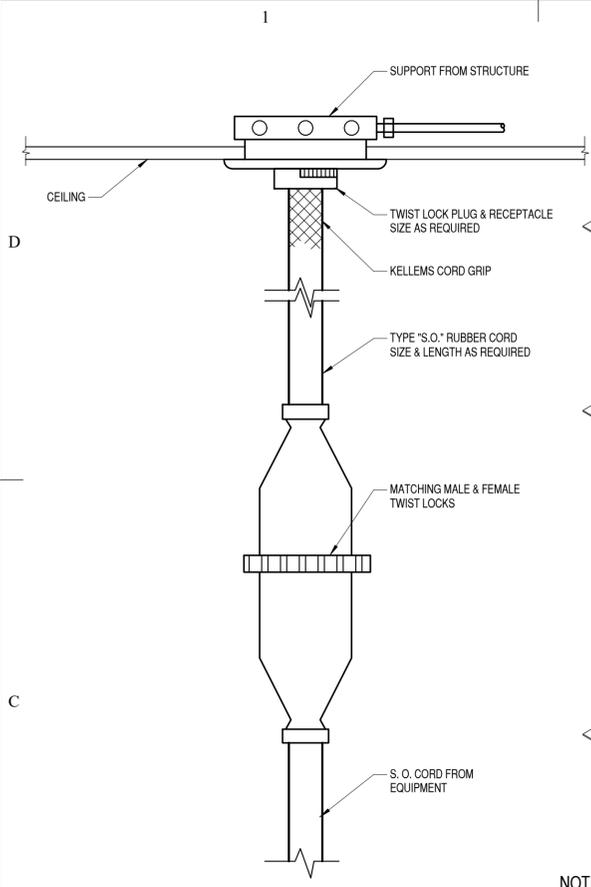
**B2 ELECTRICAL POWER RISER DIAGRAM**  
NONE

Project: GrantTrucking

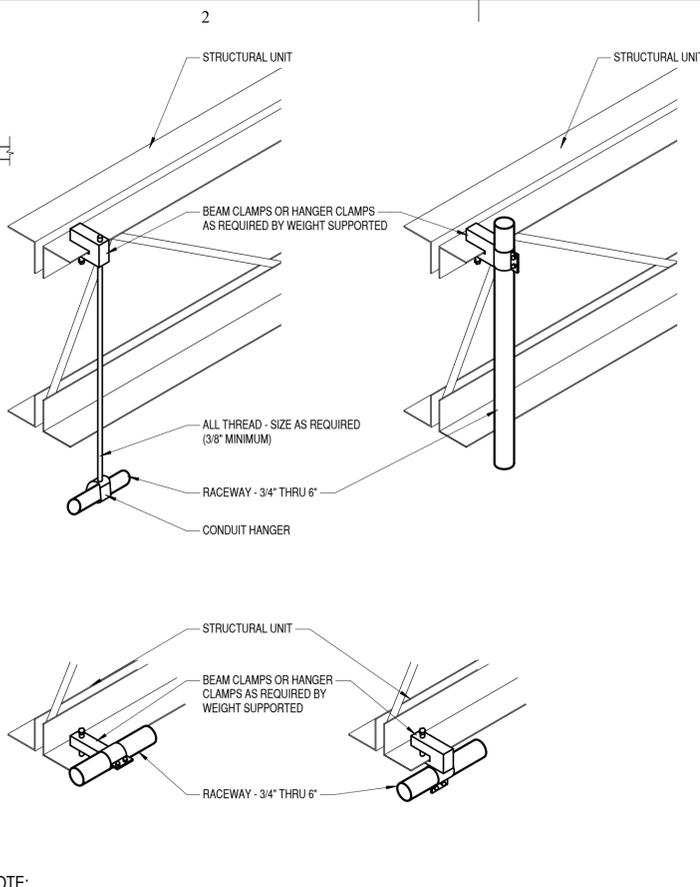
SKM DATA BLOCK REPORT

Bus	InitSymRMS 3P (A)	LF VD% (%)
BUS-PAD MOUNT RMP PRIMARY	9259.83	0.10
BUS-PAD MOUNT RMP SECONDARY	16786.91	1.53
BUS-PANEL MDP	15858.21	1.67
BUS-PANEL MM	12391.28	2.28
BUS-PANEL P	4536.05	3.25
BUS-PANEL P1	4066.68	3.26
BUS-TRANS P PRIMARY	9204.26	2.18
BUS-TRANS P SECONDARY	4865.26	2.95

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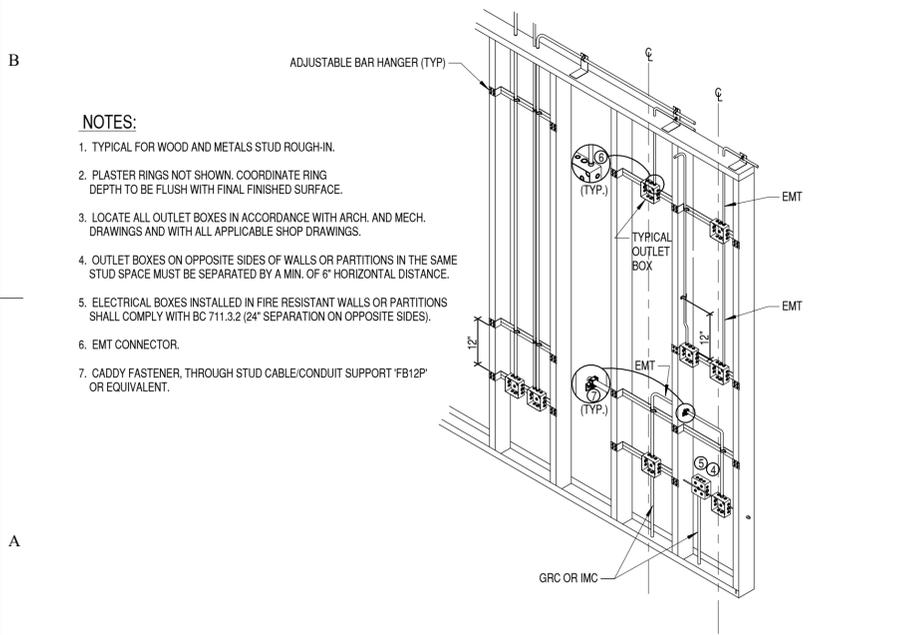


**B1** EQUIPMENT CORD DROP  
NONE



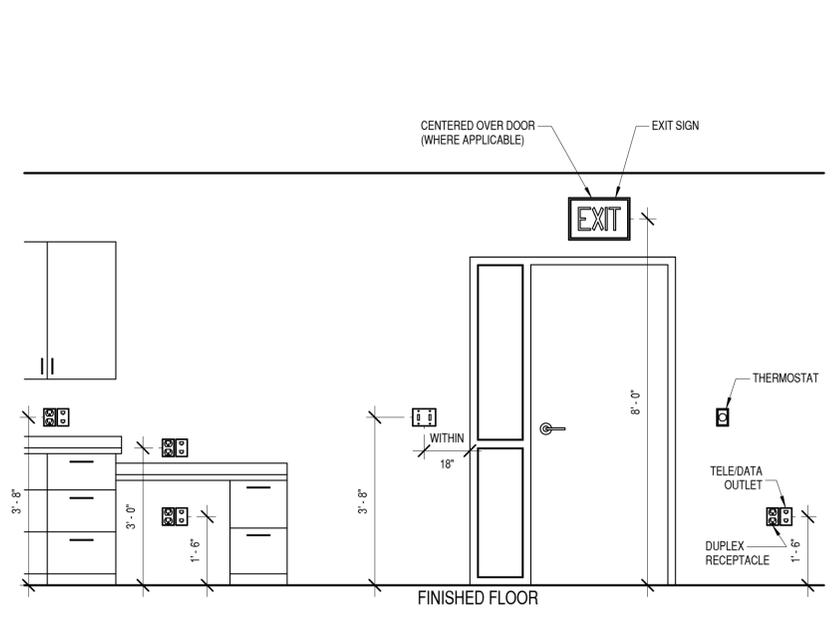
**B2** TYPICAL RACEWAY SUPPORT METHODS  
NONE

**NOTE:**  
WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGAR SYSTEM.  
DO NOT SUPPORT ANY RACEWAY LARGER THAN 1" FROM BOTTOM CORD OF STEEL TRUSSES.

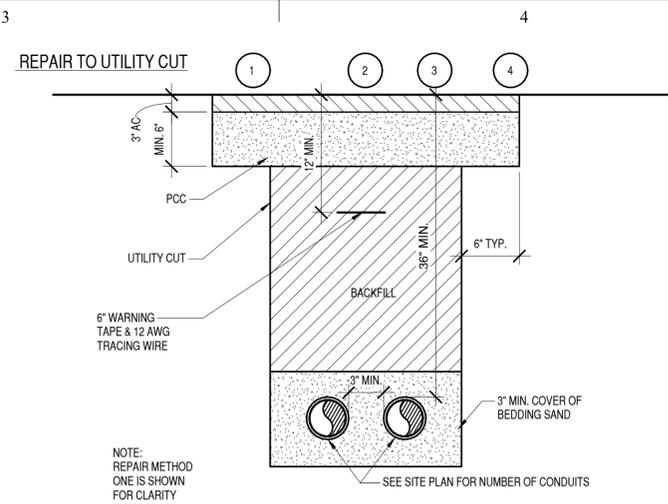


**A1** TYPICAL ROUGH-IN DETAIL  
NONE

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REDUCE SCALE ACCORDINGLY

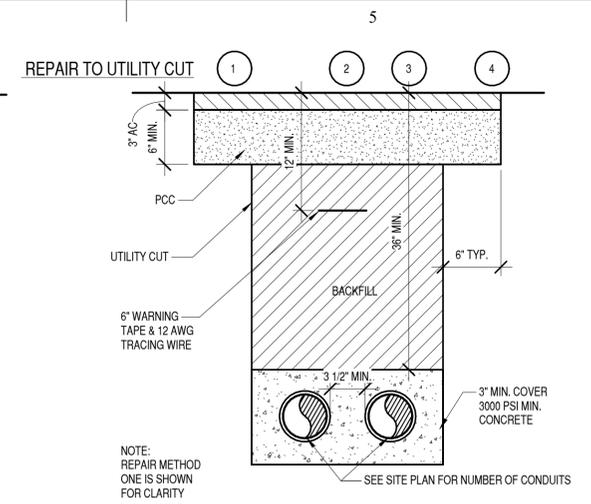


**A3** MOUNTING HEIGHT DETAIL  
NONE



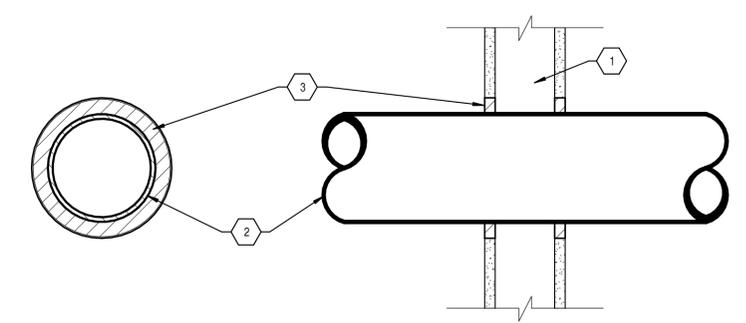
- CONDITION:** A CUT FOR UTILITY INSTALLATION OR REPAIR. OBTAIN A DIGGING PERMIT PRIOR TO ANY EXCAVATIONS.
- REPAIR METHOD:** 1 MATCH EXISTING BASE COURSE AND ASPHALT WITH A MINIMUM OF 8" UNTREATED BASE COMPACTED TO 95% AND 3" ASPHALT.
- REPAIR METHOD:** 2 4000 PSI CONCRETE. MATCH EXISTING THICKNESS.
- REPAIR METHOD:** 3 COMPACTED BACK FILL- 4" COMPACTED TOPSOIL SOD TO MATCH EXISTING GRASS, OR 3" LAYER OF 3/4" "WILDCAT RED" DECORATIVE ROCK AS NEEDED.
- REPAIR METHOD:** 4 UNDERSLAB - COMPACTED BACKFILL, CONTRACTOR TO MATCH FLOOR THICKNESS, 12" #4 DOWELS 18" O.C.

**B3** TYPICAL UNDERGROUND CONDUIT  
NONE



- CONDITION:** A CUT FOR UTILITY INSTALLATION OR REPAIR. OBTAIN A DIGGING PERMIT PRIOR TO ANY EXCAVATIONS.
- REPAIR METHOD:** 1 MATCH EXISTING BASE COURSE AND ASPHALT WITH A MINIMUM OF 8" UNTREATED BASE COMPACTED TO 95% AND 3" ASPHALT.
- REPAIR METHOD:** 2 4000 PSI CONCRETE. MATCH EXISTING THICKNESS.
- REPAIR METHOD:** 3 COMPACTED BACK FILL- 4" COMPACTED TOPSOIL SOD TO MATCH EXISTING GRASS, OR 3" LAYER OF 3/4" "WILDCAT RED" DECORATIVE ROCK AS NEEDED.
- REPAIR METHOD:** 4 COMPACTED BACK FILL USING NATIVE SOIL.

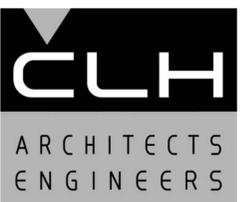
**B4** TYPICAL UNDERGROUND CONDUIT-ENCASED  
NONE



HILTI SYSTEM NO. W-L-1054, 3M SYSTEM NO. W-L-7033, OR EQUIVALENT  
F RATINGS - 1 AND 2 HOUR

- NOTES:**
- WALL ASSEMBLY - THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY. SEE ARCHITECTURAL.
  - THROUGH - PENETRANTS - ONE METALLIC CONDUIT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN. 0 IN. TO MAX. 2 1/4 IN. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT CONTACT. PIPE, CONDUIT OR TUBING MAY BE INSTALLED AT AN ANGLE ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING SIZES OF METALLIC CONDUIT MAY BE USED:
    - A. CONDUIT - NOMINAL 4 IN. DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. (OR SMALLER) DIAMETER STEEL CONDUIT.
  - FILL VOID OR CAVITY MATERIAL - SEALANT - MIN. 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT OR CONTINUOUS CONTACT LOCATIONS BETWEEN CONDUIT AND WALL A MIN. 1/2 IN. DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONDUIT WALL INTERFACE ON BOTH SURFACES OF WALL.
  - SEALANT CONTAINERS TO BEAR THE UL CLASSIFICATION MARK.

**A4** FIRE STOPPING DETAIL - 1 & 2 HOUR  
NONE



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**GRANT TRUCKING TRUCK MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

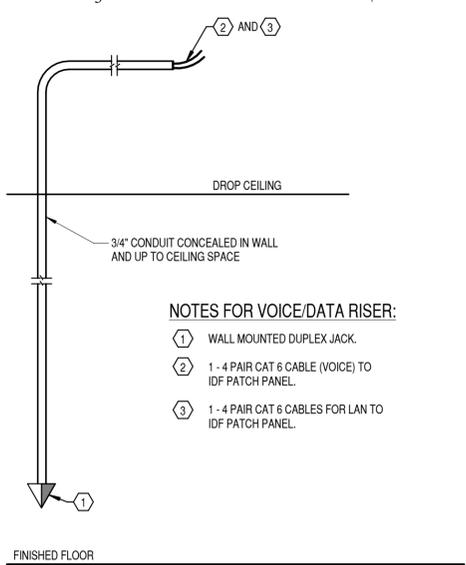
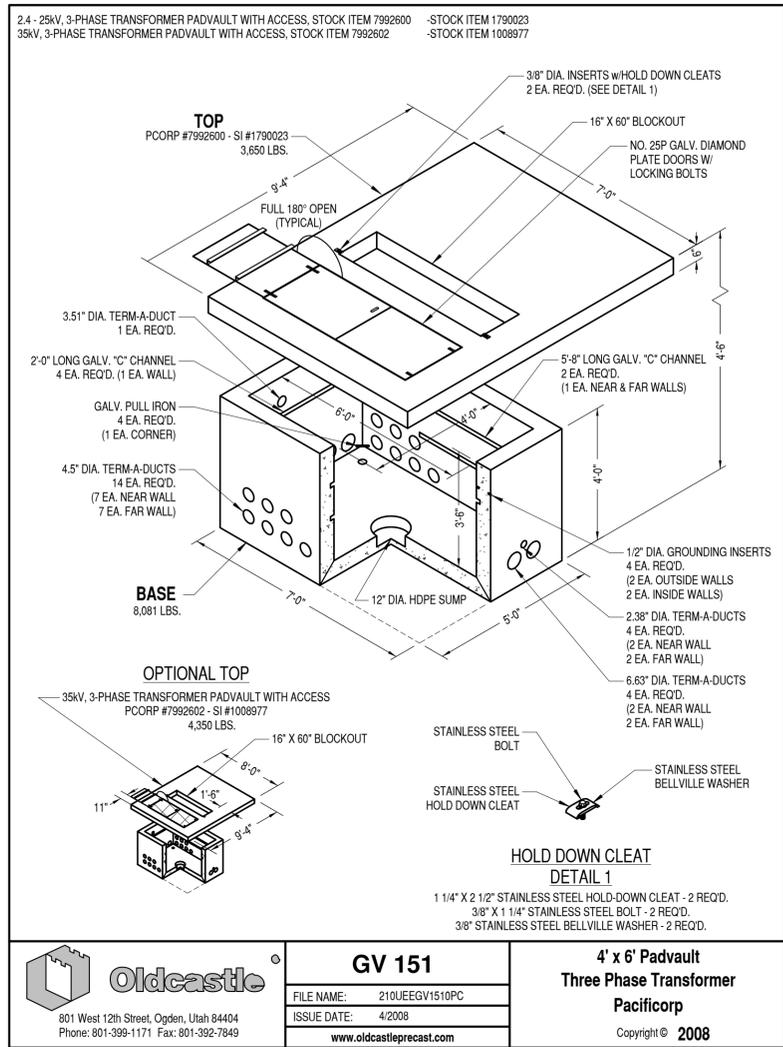
ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET  
AUGUST 19, 2016

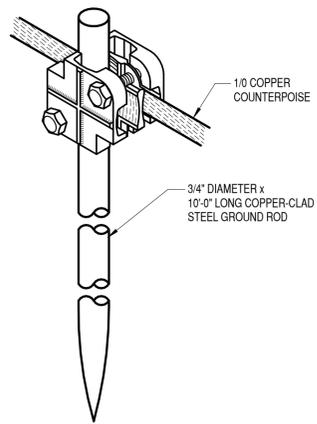
SHEET TITLE  
**ELECTRICAL DETAILS**

SHEET NO:

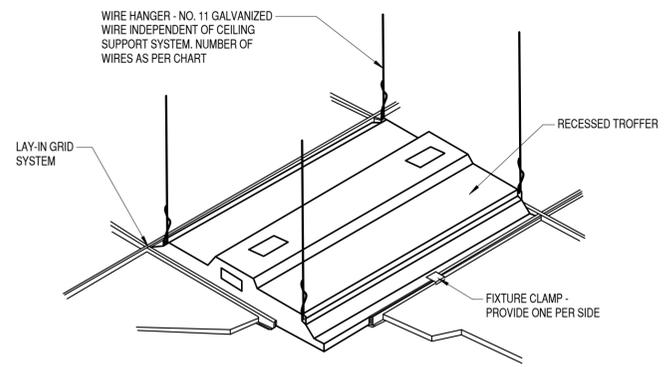
EP502



**C3** TYPICAL VOICE/DATA RISER  
 NONE

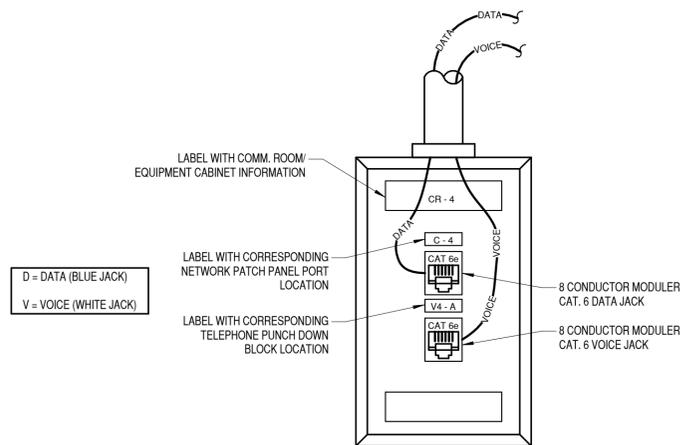


**B3** GROUND ROD DETAIL  
 NONE

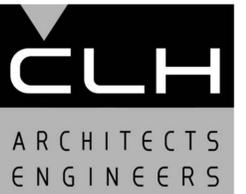


FIXTURE	# OF WIRES
1 X 4	2
2 X 2	2
2 X 4	2
3 X 3	4
4 X 4	4

**C4** TYPICAL RECESSED FIXTURE DETAIL  
 NONE



**B4** COMMUNICATION JACK LAYOUT & LABELING DETAIL  
 NONE



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**GRANT TRUCKING**  
**TRUCK**  
**MAINTENANCE SHOP**

910 W 24th STREET  
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PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL**  
**DETAILS**

SHEET NO:

EP503

**B1** ROCKY MOUNTAIN POWER TRANSFORMER VAULT DETAIL  
 NONE

IF SHEET IS LESS THAN 22"x 34"  
 IT IS A REDUCED PRINT.  
 REDUCE SCALE ACCORDINGLY



08/19/2016



**GRANT TRUCKING**  
**TRUCK**  
**MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

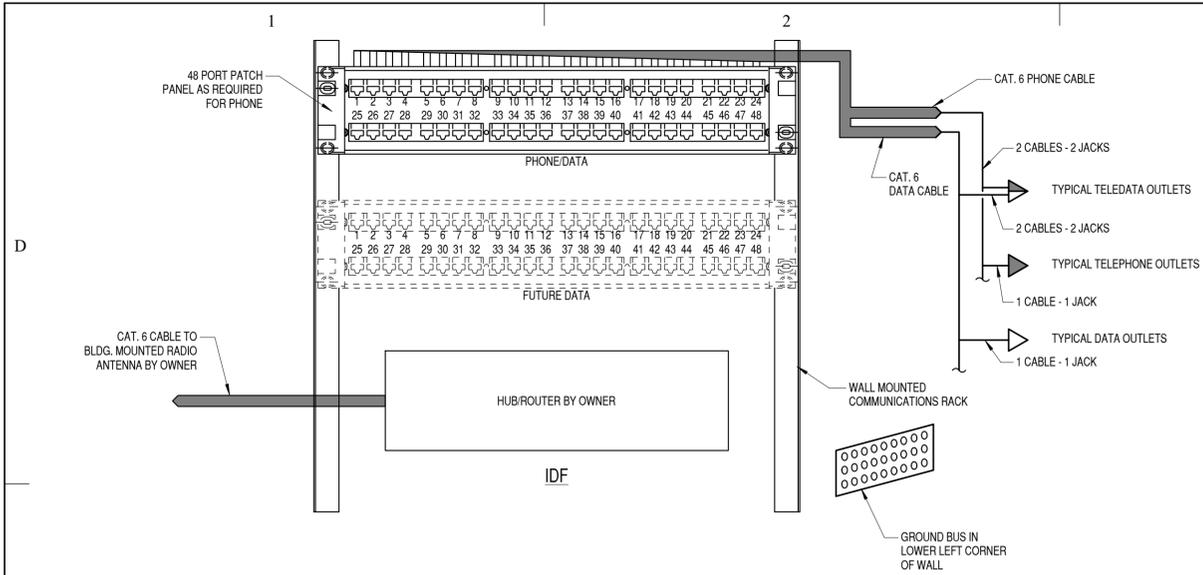
AUGUST 19, 2016

SHEET TITLE

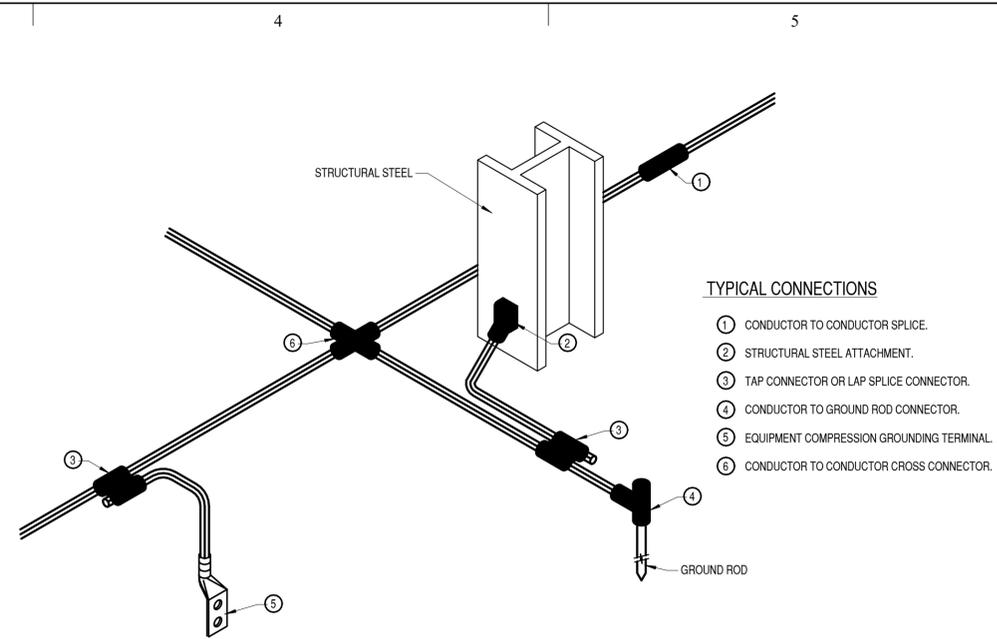
**ELECTRICAL**  
**DETAILS**

SHEET NO:

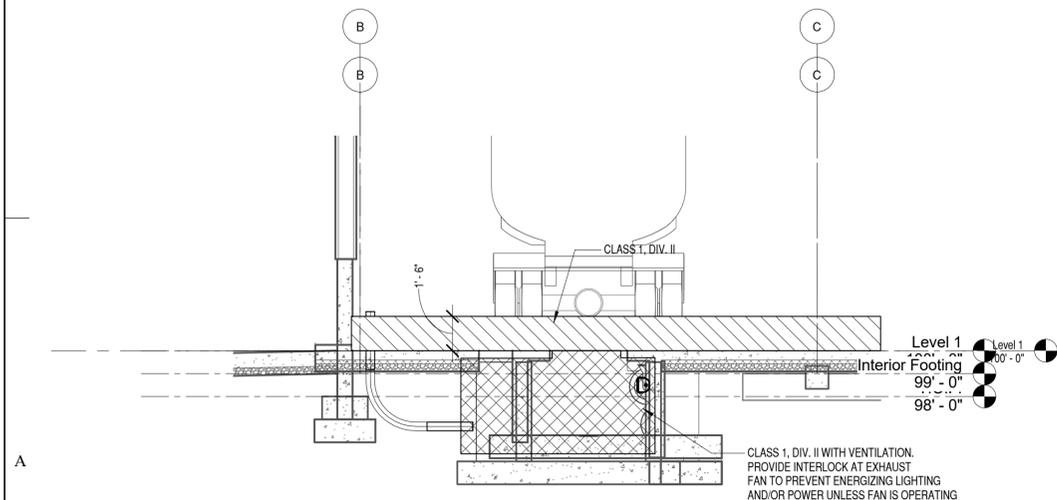
**EP504**



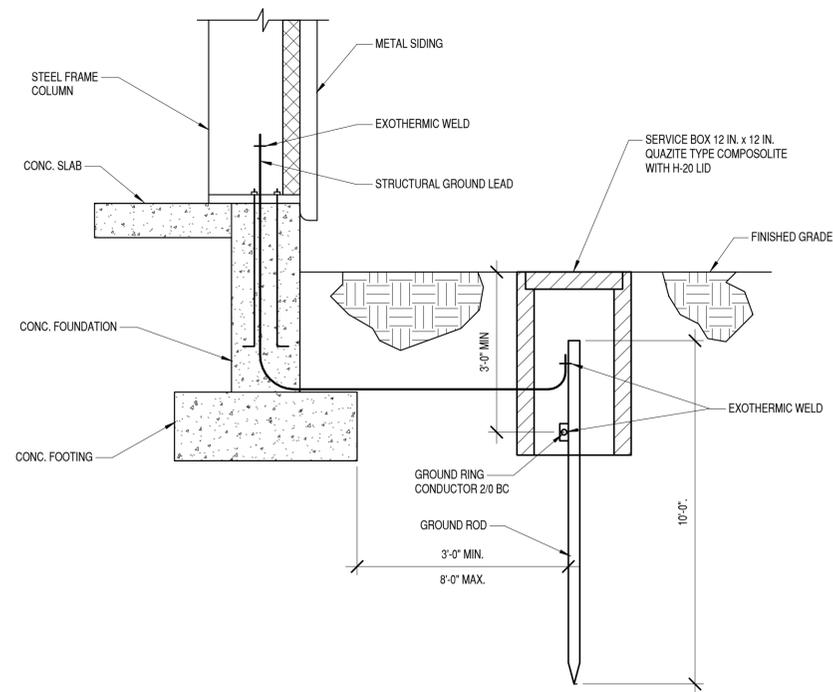
**C1 COMMUNICATIONS DIAGRAM**  
NONE



**C4 TYPICAL GROUND GRID EXOTHERMIC SYSTEM CONNECTION**  
NONE

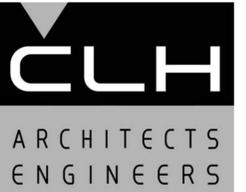


**A1 CLASSIFICATION SECTION**  
1/4" = 1'-0"



**A4 TYPICAL GROUND RING DETAIL**  
NONE

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08/19/2016



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
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PERMIT SET

AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
LIGHTING  
SCHEDULE**

SHEET NO:

**EP601**

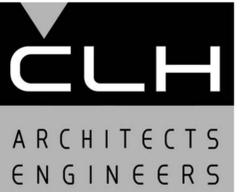
### LIGHTING FIXTURE SCHEDULE

PROVIDE COMMISSIONING ON ALL LIGHTING CONTROLS.  
PROVIDE REPORT TO AHJ

NO.	DESCRIPTION	VOLTS	MTG.	LENS	FINISH	LAMPS				BALLASTS				MAXIMUM INPUT WATTS	MANUFACTURER & CATALOG NUMBER (NO SUBSTITUTIONS WITHOUT PRIOR APPROVAL)	DETAILS	
						TYPE			NO. OF LAMPS	WATTS/LAMP TYPE	TYPE						NO. PER LUMINAIRE
						LED	F	H			S	E	O				
1	LED HIGH BAY	120/277	CEILING CHAIN	ACRYLIC	GLOSS WHITE	*			1	LED 5000K		*		1	241	LITHONIA IBL-24L-WD-SD125-LP850-DLC-LAMOSZU-IBAC120 M20-LCPZU	
1E	LED HIGH BAY	120/277	CEILING CHAIN	ACRYLIC	GLOSS WHITE	*			1	LED 5000K		*		1	241	LITHONIA IBL-24L-WD-SD125-LP850-DLC-I2412-LAMOSZU-IBAC120 M20-LCPZU	
2	LED RECESSED	120/277	CEILING RECESSED	ACRYLIC	SATIN WHITE	*			1	LED 5000K		*		1	46.7	LITHONIA 2FSL4-48L-EZ1-LP850-N80-2FS4 F916	C4 EP503
2E	LED RECESSED	120/277	CEILING RECESSED	ACRYLIC	SATIN WHITE	*			1	LED 5000K		*		1	46.7	LITHONIA 2FSL4-48L-EZ1-LP850-N80-EL14L-2FS4 F916	C4 EP503
3	LED RECESSED	120/277	CEILING RECESSED	ACRYLIC	SATIN WHITE	*			1	LED 5000K		*		1	52.5	LITHONIA 2FSL4-60L-EZ1-LP850-N80-2FS4 F916	C4 EP503
3E	LED RECESSED	120/277	CEILING RECESSED	ACRYLIC	SATIN WHITE	*			1	LED 5000K		*		1	52.5	LITHONIA 2FSL4-60L-EZ1-LP850-N80-EL14L-2FS4 F916	C4 EP503
4	LED EGRESS LIGHT	120/277	WALL +8'-6" AFF	ACRYLIC	DARK BRONZE			*	1	LED		*		1	10.8	LITHONIA AFN-DB-EXT-FWD	
5	LED WALL PACK	120/277	WALL + xxxxx	ACRYLIC	DARK BRONZE	*			1	LED 5000K		*		1	74	LITHONIA DSXW2 LED-20C-1000-50K-T3M-MVOLT-PE-DBXD	
6	LED WALL/SURFACE BRACKET	120/277	CEILING OR WALL +7 FT.	ACRYLIC	WHITE	*			1	LED 4000K		*		1	39.5	LITHONIA WL4-40L-EZ1-LP850-N80	
6E	LED WALL/SURFACE BRACKET	120/277	CEILING OR WALL +7 FT.	ACRYLIC	WHITE	*			1	LED 4000K		*		1	39.5	LITHONIA WL4-40L-EZ1-LP850-N80-ELHL	
7	LED VAPORTIGHT	120/277	CEILING SURFACE	ACRYLIC	WHITE	*			1	LED 6000K		*		1	61	LITHONIA FEM4 LED-6L-IMAFI-MSI120-WLFEND	
8	LED - CLASS 1 DIV 2	120/277	WALL SURFACE	ACRYLIC	GRAY	*			1	LED		*		1	48	LARSON HAL-48-2L-LED-50C	
9	LED DOWNLIGHT	277	CEILING RECESSED	NONE	CLEAR	*			1	LED 4000K		*		1	35	LITHONIA LDN6-40/20-LO6-AR-277	
10	-	-	-	-	-	*			-	-		*		-	-	-	
⊗	EXIT LIGHT	120/277	WALL OR CEILING SURFACE	NONE	-	*			1	GREEN LED		*		1	3	EMERGENSEE SEEX-U2-G-W-EM-SDT	

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08/19/2016



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

AUGUST 19, 2016

SHEET TITLE

**ELECTRICAL  
EQUIPMENT  
SCHEDULE**

SHEET NO:

**EP602**

**EQUIPMENT SCHEDULE**

CRKT.	EQUIP. NO.	DESCRIPTION	VOLTS	PHASE	WATTS H.P.	BRK	STARTERS SIZE	CONTROL		PILOT		CONTACTS		CONTROL TRANS.	REMARKS
								H.O.A.	P.B.	GRN	RED	N.O.	N.C.		
MM-2	AC 1	AIR COMPRESSOR (O.F.CI.)	480	3	10	30	F								STARTER PROVIDED WITH UNIT
P-67	AD 1	AIR DRYER	120	1	1.5 KW	20	Φ								
P-63	CU 1	CONDENSING UNIT	208	1	2.5 KW	20	F								NEMA 3R FUSE PER MANUFACTURER
P-61	F 1	FURNACE	120	1	1/2 HP	20	\$								
MM-19	FC 1	FAN CIRCULATOR	480	3	1.05 HP	20	F								INSTALL CONTROLLER FURNISHED WITH FAN
MM-19	FC 2	FAN CIRCULATOR	480	3	1.05 HP	20	F								INSTALL CONTROLLER FURNISHED WITH FAN
MM-19	FC 3	FAN CIRCULATOR	480	3	1.05 HP	20	F								INSTALL CONTROLLER FURNISHED WITH FAN
P-6	B 1a	BOILER	120	1	1.2 KW	20	\$								1-POLE MOTOR RATED SWITCH
P-12	B 1b	BOILER	120	1	1.2 KW	20	\$								1-POLE MOTOR RATED SWITCH
P-16	IRH 1	IR HEATER (TYP FOR IRH-2,3,4)	120	1	120 W	20	\$								
P-18	IRH 5	IR HEATER (TYP FOR IRH 6,7,8 & 9)	120	1	120 W	20	\$								
P-14	EF 1	EXHAUST FAN	120	1	91 W	20	\$								2-POLE PILOTLIGHTED SWITCH 2ND POLEFOR PIT LIGHTS
P-14	EF 2	EXHAUST FAN	120	1	91 W	20	\$								2-POLE PILOTLIGHTED SWITCH 2ND POLEFOR PIT LIGHTS
P-30	EF 3	EXHAUST FAN	120	1	5.1 W	20	\$								
P-32	EF 4	EXHAUST FAN	120	1	5.0 W	20	\$								
P-32	EF 5	EXHAUST FAN	120	1	5.0 W	20	\$								
P-11	EF 6	EXHAUST FAN	120	1	5.0 W	20	\$								
P-43	EF 7	EXHAUST FAN	120	1	5.0 W	20	\$								
P-45	EF 8	EXHAUST FAN	120	1	5.0 W	20	\$								
P-45	EF 9	EXHAUST FAN	120	1	5.0 W	20	\$								
MM-26	EF 10	EXHAUST FAN	480	3	1.5 HP	20	1	●	●	●	2	2			INTERLOCK WALL LOUVER TO OPERATOR FAN
P-48	EF 12	EXHAUST FAN	120	1	125 W	20	\$								
P-48	EF 13	EXHAUST FAN	120	1	1/3 HP	20	\$								
P-76	CP 1	CIRC. PUMP	120	1	1/25 HP	20	\$								
MM-32	MP 1	FLOOR HEAT PUMP	480	3	1 HP	20	1	●	●	●	2	2			
MM-32	MP 2	FLOOR HEAT PUMP	480	3	1 HP	20	1	●	●	●	2	2			
P-55	MP 3	FLOOR HEAT ZONE PUMP	120	1	1/3 HP	20	\$								CONTACTOR PROVIDED WITH PUMP
P-77	MP 4	FLOOR HEAT ZONE PUMP	120	1	1/2 HP	20	\$								CONTACTOR PROVIDED WITH PUMP
P-55	MP 5	FLOOR HEAT ZONE PUMP	120	1	1/4 HP	20	\$								CONTACTOR PROVIDED WITH PUMP
P-57	P 1a	BOILER CIRCULATION PUMP	120	1	1/3 HP	20	\$								CONTACTOR PROVIDED WITH PUMP
MM-31	P 1b	BOILER CIRCULATION PUMP	480	3	1/2 HP	20	1	●	●	●	2	2			
P-57	P 2	FLOOR HEAT PUMP	120	1	1/6 HP	20	\$								CONTACTOR PROVIDED WITH PUMP
MM-26	UH 1	UNIT HEATER	480	3	3.3 KW	20	F								
P-57	GM 1	GLYCOL MAKE-UP PUMP	120	1	-	20	Φ								
P-71	DX 1	HVAC CONDENSER	208	1	1.6 KW	20	F								NEMA 3R FUSE PER MANUFACTURER
P1-1		SEWER LIFT STATION (DUPLX)	208	1	4 HP	30	F								NEMA 3R FUSE PER MANUFACTURER MOUNT CONTROLLER FURNISH WITH UNIT

IF SHEET IS LESS THAN 22"x 34"  
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PANEL:	MDP	MAIN BREAKER	800	VOLTAGE:	480 Y/277	PHASE:	3	WIRE:	4	NEMA:	1							
MAINS:	800 AMPS	MOUNTING:	WALL	LOCATION	EXTERIOR	REMARKS:												
LOAD DESCRIPTION	WIRE	P	AMP	CKT	PWR	LTS	C.O.	A	B	C	C.O.	LTS	PWR	CKT	AMP	P	WIRE	LOAD DESCRIPTION
PANEL MM	2-30	3	400	1	31.1	20.6	0.0	51.0	51.0	51.0	32.4	0.4	68.6	2	175	3	2/0	TRANSFORMER P
TVSS	6	3	60	3				0.0	0.0	0.0				4	225	3		SPACE
SPACE								0.0	0.0	0.0				6	100	3		SPACE
SUB-TOTAL (KVA)					31.1	20.6	0.0	51.0	51.0	51.0	32.4	0.4	68.6					
TYPE OF LOAD													CONNECTED	DIVERSITY	DEMAND			
LIGHTING													21.0	100%	21.0			
POWER													99.7	70%	69.8			
C.O.													32.4	NEC 220.44	21.2			
TOTAL													153.1	KVA	112.0			
TOTAL													185	AMPS	135			
PANEL LOADING	17%																	
8/1/2016 15:57	TOTAL											185	AMPS	135				

PANEL:	MM	MAIN BREAKER	NONE	VOLTAGE:	480 Y/277	PHASE:	3	WIRE:	4	NEMA:	1								
MAINS:	400 AMPS	MOUNTING:	SURFACE	LOCATION	PARTS STORAGE	REMARKS:													
LOAD DESCRIPTION	WIRE	P	AMP	CKT	PWR	LTS	C.O.	A	B	C	C.O.	LTS	PWR	CKT	AMP	P	WIRE	LOAD DESCRIPTION	
EXT. LIGHTS	10	1	20	1	1.0			4.3						3.3	2			AIR COMPRESSOR	
LTS- WASH BAY	12	1	20	3	3.0				6.3					3.3	4	30	3	10	2ND POLE
LTS- PIT BAY, MAINT.	12	1	20	5	3.8					7.1				3.3	6			3RD POLE	
LTS- MAIT, WORK, TIRE	12	1	20	7	2.4			3.4						1.0	8			OVERHEAD DOORS NORTH	
LTS- WORK, TIRE	12	1	20	9	1.5			2.5						1.0	10	20	3	12	2ND POLE
LTS- OFFICE, PARTS	12	1	20	11	1.6				2.6					1.0	12			3RD POLE	
LTS- 2ND FLOOR	12	1	20	13	1.3			2.3						1.0	14			OVERHEAD DOORS S. EAST	
SPARE	12	1	20	15	3.0				4.0					1.0	16	20	3	12	2ND POLE
SPARE	12	1	20	17	3.0					4.0				1.0	18			3RD POLE	
FAN CIRCULATORS					19	0.7		1.7						1.0	20			OVERHEAD DOORS S. WEST	
2ND POLE	12	3	20		21	0.7			1.7					1.0	22	20	3	12	2ND POLE
3RD POLE					23	0.7				1.7				1.0	24			3RD POLE	
JIB CRANE HOIST					25	0.7		2.3						1.7	26			SHOP EXHAUST FAN EF-10, UH-1	
2ND POLE	12	3	20		27	0.7			2.3					1.7	28	20	3	12	2ND POLE
3RD POLE					29	0.7				2.3				1.7	30			3RD POLE	
BOILER CIRC. PUMP P1d					31	0.2		1.0						0.8	32			FLOOR HEAT PUMPS	
2ND POLE	12	3	20		33	0.2			1.0					0.8	34	20	3	12	2ND POLE
3RD POLE					35	0.2				1.0				0.8	36			3RD POLE	
SPACE	12	1	20	37				0.0							38			TVSS	
SPACE	12	1	20	39				0.0							40	50	3	6	2ND POLE
SPACE	12	1	20	41				0.0							42			3RD POLE	
SUB-TOTAL (KVA)					4.6	20.6	0.0	15.1	17.9	18.8	0.0	0.0	26.5						
TYPE OF LOAD													CONNECTED	DIVERSITY	DEMAND				
LIGHTING													20.6	100%	20.6				
POWER													31.1	70%	21.8				
C.O.													0.0	NEC 220.44	0.0				
TOTAL													51.7	KVA	42.4				
TOTAL													63	AMPS	52				
PANEL LOADING	13%																		
3/22/2016 9:24	TOTAL											63	AMPS	52					

PANEL:	P1	MAIN BREAKER	NONE	VOLTAGE:	208 Y/120	PHASE:	3	WIRE:	4	NEMA:	1								
MAINS:	100 AMPS	MOUNTING:	SURFACE	LOCATION	BOILER RM	REMARKS:													
LOAD DESCRIPTION	WIRE	P	AMP	CKT	PWR	LTS	C.O.	A	B	C	C.O.	LTS	PWR	CKT	AMP	P	WIRE	LOAD DESCRIPTION	
SEWER LIFT STATION	10	2	30	1	2.0			3.0						1.0	2	20	1	12	SPARE
2ND POLE					3	2.0			3.0					1.0	4	20	1	12	SPARE
SPARE	12	1	20	5						1.0				1.0	6	20	1	12	SPARE
SPARE	12	1	20	7				1.0	2.0					1.0	8	20	1	12	SPARE
SPARE	12	1	20	9				1.0		2.0				1.0	10	20	1	12	SPARE
SPARE	12	1	20	11				1.0		2.0				1.0	12	20	1	12	SPARE
SPARE	12	1	20	13				1.0	2.0					1.0	14	20	1	12	SPARE
SPARE	12	1	20	15				1.0		2.0				1.0	16	20	1	12	SPARE
SPARE	12	1	20	17				1.0		2.0	1.0			1.0	18	20	1	12	SPARE
SPACE	12	1	20	19				0.0							20	20	1	12	SPACE
SPACE	12	1	20	21					0.0						22	20	1	12	SPACE
SPACE	12	1	20	23						0.0					24	20	1	12	SPACE
SPACE	12	1	20	25				0.0							26	20	1	12	SPACE
SPACE	12	1	20	27					0.0						28	20	1	12	SPACE
SPACE	12	1	20	29						0.0					30	20	1	12	SPACE
SPACE	12	1	20	31				0.0							32	20	1	12	SPACE
SPACE	12	1	20	33					0.0						34	20	1	12	SPACE
SPACE	12	1	20	35						0.0					36	20	1	12	SPACE
TVSS								0.0							38	20	1	12	SPACE
2ND POLE	10	3	30	39					0.0						40	20	1	12	SPACE
3RD POLE										0.0					42	20	1	12	SPACE
SUB-TOTAL (KVA)					4.0	0.0	6.0	7.0	7.0	5.0	3.0	0.0	6.0						
TYPE OF LOAD													CONNECTED	DIVERSITY	DEMAND				
LIGHTING													0.0	100%	0.0				
POWER													10.0	70%	7.0				
C.O.													9.0	NEC 220.44	9.0				
TOTAL													19.0	KVA	16.0				
TOTAL													53	AMPS	45				
PANEL LOADING	45%																		
8/4/2016 11:29	TOTAL											53	AMPS	45					

PANEL:	P	MAIN BREAKER	300	VOLTAGE:	208 Y/120	PHASE:	3	WIRE:	4	NEMA:	1								
MAINS:	400 AMPS	MOUNTING:	SURFACE	LOCATION	PARTS	REMARKS:													
LOAD DESCRIPTION	WIRE	P	AMP	CKT	PWR	LTS	C.O.	A	B	C	C.O.	LTS	PWR	CKT	AMP	P	WIRE	LOAD DESCRIPTION	
RECEPT TIRE BAY	12	1	20	1			0.8	1.6						0.8	2	20	2	12	STAIRWELL HEATER
RECEPT TIRE BAY	12	1	20	3			0.8		1.6					0.8	4	20	1	12	2ND POLE
RECEPT TIRE BAY	12	1	20	5			1.0			2.2				1.2	6	20	1	12	BOILER 1
RECEPT TIRE BAY	12	1	20	7			0.8	2.3						1.5	8	30	2	10	WASHER/DRYER
RECEPT TIRE BAY	12	1	20	9			1.0			2.5				1.5	10			2ND POLE	
RECEPT PARTS, WORK BAY	12	1	20	11			1.0			2.2				1.2	12	20	1	12	BOILER 2
RECEPT PARTS, WORK BAY	12	1	20	13			1.0	1.5						0.5	14	20	1	12	PIT EXHAUST FANS 1,2
RECEPT MAINT. BAY	12	1	20	15			0.8		1.4					0.6	16	20	1	12	IR HEATERS 1-4
RECEPT MAINT. BAY, O/W ALARM	12	1	20	17	0.5		1.0			2.5				1.0	18	20	1	12	IR HEATERS 5-9
RECEPT WORK BENCH	12	1	20	19			0.4	1.4						1.0	20	20	1	12	WALL LOUVERS
RECEPT WORK BENCH	12	1	20	21			0.4		1.4					1.0	22	20	1	12	WALL LOUVERS
RECEPT WORK BENCH	12	1	20	23			0.4			1.4				1.0	24	20	1	12	IDF/PHONE
RECEPT WORK BENCH	12	1	20	25			0.4	1.4			1.0			28	20	1	12	RECEPT PARTS, RR, LIQUID	
RECEPT PIT BAY	12	1	20	27			0.8		1.3					0.5	28	20*	1	12	RECEPT DF PARTS
RECEPT PIT BAY, WASH	12	1	20	29			1.0			2.1	1.0			0.1	30	20	1	12	RECEPT RR, EF-5
RECEPT PIT BAY	12	1	20	31			0.8	1.8			0.8			0.2	32	20	1	12	RECEPT RR, EF-3,4
RECEPT PIT BAY, WASH	12	1	20	33			0.8		1.6		0.8				34	20	1	12	RECEPT PARTS, STAIR
RECEPT PIT BAY, WASH	12	1	20	35			0.8			1.3				0.5	36	20	1	12	RECEPT FRIG
RECEPT OFFICE, PARTS	12	1	20	37			0.6	1.0			0.4			38	20	1	12	RECEPT BREAK COUNTER	



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

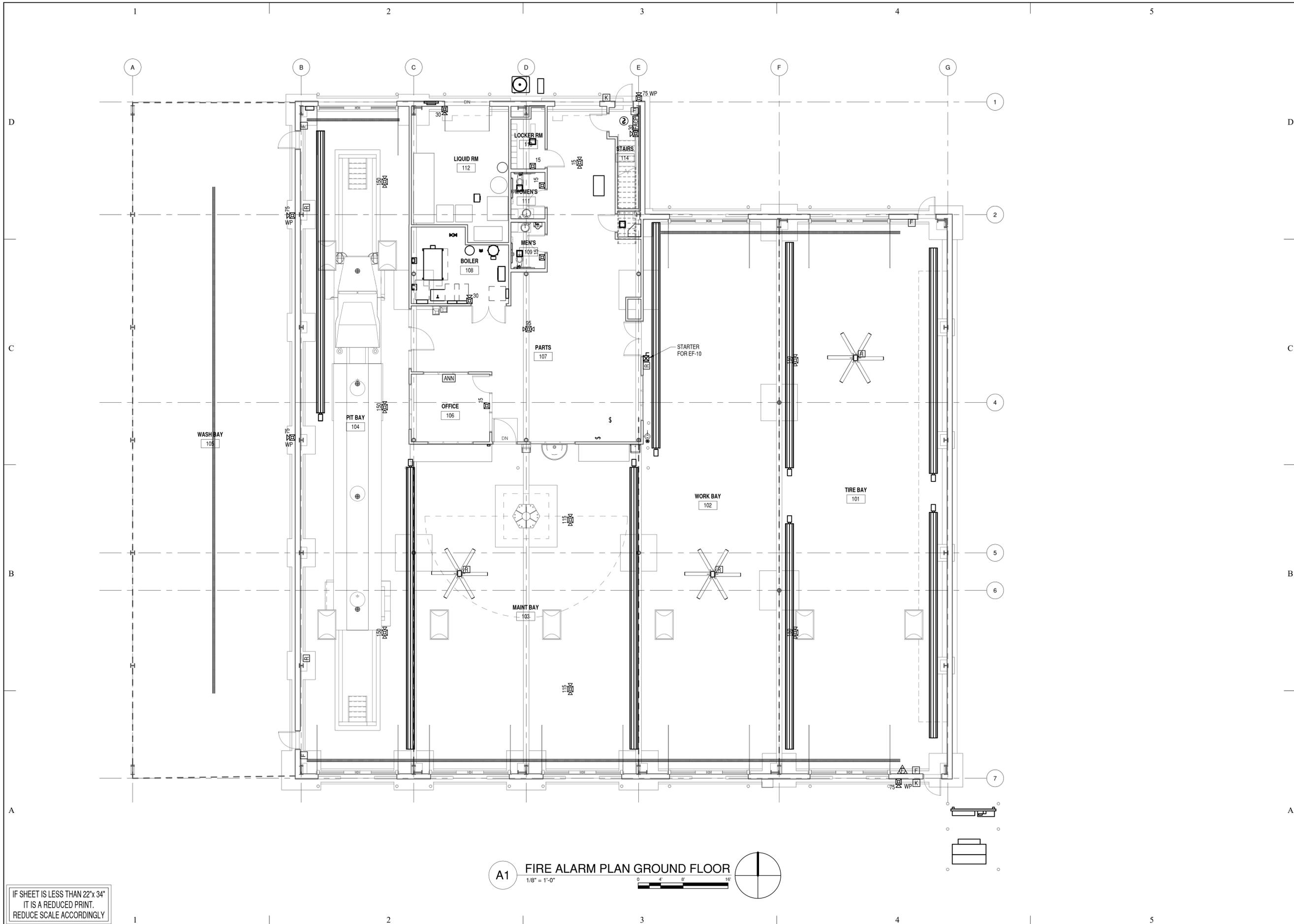
AUGUST 19, 2016

SHEET TITLE

**FIRE ALARM  
PLAN GROUND  
FLOOR**

SHEET NO:

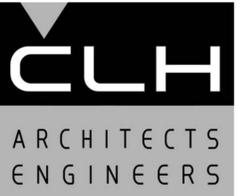
**FA101**



**A1 FIRE ALARM PLAN GROUND FLOOR**  
1/8" = 1'-0"

IF SHEET IS LESS THAN 22"x 34"  
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REDUCE SCALE ACCORDINGLY

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08/19/2016



**GRANT TRUCKING  
TRUCK  
MAINTENANCE SHOP**

910 W 24th STREET  
OGDEN, UTAH 84401

MARK	DATE	DESCRIPTION

ISSUE DATE:	AUGUST 19, 2016
PROJECT NO:	15460
CAD DWG FILE:	
DRAWN BY:	J.M.S.
CHK'D BY:	K.J.L.

PERMIT SET

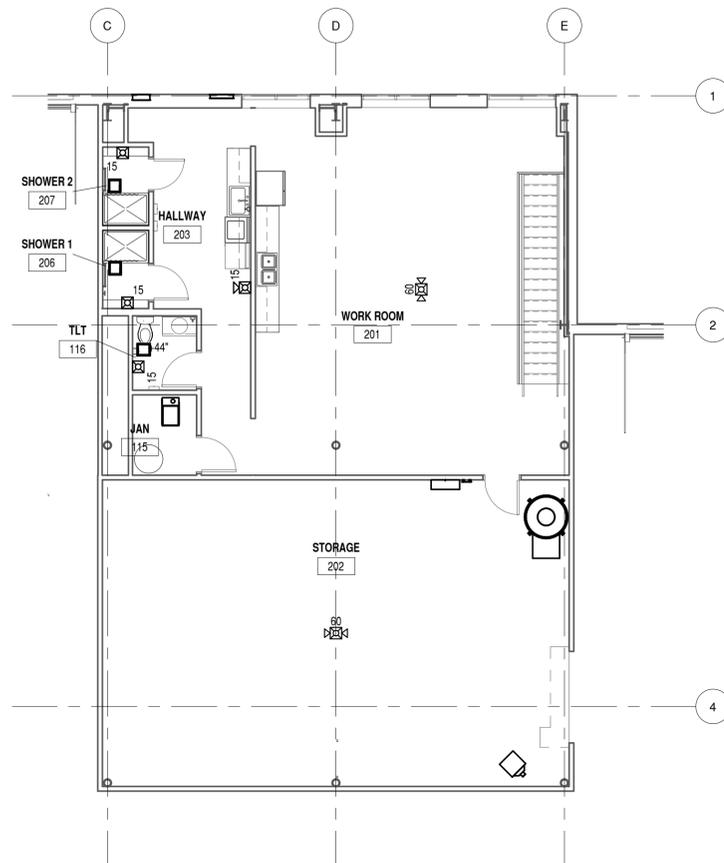
AUGUST 19, 2016

SHEET TITLE

**FIRE ALARM  
PLAN SECOND  
FLOOR**

SHEET NO:

**FA102**



**B2 FIRE ALARM PLAN SECOND FLOOR**  
1/8" = 1'-0"  
0 4' 8' 16'

IF SHEET IS LESS THAN 22"x 34"  
IT IS A REDUCED PRINT.  
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