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March 3, 2017

Mr. Arthur Surdilla, Sr.
Environmental Health Department
Office of Solid/Medical Waste Management
1131 Harbor Bay Parkway, Suite 226
Alameda, California 94502-6577

Subject: **Methane Detection and Alarm - Plan & Specifications
Organics Material Recovery Facility (OMRF) & Administration Building,
Waste Management Davis Street Transfer Station (DSTS),
2615 Davis Street, San Leandro, California**

Dear Mr. Surdilla:

This letter report, prepared by ET Environmental California, Inc. (ET) on behalf of Waste Management (WM) of Alameda County, Inc., provides a concept plan for Methane Detection and Alarm measures for the Organic Material Recovery Facility (OMRF) & Administration Building at Waste Management of Alameda County's Davis Street Transfer Station (DSTS) facility. The DSTS property overlies a portion of the closed Davis Street Sanitary Landfill.

On June 8, 2016, WM received conditional approval for the Methane Mitigation System Plans & Specifications for the same project from the Alameda County Environmental Health Department, the Local Enforcement Agency (LEA) for this project. This project is continuing under a design-build, fast-track basis.

Background Site Information

DSTS is located at the terminus of Davis Street in San Leandro, California. The site is permitted as a large-volume transfer and processing facility and serves customers throughout Alameda County and the greater East Bay. The approximately 45-acre transfer station property is identified as APN 79A-475-7-32 in the Alameda County Assessor's parcel map.

DSTS is part of a larger, approximately 247-acre area that was once used as a municipal solid waste (MSW) disposal site known as the Davis Street Sanitary Landfill. The Davis Street Sanitary Landfill is identified as Facility No. 01-AA-0006 in the State of California Solid Waste Information System database. The landfill is designated as a Class III (nonhazardous) waste management unit.

Existing Approved Monitoring and Alarm Measures

Several existing buildings at DSTS currently have methane detection and alarm measures approved by the LEA. Where monitors and alarms are utilized, Sierra Monitor Corp (SMC) Model 2001 gas monitors and alarms are



installed to detect and alarm occupants of the presence of methane. In the larger process buildings that exist at the site, methane gas collection and mitigation systems (below-slab perforated collection pipes in a subsurface gravel layer with an impervious membrane) and/or continuous ventilation systems are employed to dissipate methane in the process area.

Attachment 1 shows the location of the following six existing buildings that have SMC 2001 gas monitor and alarm installations:

1. Administration Office 2;
2. Education Center;
3. Maintenance Shop;
4. Transportation Operation Building;
5. Organics Processing and Transfer (Green Waste Enclosure) Office;
6. Material Recovery Department (MRD) employee building.

Proposed Monitoring and Alarm Measures OMRF Project

The process area of the OMRF building will be continuously ventilated at a rate of 1 cfm per sf of floor area or greater. An audible and/or visual alarm will activate if the ventilation system is not operating for any reason. This area of the building will be subject to heavy vehicle traffic; sensors will be subject to interferences from diesel or automotive exhaust, or may become damaged because of dust inherent to transfer operations, or moisture from the building contents. In these cases there is a potential for false alarms. Therefore, sensors will not be installed in the process area of this building.

A stand-alone, automated, continuous combustible gas monitoring sensor manufactured by Sierra Monitor Corporation (SMC) (SMC Model 2001 or equivalent) is proposed to be installed at 10 locations in the OMRF Administration Building and 3 locations within or adjacent to the OMRF process area that are closed and not common with the larger process space with continuous ventilation. SMC Model 2001 sensor units operate continuously on standard AC power and are widely used for building interior monitoring at or near landfill sites. Each sensor will be equipped with audible and/or visual alarms to activate if elevated combustible gas concentrations are detected in the building interiors at an alarm level of 20% of the lower explosive limit (LEL) for methane. Sensors will also be equipped with a visual indicator for alarm conditions and sensor fault. Quarterly inspection and calibration to a known methane standard will be conducted on the new sensors in accordance with the current LEA approved inspection and calibration program that is employed for the other identical sensors on the campus. The new sensors for the OMRF Administrative Building and processing area adjacent to and within the OMRF will be added to the Quarterly Inspection and Calibration conducted by SMC. In the event that a gas monitor is activated, site management investigates potential causes and the site compliance manager will document the event in the special occurrence log. The compliance manager will then contact SMC for recalibration.

Other Measures

Site utility trenches and conduits can serve as a pathway for subsurface landfill gas (LFG) migration into structures. The following additional measures are included in building design:

- All utility penetrations through the building slabs will be provided with conduit seals per NEC requirements.
- All utility trenches adjacent to the building be equipped with cut-off devices. This typically entails installation of a bentonite plug or slurry-seal collar.



Closing

With this letter we respectfully seek your approval for the combustible gas monitoring and alarm concepts presented herein.

Upon your approval of the concept plan outlined herein, final plans and specifications for the combustible gas protection and monitoring systems will be incorporated into the building mechanical and electrical drawings and submitted to your agency and the City of San Leandro Building Department for approval.

As stated above, the project is being performed on a fast-track basis and final mechanical and electrical design is almost completed. Therefore your expeditious review and comment is appreciated.

We would be pleased to meet with you to discuss the merits of this program further. If you have any questions, please contact either of the undersigned.

Attachments

1. Overall Site Plan - Existing Buildings with SMC 2001 Gas Detectors
2. A02.1GD-GAS DETECTOR LOCATION PROCESS AREA PLAN
3. A02.2GD-GAS DETECTOR LOCATION ADMIN BLDG PLAN
4. Sierra Monitor Corporation Model 2001 Gas Detector Datasheet

Sincerely,

ET ENVIRONMENTAL CORPORATION, LLC

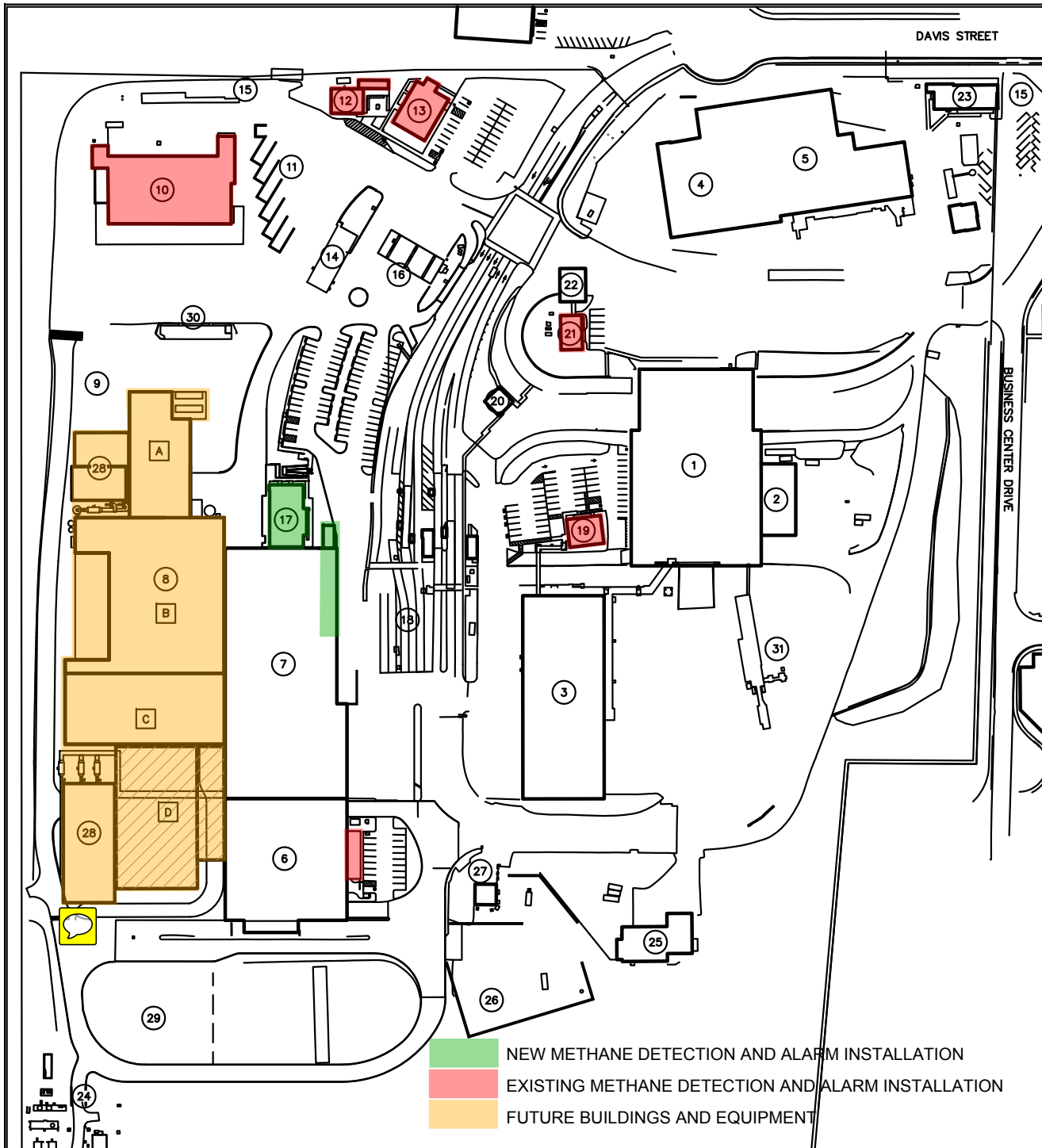


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MASTER SITE PLAN
1" = 225'

LEGEND

- 1 TRANSFER STATION
- 2 HAZARDOUS MATERIALS STORAGE
- 3 SMART MRF
- 4 SINGLE STREAM MRF
- 5 BALE STORAGE
- 6 ORGANICS PROCESSING AND TRANSFER
- 7 FOOD WASTE/ORG. RECYCLING FACILITY (OMRF)
RESIDENTIAL/MULTI FAMILY/COMMERCIAL MSP
- 8 FOOD WASTE/ORG./GREEN WASTE
COMPOST FACILITY (OMCF)
 - A POST-PROCESSING
 - B COMPOSTING
 - C PRE-PROCESSING
 - D ANAEROBIC DIGESTION
- 9 COMPOST LOADING
- 10 MAINTENANCE SHOP
- 11 GARDEN CENTER
- 12 EDUCATION CENTER
- 13 ADMINISTRATION OFFICE 2
- 14 LCNG FUELING
- 15 PUBLIC REUSE AND E-WASTE
- 16 DIESEL FUEL CANOPY
- 17 EMPLOYEE SERVICES & ADMINISTRATION
OFFICE
- 18 SCALE COMPLEX
- 19 MATERIAL RECOVERY DEPARTMENT (MRD)
- 20 FIELD OFFICE
- 21 TRANSPORTATION OPERATION BUILDING
- 22 AUXILIARY DIESEL FUEL ISLAND
- 23 EMPLOYEE SERVICES
- 24 LANDFILL GAS COLLECTION AND
TREATMENT FACILITY
- 25 HEAVY VEHICLE MAINTENANCE
- 26 WOOD WASTE TRANSFER
- 27 PUBLIC WOOD/GREEN WASTE DROP OFF
- 28 BIOFILTER & EQUIPMENT
- 29 FUTURE BIOFILTER
- 30 LIQUID FUEL STORAGE
- 31 PUBLIC AREA MRF (PAM)



WASTE MANAGEMENT - DAVIS STREET TRANSFER STATION
2615 DAVIS STREET, SAN LEANDRO, CA 94577

WORKING DRAFT
12-9-2016

SHEET NUMBER

1





SITE AND SHELL SUBMITTAL FOR:

WASTE MANAGEMENT SAN LEANDRO

INTEGRATED WASTE PROCESSING
FACILITY (IWPF) & ADMINISTRATIVE
OFFICE BUILDING

2615 DAVIS STREET
SAN LEANDRO, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue : description : date :

A PERM ONLY - DOOR, FRAMED OPENING REVISIONS 05-02-16

B ISSUED FOR SITE & SHELL PERMIT REVIEW 06-03-16

C PLAN CHECK REVISIONS 09-16-16

D PUMP HOUSE ELECTRICAL ROOM & MISC. COORDINATION REVISIONS 09-16-16

E PLAN CHECK #2 & COORDINATION REVISIONS 10-26-16

F PLAN CHECK #3 & COORDINATION REVISIONS 11-29-16

GENERAL CONTRACTOR:



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drawn by : JDL plot date : 11-29-16

checked by : JDL

stamp



scale : AS NOTED

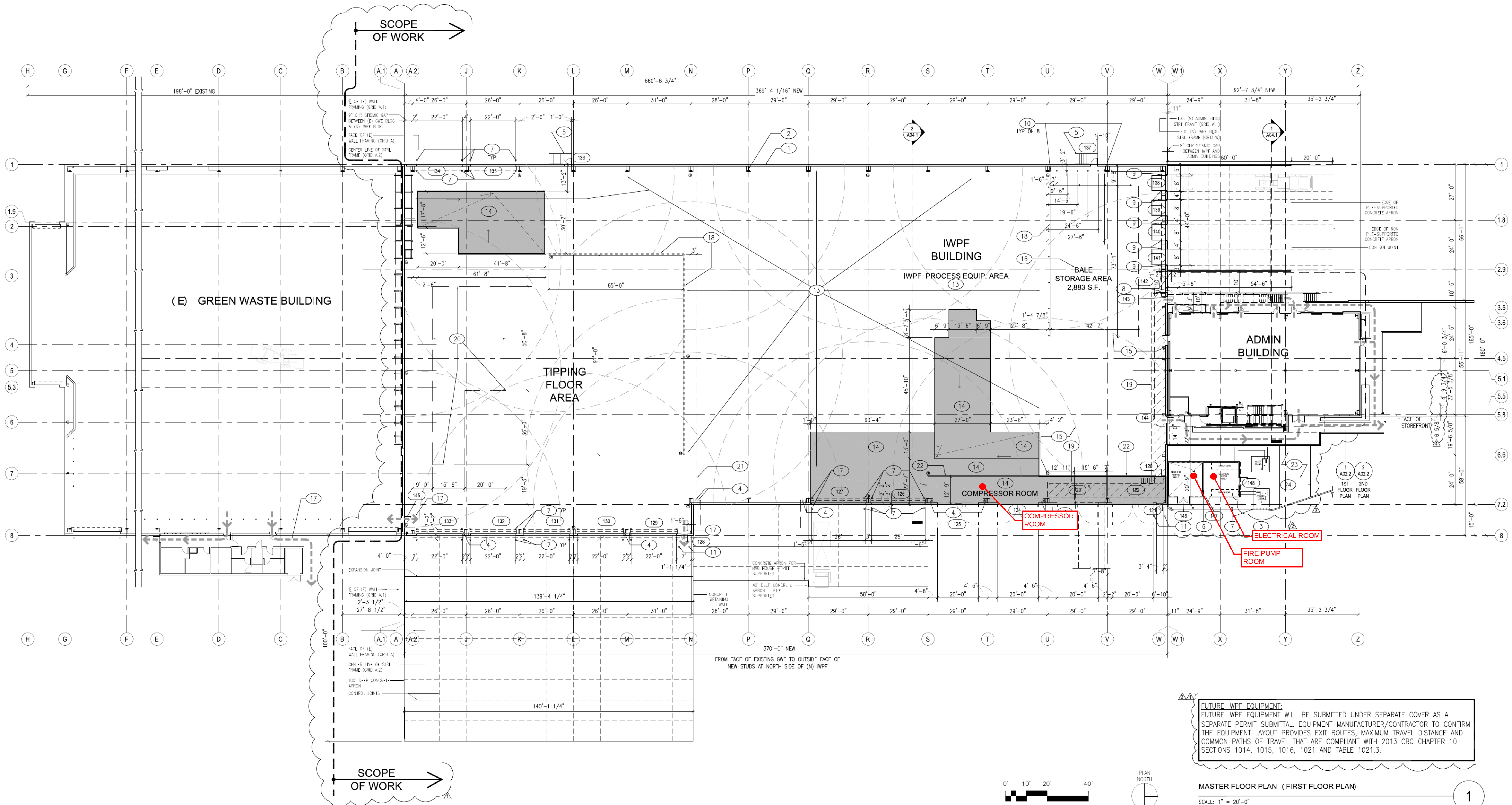
project number : 12405.00

MASTER FLOOR PLAN

sheet no :

SITE &
SHELL

A02.1



FLOOR PLAN NOTES

1. PROVIDE THE PARTITION TYPE NOTED AS 'TYPICAL PARTITION', TYPICALLY THROUGHOUT.
2. ANCHOR AND BRACE PARTITIONS PER CODE AND AS DETAILED. REFER TO TYPICAL PARTITION DETAILS.
3. DIMENSIONS INDICATED ON FLOOR PLANS ARE FROM FACE OF FINISHED SURFACE TO FACE OF FINISHED SURFACE, UNLESS OTHERWISE NOTED.
4. AREAS MARKED 'NIC' (NOT IN CONTRACT) ARE EXCLUDED FROM THE SCOPE OF WORK.
9. NOTIFY THE ARCHITECT THREE BUSINESS DAYS IN ADVANCE BEFORE PARTITION LOCATIONS ARE MARKED ON THE FLOOR FOR ARCHITECT'S REVIEW, BEFORE PROCEEDING WITH INSTALLATION OF PARTITIONS.
10. WHERE THE FACE OF AN EXISTING PARTITION OR COLUMN MEETS FLUSH WITH A NEW PARTITION, REMOVE THE EXISTING METAL CORNER BEAD OR CASING BEFORE INSTALLING THE NEW PARTITION.
12. PATCH EXISTING SURFACES TO MATCH ADJACENT OR ADJOINING NEW SURFACES.
14. PATCH AND REPAIR EXISTING DAMAGED FIREPROOFING WORK AS REQUIRED TO MAINTAIN EXISTING FIRE-RATING BEFORE CONCEALING FIREPROOFED MEMBERS OR ASSEMBLIES.
15. WHERE WOOD FINISHING IS REQUIRED OR INDICATED, PROVIDE FIRE RETARDANT TREATED WOOD.
16. COORDINATE LOCATIONS OF MECHANICAL, ELECTRICAL, TELEPHONE, LIGHTING, PLUMBING, SPRINKLERS AND SECURITY ELEMENTS INCLUDING PIPING, DUCTWORK, CONDUIT AND OTHER RELATED ITEMS TO ENSURE THAT REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF EQUIPMENT IS PROVIDED.
17. PRIOR TO CLOSING UP THE PARTITIONS, NOTIFY THE ARCHITECT A MINIMUM OF THREE BUSINESS DAYS FOR REVIEW OF ARCHITECTURAL ELEMENTS. THE ARCHITECT'S REVIEW IS IN ADDITION TO INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
18. SEAL, GASKET AND WEATHERSTRIP JOINTS, PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE TO LIMIT AIR LEAKAGE AND TO PREVENT WATER PENETRATION.
19. PROVIDE FIRE STOPPING AT PENETRATIONS THROUGH RATED ASSEMBLIES AND IN UNUSED SLEEVES AND VOIDS AS REQUIRED TO MAINTAIN THE EXISTING FIRE RATING.
20. CUT AND FIT EXISTING CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW WORK. PATCH TO MATCH ADJACENT MATERIALS AND FINISHES.

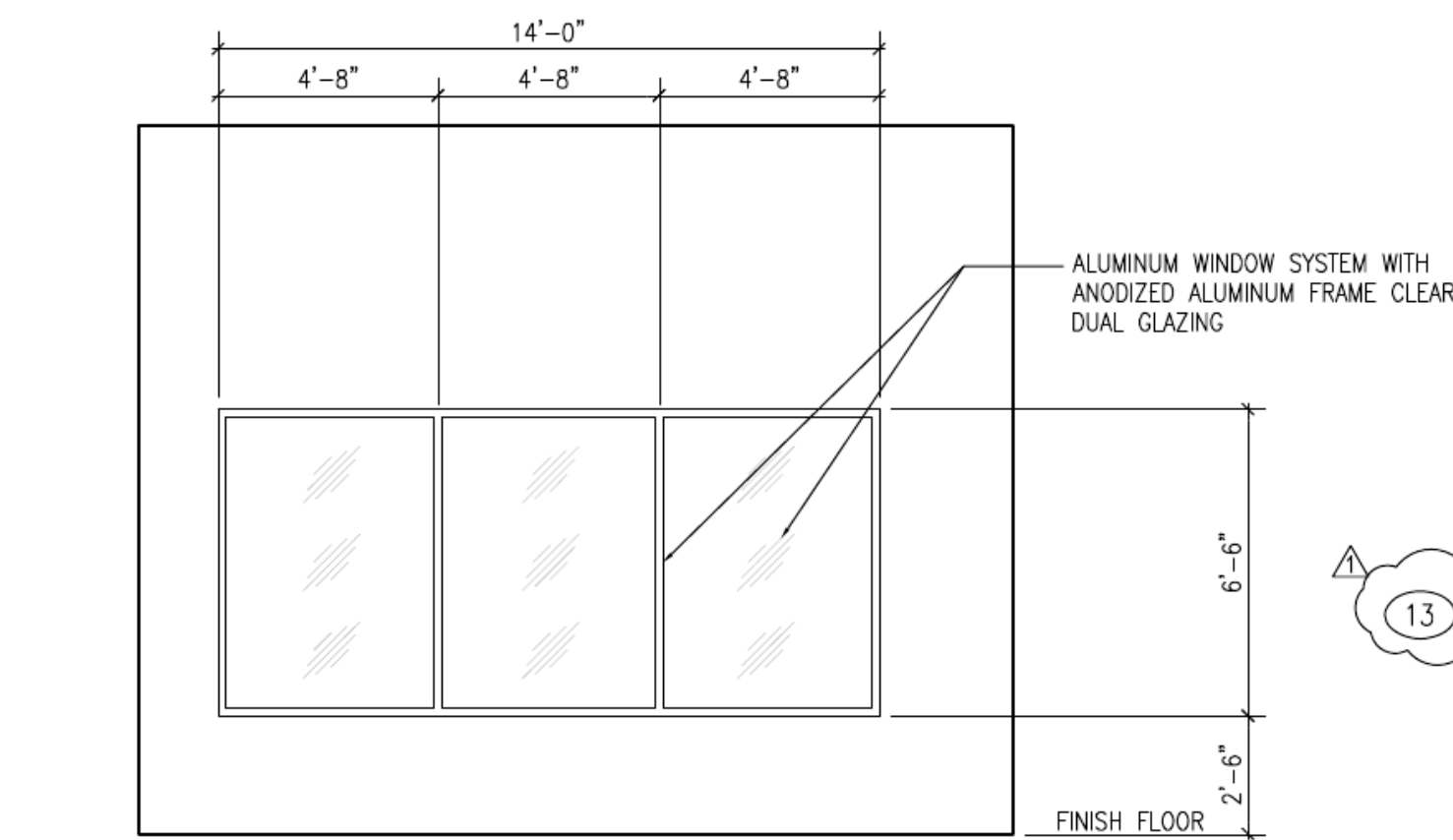
21. PROVIDE FIRE EXTINGUISHERS IN CABINET OR MOUNTED ON BRACKETS WHERE INDICATED AND AS REQUIRED BY FIRE DEPARTMENT FIELD INSPECTOR. LOCATE SUCH THAT OCCUPIABLE SPACES WITHIN THE PROJECT AREA OF WORK ARE WITHIN 75 FEET OF A FIRE EXTINGUISHER. MINIMUM SIZE OF FIRE EXTINGUISHERS: 2A:10BC PER CALIFORNIA FIRE CODE.
22. INSTALL TEMPERED GLASS WITH MANUFACTURER'S SEAL LOCATED IN THE LOWER CORNER OF THE GLAZED PANEL. CONCEAL TONG MARKS, IF ANY.
23. WHERE SAFETY GLASS IS REQUIRED BY CODE, PROVIDE GLASS COMPLYING WITH ANSI Z97.1 OR AS REQUIRED BY APPLICABLE CODES. PROVIDE SAFETY GLASS LABELING.
24. VERIFY THAT EXISTING ENTRANCE DOORS, STAIRWAYS, AND ELEVATORS LEADING TO THE WORK AREA COMPLY WITH ACCESSIBILITY REQUIREMENTS.
25. PROVIDE A CLEAR HORIZONTAL DIMENSION OF 1'-6" MINIMUM FROM STRIKE FACE OF DOOR JAMB TO THE NEAREST RETURNING PARTITION OR OBSTACLE AT THE FULL SIDE OF THE DOOR, UNLESS OTHERWISE NOTED. LOCATE THE DOOR JAMB SO THAT ITS FACE IS 6" FROM THE NEAREST PARTITION AND LOCATE THE DOOR STOP TO ALLOW FOR A MINIMUM 90 DEGREE DOOR SWING, UNLESS OTHERWISE NOTED.
26. VERIFY THAT THERE IS A MINIMUM CLEAR WIDTH OF 44" IN AISLES LEADING TO REQUIRED CORRIDORS AND EXIT PATHS OF TRAVEL.

KEYNOTES:

1. PRE-ENGINEERED EXTERIOR METAL PANEL WALL ASSEMBLY
2. PRE-ENGINEERED STRUCTURAL FRAME
3. ELECTRICAL TRANSFORMERS AND TRANSFORMER PADS, SEE ELECTRICAL DRAWINGS
4. RAIN WATER LEADER AND OVERFLOW, SIX LOCATIONS IN IWPF - SEE DETAILS
5. PAINTED METAL STAIRS WITH CONCRETE LANDING AT GRADE
6. FIRE PUMP ROOM AND ELECTRICAL ROOM, SEE DETAIL PLAN 1/A02.9
7. PAINTED CONCRETE FILLED BOLLARDS. BOLLARDS AT ROLL UP DOORS TO BE CENTERED ON THE FACE OF THE DOOR OPENING. THE EXTERIOR BOLLARDS ARE SET 2'-2" FROM THE OUTSIDE FACE OF WALL GIRTS TO THE CENTER LINE OF THE BOLLARD. THE INTERIOR BOLLARDS ARE SET 3'-2" FROM THE OUTSIDE FACE OF THE WALL GIRTS TO THE BOLLARD CENTER LINES. BOLLARDS TO BE 8" STANDARD PIPE TYPICAL, 6" STANDARD PIPE AT PUMP AND ELECTRICAL ROOM, 4" REMOVABLE BOLLARDS AT TRANSFORMER PER PCAE SPECS. REMOVABLE BOLLARDS ARE NOT CONCRETE FILLED. SEE DETAIL 13/A01.4, SEE 14/A01.4 FOR REMOVABLE BOLLARDS.
8. PAINTED CONCRETE FILLED BOLLARDS AT GRADE LEVEL ROLL UP DOOR. OUTSIDE FACE OF BOLLARDS AT THIS ROLL UP DOOR TO BE ALIGNED WITH THE DOOR JAMB (THESE BOLLARDS ARE WITHIN THE OPENING OF THE DOOR). BOLLARDS TO BE SET 2'-0" FROM THE FACE OF WALL TO THE CENTER LINE OF THE BOLLARD (FROM EXTERIOR FACE FOR EXTERIOR BOLLARDS AND FROM INTERIOR FACE FOR INTERIOR BOLLARDS). SEE DETAIL 13/A01.4, SEE 14/A01.4 FOR REMOVABLE BOLLARDS.
9. PAINTED CONCRETE FILLED BOLLARDS AT DOCK LEVEL ROLL UP DOORS & DOCK LEVELERS. IN THE PLAIN PARALLEL TO THE EXTERIOR WALL, INSIDE FACE OF BOLLARDS TO ALIGN WITH THE OUTSIDE EDGE OF THE LEVELER PIT 3" EDGE STEEL EDGE ANGLE. PERPENDICULAR TO THE EXTERIOR WALL, THE BOLLARDS TO BE SET 2'-0" FROM THE INTERIOR FACE OF EXTERIOR WALL (TO THE CENTER LINE OF THE BOLLARD).
10. 6" STANDARD PIPE, PAINTED, CONCRETE FILLED BOLLARDS LOCATED PER DIMENSIONS SHOWN
11. PAINTED CONCRETE FILLED BOLLARDS AT EXTERIOR MAN DOORS. THE BOLLARDS ARE SET 5' APART CENTER TO CENTER IN THE PLAIN PARALLEL TO THE EXTERIOR WALL, CENTERED ABOUT THE DOOR. THE BOLLARDS TO BE 5'-6" FROM THE OUTSIDE FACE OF THE WALL MEASURED PERPENDICULAR TO THE BUILDING FACE
12. PRE-ENGINEERED EXTERIOR GREEN WASTE ENCLOSURE (G.W.E.) - NOT A PART OF THIS PERMIT.

13. IWPF PROCESS EQUIPMENT TO BE SUBMITTED AS A SEPARATE PERMIT APPLICATION (INCLUDING EXISTING REQUIREMENTS & OTHER CODE REQUIREMENTS).
14. SHADED AREA INDICATES DEPRESSED CONCRETE PIT TO ACCOMMODATE FUTURE IWPF EQUIPMENT. SEE STRUCTURAL DRAWINGS.
15. "E" INDICATES LOCATION OF 4A-40B.C FIRE EXTINGUISHERS. MAXIMUM SPACING NOT TO EXCEED 75'. MAXIMUM FLOOR AREA PER EXTINGUISHER IS 4,000 S.F. DASHED GRAY ARCS INDICATE EXTENT OF 75' TRAVEL DISTANCE. ADDITIONAL FIRE EXTINGUISHERS AT THE IWPF FUTURE PROCESSING EQUIPMENT WILL BE SUBMITTED FOR SEPARATE PERMIT REVIEW AND APPROVAL. ADDITIONAL FIRE EXTINGUISHERS MAY BE REQUIRED AS DETERMINED BY THE FIRE INSPECTION OFFICIAL.
16. BALE STORAGE AREA. HIGH PILE STORAGE WITH ESFR SPRINKLER SYSTEM. BALE STORAGE HEIGHT TO BE LIMITED TO 16'-0" MAX.
17. INDICATES EXIT PATH OF TRAVEL. EXIT DOORS AND EXIT ROUTES TO HAVE EMERGENCY LIGHTING. SEE ELECTRICAL DRAWINGS.
18. PUSH WALL, SEE STRUCTURAL DRAWINGS.
19. MEZZANINE/CAT WALK TO FUTURE IWPF EQUIPMENT CAT WALK SYSTEM.
20. POTENTIAL FUTURE EQUIPMENT PIT, SEE STRUCTURAL DRAWINGS.
21. EXPANSION JOINT IN FLOOR SLAB - SEE STRUCTURAL DRAWINGS.

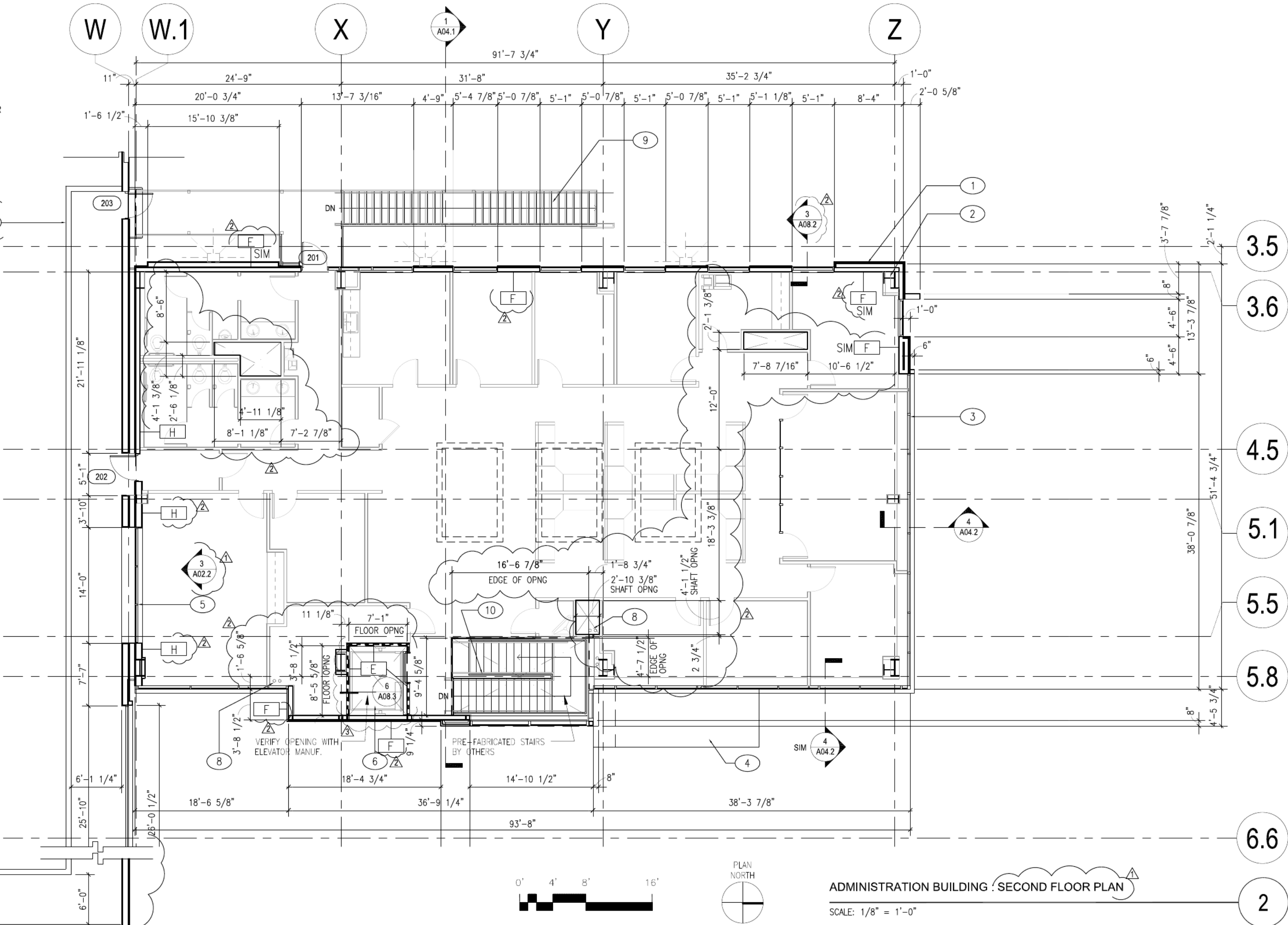
22. THE COMPRESSOR ROOM SEPARATES THE COMPRESSOR AIR FROM THE DIRTY AIR OUTSIDE OF THE COMPRESSOR ROOM AND CONTAINS COMPRESSOR HEAT LOADS - THE STAIR FROM THE IWPF MAIN FLOOR TO THE FLOOR LEVEL OF THE PIT WILL BE PROVIDED AND INSTALLED AS A COMPONENT OF THE FUTURE IWPF EQUIPMENT (UNDER A SEPARATE SUBMITTAL AND PERMIT REVIEW PROCESS). THE EXTERIOR DOOR FROM THE COMPRESSOR ROOM IS A SERVICE/CONVENIENCE DOOR. THE WALL AT THE COMPRESSOR ROOM THAT SEPARATES IT FROM THE IWPF IS TO CONSIST OF 6" X 20 GA. METAL STUDS AT 1'-4" O.C. WITH METAL LINER PANELS BY THE PEMB CONTRACTOR AT THE IWPF SIDE OF THE WALL FROM THE CONCRETE FLOOR TO THE CEILING ABOVE. CEILING ABOVE TO CONSIST OF 8" X 18 GA. CEILING JOISTS AT 1'-4" O.C. WITH METAL LINER PANELS BY THE PEMB CONTRACTOR ON THE TOP OF THE CEILING JOISTS. CEILING HEIGHT TO BE +12'-2" A.F.F. (ABOVE IWPF TYPICAL FLOOR ELEVATION, +16'-2" ABOVE PIT ELEVATION).
23. INTERLOCKING PAVERS (H20 LOADING) THIS AREA. SEE LANDSCAPE AND CIVIL DRAWINGS
24. CONCRETE RETAINING WALL, HEIGHT VARIES FROM 3' AT WEST END TO 6' AT EAST END



INTERIOR WINDOW ELEVATION

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

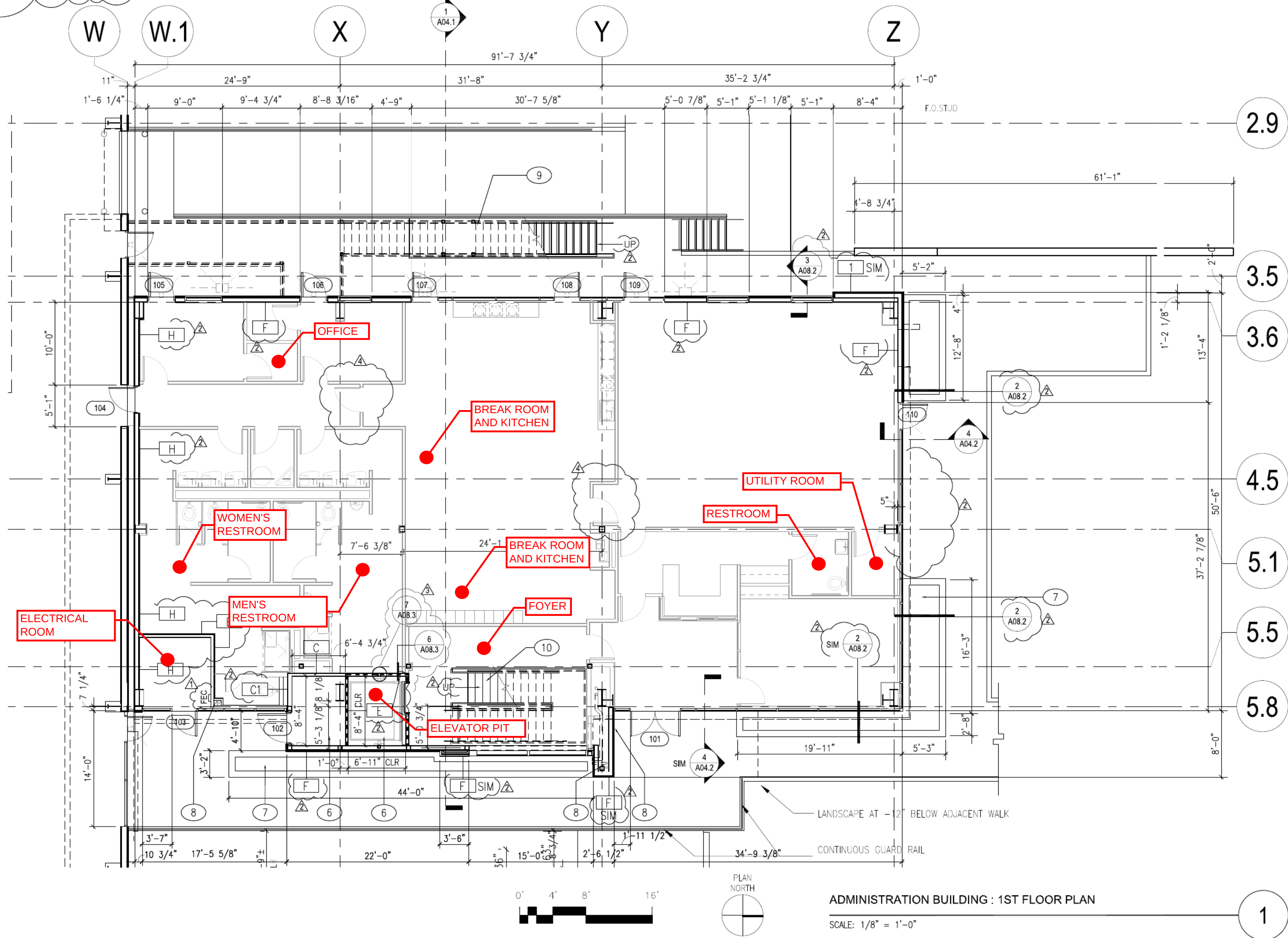
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ADMINISTRATION BUILDING : SECOND FLOOR PLAN

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

2



ADMINISTRATION BUILDING : 1ST FLOOR PLAN

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

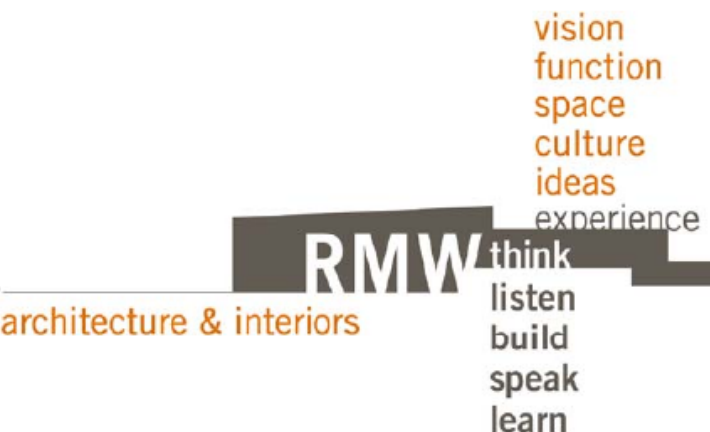
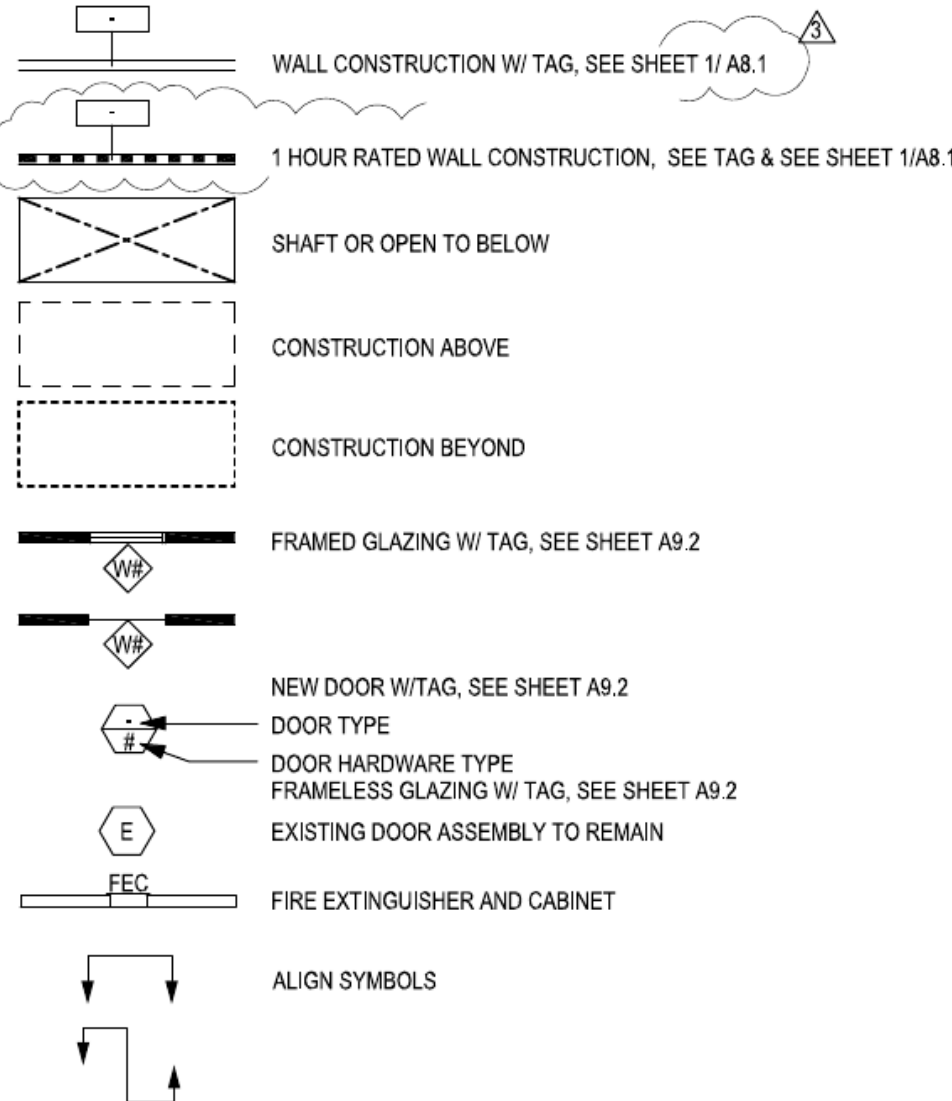
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KEYNOTES:

- PRE-ENGINEERED EXTERIOR METAL PANEL WALL ASSEMBLY
- PRE-ENGINEERED STRUCTURAL FRAME
- STOREFRONT WINDOW SYSTEM, SEE EXTERIOR ELEVATIONS FOR MORE INFORMATION.
- ENTRY CANOPY. SEE DETAILS ON A04.3
- STOREFRONT WINDOW: SILL AT 2'-6" A.F.F. HEAD AT 9'-0" A.F.F.
- SEE SHEET A07.2 FOR ELEVATOR & MACHINE ROOM INFORMATION.
- RAISED PLANTER, SEE DETAIL REFERENCED ON PLAN
- RAIN WATER LEADER AND OVERFLOW FROM ROOF ABOVE.
- PREMANUFACTURED EXTERIOR STEEL STAIR, SEE 11/A07.1
- PREMANUFACTURED INTERIOR STEEL STAIR, SEE 14 & 19/A07.1
- LOCATION OF FIRE EXTINGUISHERS TO BE INSTALLED AT THE TIME OF FUTURE TENANT IMPROVEMENTS.
- LOCATION OF FIRE EXTINGUISHERS TO BE INSTALLED AT THE TIME OF THE SHELL CONSTRUCTION.
- MEZZANINE / CAT WALK TO FUTURE IWPF EQUIPMENT CATWALK BY P.E.M.B.

NOTE:
INTERIOR PARTITIONS, GYPSUM FINISH ON EXTERIOR WALLS, INTERIOR DOORS, CEILING, FINISHES, CASEWORK, PLUMBING, ELECTRICAL, FIRE SPROKLER AND MECHANICAL SYSTEMS FOR THE ADMINISTRATION BUILDING ARE SHOWN FOR REFERENCE ONLY AND WILL BE PERMITTED AS A SEPARATE PROJECT.
WALLS AT THE ADMIN GROUND FLOOR ELECTRICAL ROOM (FLOOR TO SECOND FLOOR ABOVE) AND ELEVATOR SHAFT WALLS (FULL HEIGHT) ARE A PART OF THE SHELL PHASE OF WORK.

LEGEND



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SITE AND SHELL SUBMITTAL FOR

WASTE MANAGEMENT
SAN LEANDRO

INTEGRATED WASTE PROCESSING
FACILITY (IWPF) & ADMINISTRATIVE
OFFICE BUILDING

2615 DAVIS STREET
SAN LEANDRO, CALIFORNIA

approved for the owner by :

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drawn by : JDL plot date : 11-29-16

checked by : JDL

stamp



scale : AS NOTED

project number : 12405.00

ADMINISTRATION
BUILDING
FLOOR PLANS

sheet no. :

SITE &
SHELL

A02.2

Model 200X Series Gas Sensor Monitors

Model 2001 - Combustible Gas

Model 2003 - Hydrogen Sulfide

Model 2006 - Carbon Monoxide

The Model 200X Series are compact, solid-state, fixed-installation single alarm monitors designed for continuous area monitoring of Combustible Gas, Hydrogen Sulfide, or Carbon Monoxide.



The Model 200X Series consists of three separate gas monitors, Model 2001 for Combustibles Model 2003 Hydrogen Sulfide and Model 2006 for Carbon Monoxide. A red LED (light-emitting diode) and audible alarm activate when the concentration of gas exceeds the factory-set (and user-adjustable) level. A green LED indicator on the monitor shows that power is connected and it is a safe condition.

The standard configuration has a buzzer and normally operating open relay, a fail-safe normally operating closed relay is field selectable.

All the electronic circuitry needed to operate the monitor, except the DC input power, is contained in a compact unit. It may be mounted in any orientation. For a single-monitor installation and a local alarm, the accompanying AC-to-DC power supply may be plugged into a standard AC source. The monitors accept 9 - 24 VDC.

Semiconductor-Type Sensor

A solid-state semiconductor-type sensor and associated electronic circuitry ensure trouble-free, long-term operation. There are no pumps, filters or chemical cells to replace or maintain. Except periodic calibration to verify the alarm setting, no attention is required after installation. The user may adjust the alarm level by using a different calibration gas concentration.

A sensor self-check feature will flash the LEDs on and off alternatively and sound an interrupted tone as a warning should the sensor fail (open circuit).

Remote Alarm Available

If a remote alarm is desired, the Model 2102 Dual Channel Alarm Panel can be connected up to 500 feet from the monitors.

Features

- Self-check feature signals sensor failure
- Optional normally operating closed relay
- No chemical cells to replace, no periodic maintenance other than routine calibration
- All the electronic circuitry needed to operate the monitor contained compact unit, power supply plugs into standard AC source

Benefits

- Reliable operation
- Fail-safe configuration
- Maintenance free operation
- Quick easy installation and connection to alarm panel

Model 2001 Combustibles Gas Monitor

The Model 2001 can detect a wide range of combustibles. Typical applications include combustible gas monitoring in basements near waste dumps, manhole, tanks, parking garages and vehicle maintenance facilities, laboratories, chemical plants, and more.

Model 2003 Hydrogen Sulfide Monitor

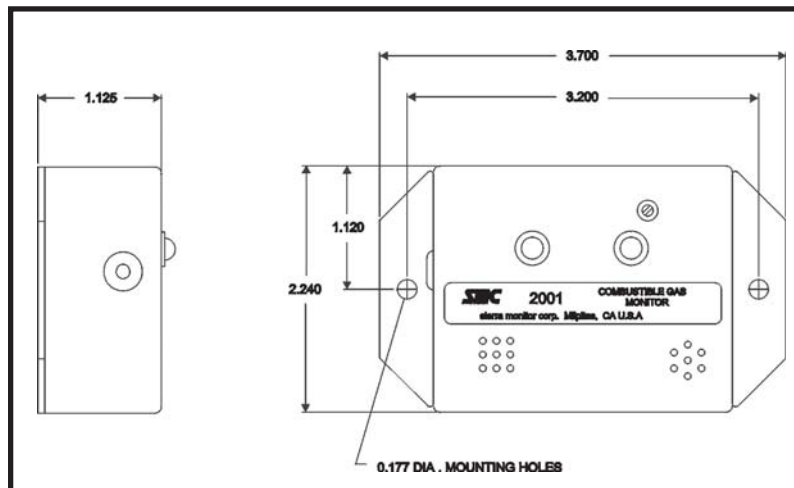
The Model 2003 can be used in such typical applications as waste water treatment plants, laboratories and chemical plants.

Model 2006 Carbon Monoxide Monitor

The Model 2006 Carbon Monoxide Gas Sensor Module can be used to provide an early warning of CO accumulation in tanks, laboratories, chemical plants, parking garages, vehicle test facilities and more.

SPECIFICATIONS

INDICATORS:	Visual:	Green LED for Monitor "ON"/Safe Red LED for Alarm LEDs oscillate on/off for sensor failure	OUTPUT:	0.5 AMP dry contact. 100 VDC, 130 VAC Nominal 5 volts DC, source 25 mA, SAFE and ALARM signals 70 dB buzzer. TTL interface to Model 2102 Alarm Panel is user configurable.
Audible:		Sustained alarm tone for as long as gas is present. Interrupted tone or sensor failure.	RESPONSE TIME:	Model 2001 Less than 30 seconds
SENSOR TYPE:		Solid-State Metal Oxide Semiconductor	Model 2003	Less than 60 seconds
RANGE;	Model 2001	(at 50% relative humidity) 300-2,000 ppm Hydrogen 500-10,000 ppm Methane	Model 2006	Less than 30 seconds
Model 2003		10-50 ppm Hydrogen Sulfide (H ₂ S)	PERIODIC MAINTENANCE:	None, other than routine calibration
Model 2006		50-500 ppm Carbon Monoxide (CO)	OPERATING TEMPERATURE RANGE:	-4°F to 158°F -20°C to 70°C
FACTORY ALARM SETPOINT:	Model 2001	1000 ppm Methane	ENCLOSURE MATERIAL:	Aluminum
Model 2003		50 ppm H ₂ S	SIZE:	3.7 x 2.2 x 1.1 in. (9.4 x 5.7 x 2.8 cm)
Model 2006		100 ppm CO	WEIGHT:	3.8 oz (108 g)
INPUT:		9 - 24VDC (±1V), 250 mA Plug-in 120 VAC AC/DC Power Supply is provided	APPROVAL:	UL 61010-1:2001 CSA-C22.2



ORDERING INFORMATION

Combustible Gas	2001-00
Hydrogen Sulfide	2003-00
Carbon Monoxide	2006-00

