

**PLANNING COMMISSION
SITE PLAN WAIVER REQUEST REVIEW SHEET**

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CASE: SP-2013-0175C

PLANNING COMMISSION DATE: October 8, 2013

PROJECT NAME: Cirrus Logic Research Facility

ADDRESS OF SITE: 605 W 4th St.

APPLICANT: Cirrus Logic, Inc. (Jeremy R. Allen) (512) 565-3563

AGENT: GarzaBury (John Pelham) (512) 298-3284

AREA: 0.44 acres

WATERSHED: Shoal Creek (Urban)

WATERSHED ORDINANCE: Comprehensive Watershed Ordinance (urban)

C.I.P. STATUS: N/A

T.I.A.: N/A

CAPITOL VIEW: South Lamar at Casa Drive

PROPOSED DEVELOPMENT:

The applicant proposes to construct a 3-story, 36,216 sq. ft. research services building including parking and utilities. The ground floor will consist of parking, retail, lobby, electrical vault, fire riser room, and elevator. The development is taking access to W. 4th St.

EXISTING ZONING:

The proposed research services property is zoned CBD. Research Services is a permitted use in CBD.

DESCRIPTION OF WAIVERS: The applicant is requesting three waivers. The first two waivers are closely related and will be evaluated together.

LDC Section 25-6-591(B)(5)

Except as provided in Subsections (C) and (D) of this section, a parking garage must be separated from an adjacent street by a pedestrian-oriented use described in Section 25-2-691 (*Waterfront Overlay (WO) District Uses*) that fronts on the street at the ground level.

25-6-591(D): The Land Use Commission may waive the requirement of Subsection (B)(5) of this section during the site plan review process after determining that:

- (1) present and anticipated development in the area is not amenable to access by pedestrians;
- (2) the requirement does not allow a reasonable use of the property; or
- (3) other circumstances attributable to the property make compliance impractical.

25-6-591(E): If a waiver is granted under Subsection (D), an area for which the requirement is waived must be screened.

And;

LDC Section 25-2-691(C)(12)

A pedestrian-oriented use is a use that serves the public by providing goods or services and includes:

- (1) art gallery, (2) art workshop, (3) cocktail lounge, (4) consumer convenience services, (5) cultural services, (6) day care services (limited, general, or commercial), (7) food sales, (8) general retail sales (convenience or general), (9) park and recreation services, (10) residential uses, (11) restaurant (limited or general) without drive-in service; and
- (12) other uses as determined by the Land Use Commission

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Waiver request is as follows:

The applicant requests a waiver from LDC 25-6-591(B)(5) and 25-2-691(C)(2) in order for the electrical vault, fire riser room, lobby, and elevator to be located between the parking garage and W. 4th St.

The electrical vault is required, by Austin Energy, to be accessible from a paved road (See attached Applicant Backup including The Austin Energy Network Design and Engineering Vault Packet). Additionally, the Austin Fire Department prefers the fire riser room to be located adjacent to the street. In order to accommodate pedestrians that are not entering the building from inside the parking garage, while also accommodating the aforementioned constraints, the lobby and elevator are placed adjacent to W. 4th St.

LDC Section 25-2-692(D)(2)

For a site that is not adjacent to an alley:

- (2) a vehicle may not use the public right-of-way to back into or out of an off-street loading facility or trash receptacle location;

LDC Section 25-6-592(E):

The Land Use Commission may waive a requirement of Subsection (C) or (D) after determining:

- (1) waiving the requirement does not create a hazard to pedestrians or vehicles

Waiver request is as follows:

The applicant requests a waiver LDC 25-2-692(D)(2) in order to maneuver in the right-of-way.

This small site is unique because the only frontage is along W. 4th St. The 20-foot alley on the South side of the property is unusable due to the fact that the eastern half of the alley was vacated and Shoal Creek is on the West, therefore obstructing all connections to public streets. Due to the size of the site and current design of the ground floor, there is not sufficient area for maneuvering into or out of a loading space or trash receptacle location inside the garage.

SUMMARY STAFF RECOMMENDATION:

Staff recommends approval of the waivers from LDC 25-6-591(B)(5) and 25-2-691(C)(2) because the site has no other street frontage on which to place the electrical vault and fire riser room. Additionally, while the lobby and elevator are not listed as one of the eleven pedestrian-oriented uses in the LDC, staff finds that the use does accommodate pedestrians arriving at the building.

Furthermore, the parking garage is screened from view of W. 4th St. with building elements, including a building façade that will meet the building design requirements of Subchapter E (Commercial Design Standards).

Staff recommends approval of the waiver from LDC 25-2-692(D) for maneuvering within the right-of-way with the following conditions:

- Establish dock policies to ensure that the deliveries are scheduled by appointment.
- Schedule deliveries at off-peak times to the maximum extent possible in order to minimize potential traffic, bike, and pedestrian conflicts.
- Keep an employee/attendant to guide delivery trucks in the loading docks to ensure safe maneuvering in the right-of-way.

(See also attached Transportation Review memo and maneuvering exhibits)

CASE MANAGER: Donna Galati
Donna.Galati@austintexas.org

PHONE: 974-2733

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PROJECT INFORMATION: 0.44 acres

EXIST. ZONING: CBD

MAX. BLDG. COVERAGE : 100%

MAX. IMPERV. CVRG.: 100%

ALLOWED F.A.R.: 8:1

HEIGHT: N/A

REQUIRED PARKING: 0

PROPOSED ACCESS: W. 4th St.

PROP. BUILDING CVR: 13,589 sq. ft (76.44%)

PROP. IMP. CVRG.: 14,620 sq. ft. (82.2%)

PROPOSED F.A.R.: 2.2:1

PROP. HEIGHT: 47' (3 story)

PROVIDED PARKING: 18 spaces

SUMMARY COMMENTS ON SITE PLAN:

Land Use: The applicant is requesting a waiver from having a pedestrian use separating the ground-floor parking from W. 4th St. The proposed uses adjacent to the street are either required by other agencies (electric vault and fire riser room) or otherwise serve pedestrians (lobby and elevator for the upper level research services use). The site plan otherwise complies with land use regulations.

Environmental:

The site is located with the Shoal Creek watershed, which is classified as an Urban Watershed. There are no critical environmental features.

Transportation:

Access to the proposed research services will be from W. 4th St.. The proposed development did not require a TIA. The applicant is requesting a waiver in order to allow maneuvering in the right-of-way. The site constraints warrant recommendation by transportation staff.

This administrative site plan will comply with all applicable requirements of the Land Development Code prior to its release. Staff recommends approval of the waivers.

PLANNING COMMISSION ACTION:

SURROUNDING CONDITIONS:

Zoning/ Land Use

North: CBD (vacant)

South: CBD-CURE (360 Condominiums)

East: CBD-CURE (360 Condominiums)

West: Shoal Creek, then CBD-CURE (Condominiums)

<u>STREET:</u>	<u>R.O.W.</u>	<u>SURFACING</u>	<u>CLASSIFICATION</u>
W 4 th St.	77'	65'	Collector

NEIGHBORHOOD ORGANIZATIONS:

Austin Heritage Tree Foundation

Austin Independent School District

Austin Monorail Project

Austin Neighborhoods Council

Bike Austin

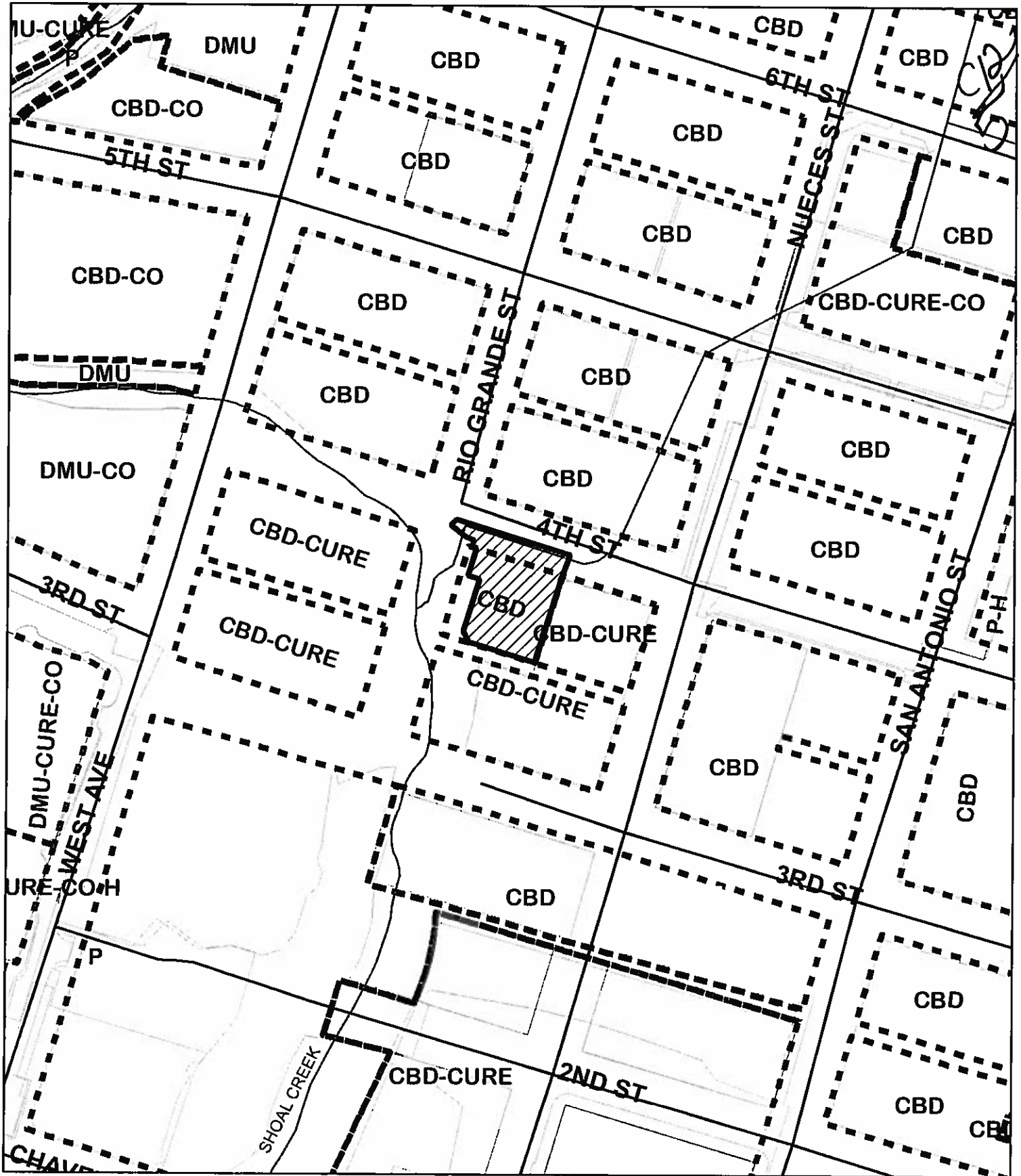
City of Austin Downtown Commission

Downtown Austin Alliance

Downtown Austin Neighborhood Assn. (DANA)

Downtown Austin Neighborhood Coalition
Historic Austin Neighborhood Association
Homeless Neighborhood Assn.
Original Austin Neighborhood Association
Save Town Lake.Org
SELTEXAS
Sierra Club, Austin Regional Group
Super Duper Neighborhood Objectors and Appealers Organization
The Real Estate Council of Austin, Inc.
West Downtown Alliance, Inc.
West End Austin Alliance



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SITE PLAN

CASE#: SP-2013-0175C
 ADDRESS: 605 W 4th St.
 CASE NAME: Cirrus Logic Research Facility
 MANAGER: Donna Galati



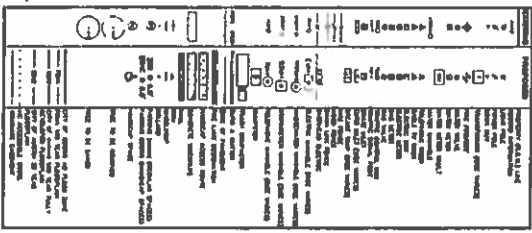
 **SUBJECT TRACT**
 **ZONING BOUNDARY**

0 87.5 175 350 Feet

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

This product has been produced by the Planning and Development Review Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

OPERATOR: Donna Galati

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OF <div style="font-size: 2em; font-weight: bold; text-align: center;">5</div> SHEET 24	DRAWN BY:
	DESIGNED BY:
	REVIEWED BY:
	PROJECT NO.: 101883-000

CIRRUS LOGIC RESEARCH FACILITY
806 W. 4TH STREET

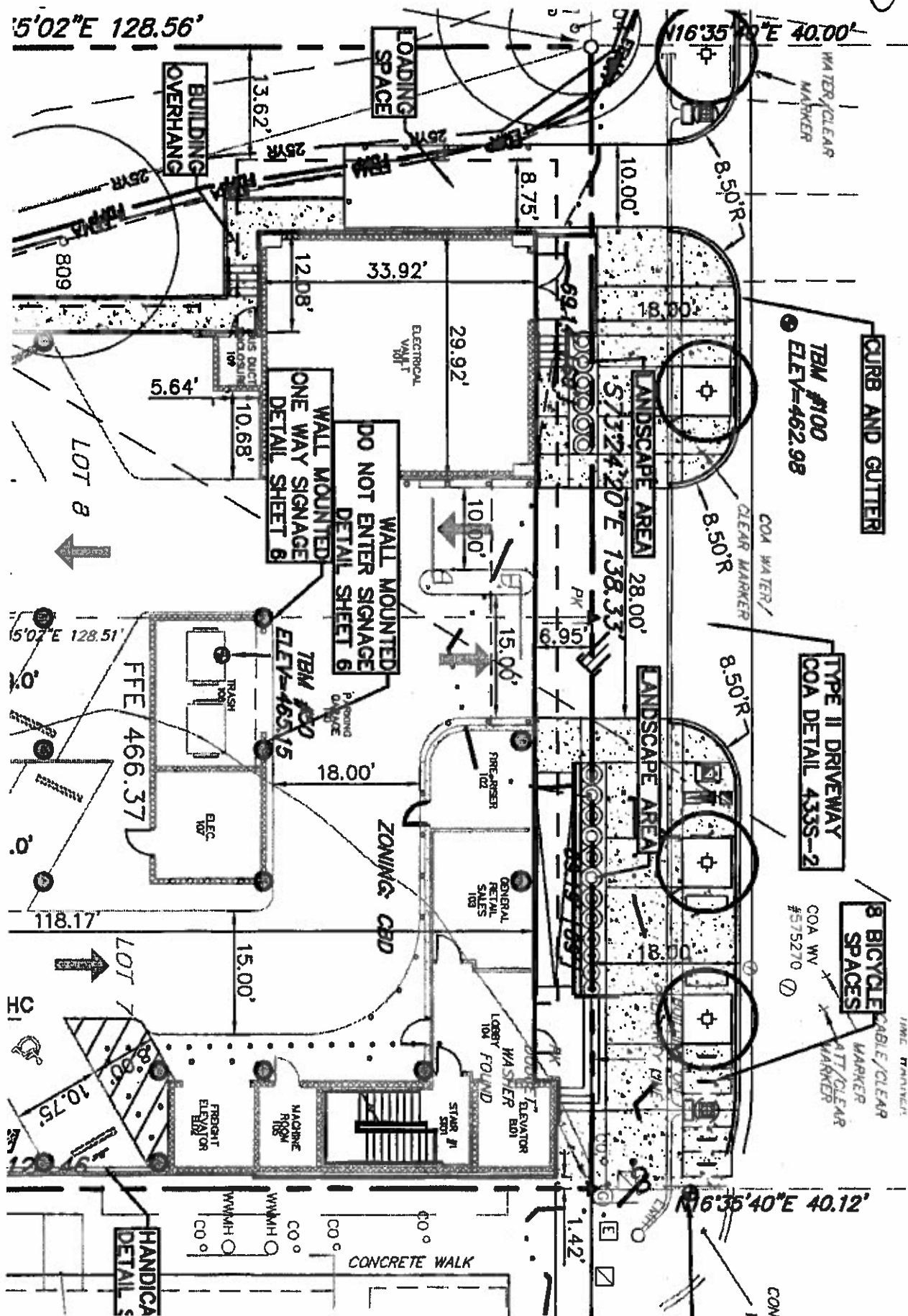
CIRRUS LOGIC, INC.

SITE PLAN



garzabury
221 West Sixth Street, Suite 200
Austin, Texas 78701
Tel (512) 264-8294 Fax (512) 264-2527
Toll-free (800) 451-4444
Dovey Inc. LLC © Copyright 2013

N 6°35'40"E 40.12'





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MEMORANDUM

DATE: September 25th, 2013
TO: Chair and Members of the Planning Commission
CC: Donna Galati, Case Manager
FROM: Caleb Gutshall, Transportation Review
SUBJECT: Waiver Request for Cirrus Logic Research Facility SP-2013-0175C

PROPOSED DEVELOPMENT:

The proposed site is bound by West 4th Street on the north, Shoal Creek on the west, and the 360 Condominium building on the east and south. The loading facility for the site is proposed to be located on West 4th Street. There is existing alley right-of-way located behind the development, but the right-of-way does not connect to the street system. During the 360 Condominium development, a segment of alley right-of-way was vacated, which resulted in the existing alley behind Cirrus Logic being isolated and inaccessible from the street.

DESCRIPTION OF WAIVER:

The applicant for the proposed Cirrus Logic Research Facility is requesting one waiver from the Land Development Code (LDC):

- (1) Section 25-6-592(D)(2) that states that for sites not adjacent to an alley a vehicle may not use the public right-of-way to back into or out of an off street loading facility.

Section 25-6-592(E) allows the Planning Commission to waive this requirement after determining that waiving the requirement does not create a hazard to pedestrians or vehicles and that the applicant has reduced the visibility of the off-street loading facility and trash location to the greatest extent possible.

STAFF RECOMMENDATION:

The proposed loading facility will be located on the west side of the building along West 4th Street. Given the small site area and design, it will be necessary for trucks to use the right-of-way in order to back out of the space, because the site is not located adjacent to a functioning alley. West 4th Street terminates at Rio Grande Street west of the site. The cyclists and minimal vehicles that use these roadways already decelerate to accommodate the right-angled turn. Due to the slopes along Shoal Creek, sidewalks do not exist west of the site along the south side of West 4th Street. The majority of pedestrians utilize the sidewalks along the north side of the street

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opposite the proposed site. The Austin Transportation Department has reviewed the proposed maneuvering movements and supports the waiver request. In staff's opinion, granting these waivers will not create a hazard to pedestrians, cyclists, or vehicles.

The Transportation Review Section recommends the waiver be granted with the following conditions:

- Establish dock policies to ensure that the deliveries are scheduled by appointment.
- Schedule deliveries at off-peak times to the maximum extent possible in order to minimize potential traffic, bike, and pedestrian conflicts.
- Keep an employee/ attendant to guide delivery trucks in the loading docks to ensure safe maneuvering in the right-of-way.

If you have any further questions or require additional information, please contact me at 974-6420.

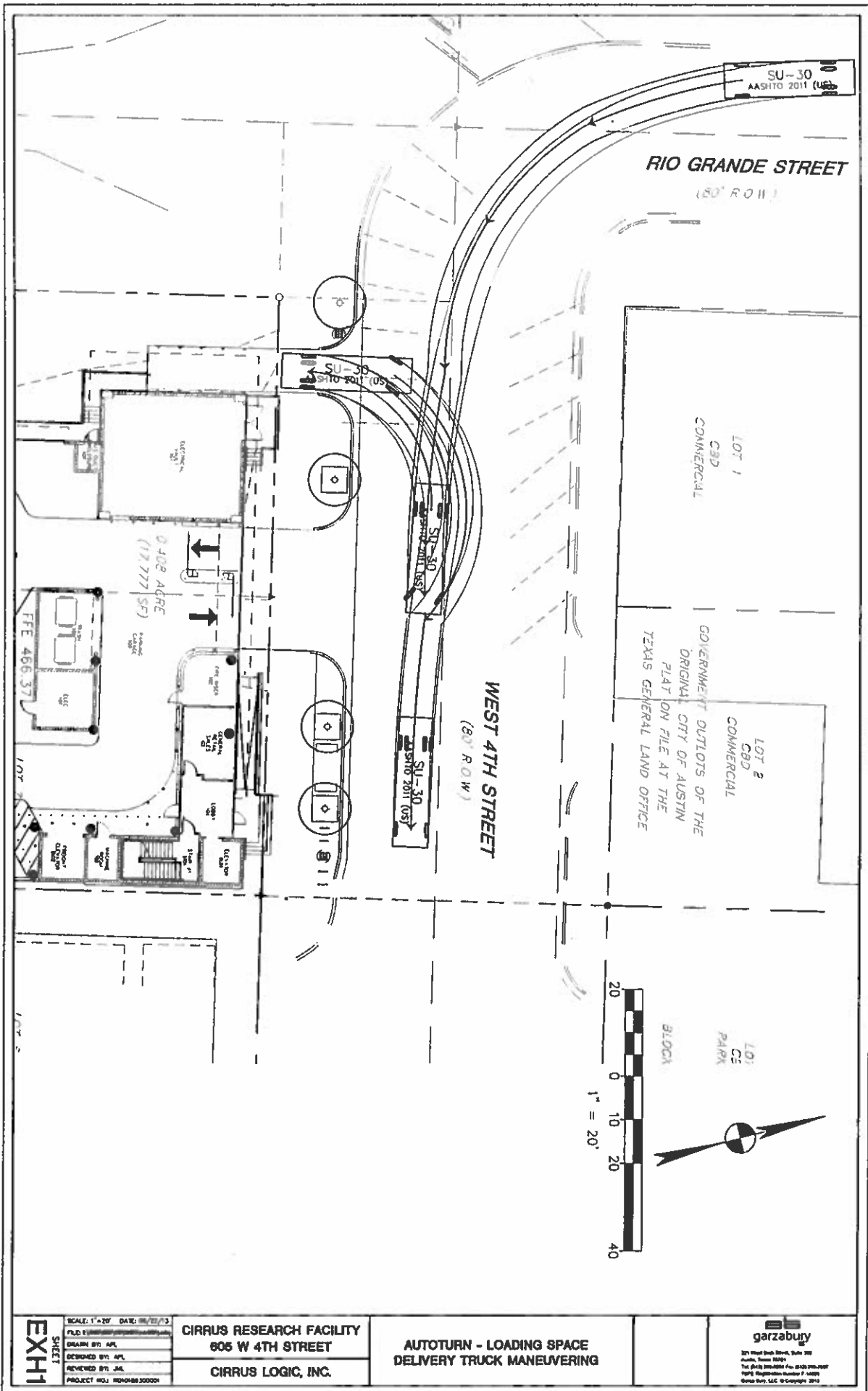


Caleb Gutshall

Senior Planner

Planning and Development Review Department, Transportation Review Section

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EXH1
SHEET

SCALE: 1" = 20' DATE: 08/03/13
 DESIGNED BY: APL
 CHECKED BY: APL
 PROJECT NO: H000488-000001

CIRRUS RESEARCH FACILITY
605 W 4TH STREET
CIRRUS LOGIC, INC.

AUTOTURN - LOADING SPACE
DELIVERY TRUCK MANEUVERING

garzabury
 221 West Bush Street, Suite 200
 Austin, Texas 78701
 Tel: (512) 381-1111 Fax: (512) 381-1112
 1993 Registration Number F-10000
 Garza-Bury, LLC © Copyright 2013

(80° R.C.W.)

COV Garbage Truck
BRI Custom Vehicles

LOT 1
CBD
COMMERCIAL

LOT 2
CBD
COMMERCIAL

GOVERNMENT OUTLOTS OF THE
ORIGINAL CITY OF AUSTIN
PLATON FILE AT THE
TEXAS GENERAL LAND OFFICE

310

WEST 4TH STREET

(80° F. O.W.)

CUV	Garbage	Teac
Width	9.93	
Lock	8.17	
Lock to Lock	60	
Steering/Angle	339	

2.408 AURE
(17.777 SF)

FFE 466.37

LOT :
CSD-CU.
ML-THA

SHEET EXH2	SCALE: 1"=20'	DATE: 08/22/13
	FILE: C:\pwworking\paulmiller\dwg\13080001.dwg	
	DRAWN BY: APL	
	DESIGNED BY: APL	
	REVIEWED BY: JAL	
PROJECT NO.: 13080001		

CIRRUS RESEARCH FACILITY
805 W 4TH STREET
CIRRUS LOGIC, INC.

AUTOTURN - LOADING SPACE GARBAGE TRUCK MANEUVERING

garzabury
271 West River Street, Suite 200
Austin, Texas 78701
Tel. (512) 266-2900 Fax (512) 266-0200
Toll Free 1-800-865-7429
www.garzabury.com



September 23, 2013

City of Austin
Planning Commission
505 Barton Springs Road
Austin, Travis County, Texas 78704

RE: Variance for Pedestrian Oriented Use
Cirrus Logic Research Facility
605 W 4th Street
Austin, Travis County, Texas 78701
Site Plan Case No. SP-2013-0175C

Dear Members:

In accordance with the City of Austin Land Development Code, §25-6-591(D)(3) and §25-2-691(C)(12), we are requesting a variance for the pedestrian oriented use requirement to separate a parking garage from an adjacent street, under 25-6-591(B)(5).

This project is located at 605 W 4th Street, between the 360 Condos and Shoal Creek. The proposed development includes a three story building, with a first floor parking garage and research services use on the second and third floors.

The site is unique because it only has frontage along 4th Street. It is surrounded on the east and south by the 360 Condos, and on the west by Shoal Creek. There is a 20-foot alley on the south side of the site, but since the eastern half of the alley has been vacated, and Shoal Creek is on the west, it is an alley that does not connect to any public streets. Because the alley cannot be accessed from a public street, certain spaces that might otherwise be located on the alley side of the building were forced to be located along 4th Street.

The proposed frontage along includes an electric vault room, a fire riser room, a retail space, and a lobby area and elevator for the proposed research services space on the upper levels. We are requesting a variance for the vault room, fire riser room, and lobby/elevator area. These spaces are not listed under the LDC §25-2-691 (C) as pedestrian oriented uses.

In our opinion, the electric vault room and the fire riser room fall under LDC §25-6-591(D)(3), which specifies that the POU requirement may be waived by the Land Use Commission if it is determined that "other circumstances attributable to the property make compliance impractical".

GarzaBury, LLC
221 West Sixth Street
Suite 380
Austin, Texas 78701
o: 512.298.3284
f: 512.298.2592
www.garzabury.com
TBPE No. F-14629



02/13

The Austin Energy Network Design and Engineering Vault Packet (attached) states that access to the vault shall be provided from a paved road with a minimum width of 20-feet and a minimum vertical clearance of 35-feet. Fourth Street is the only paved road/public access available for this site.

The Fire Department prefers that the fire riser room be located adjacent to the street, providing direct access to the room. Fourth Street is the only street accessible for fire protection. In addition, the fire department connection must be adjacent to the street and is typically extended from the fire riser room. Furthermore, the Utility Criteria Manual states that a fire line must have a backflow preventer which is located inside the property line and located such that no more than 100 gallons of water is contained in the pipe between the backflow preventer and the connection to the main in the street (attached). The location of our building does not allow for the backflow preventer to be placed outside the building and within the property line. Therefore, it is preferable to place the fire riser room adjacent to the street.

In addition, we would like to request that the Commission consider granting a variance pursuant to LDC 25-2-691(C)(12) for the lobby/elevator space. The proposed lobby area has been minimized as much as possible while still having a functional space. The lobby is a necessary component to access the second and third floors of the building. Without an elevator and lobby, the property would be limited to one story in height. In our opinion, it is reasonable to allow a small space on the frontage to provide access to the upper levels of the building.

We appreciate your consideration and approval of this variance request. If you should have any questions or comments regarding the information in this letter, or the attached items, please do not hesitate to contact our office.

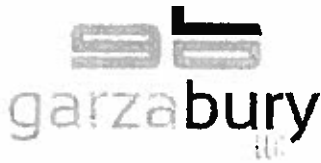
Sincerely,

A handwritten signature in black ink that reads "Julia M. Laskowski". The signature is fluid and cursive, with the first name "Julia" being the most prominent.

Julia M. Laskowski, P.E.

Project Engineer

Attachments - Austin Energy Vault Packet
Utility Criteria Manual, Section 2.9.2



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September 23, 2013

City of Austin
Planning Commission
505 Barton Springs Road
Austin, Travis County, Texas 78704

RE: Variance for Maneuvering in the ROW
Cirrus Logic Research Facility
605 W 4th Street
Austin, Travis County, Texas 78701
Site Plan Case No. SP-2013-0175C

Dear Members:

In accordance with the City of Austin Land Development Code, §25-6-592(E), we are requesting a variance from the requirement that a vehicle may not use public right-of-way to back into or out of an off-street loading facility or trash receptacle location, under LDC §25-6-592(D)(2).

This project is located at 605 W 4th Street, between the 360 Condos and Shoal Creek. The proposed development includes a three story building, with a first floor parking garage and research services use on the second and third floors.

The site is unique because it only has frontage along 4th Street. It is surrounded on the east and south by the 360 Condos, and on the west by Shoal Creek. There is a 20-foot alley on the south side of the site, but since the eastern half of the alley has been vacated, and Shoal Creek is on the west, it is an alley that does not connect to any public streets. This makes the alley unusable for the purpose of accessing the site.

Due to the size of our site, and the current design of the ground floor as a parking garage, there is not sufficient area for maneuvering into or out of a loading space or trash receptacle location inside the garage. The truck turning radii is too large to make it around and out of the garage. The proposed site will not be receiving large truck (18-wheeler) deliveries, but only small delivery trucks (i.e. FedEx) into the loading space.

GarzaBury, LLC
221 West Sixth Street
Suite 380
Austin, Texas 78701
P: 512.288.3781
F: 512.298.7592
www.garzaBury.com
TSP# No. F-14629



We are proposing a loading space outside on the west side of the building. This location will require that delivery trucks maneuver in the right-of-way to use the space. In addition, we are proposing the dumpster pick-up location in the loading space. The dumpsters will be located inside the garage rolled out to the loading space for pick-up on the assigned day. We met with staff from the Transportation and Traffic groups, and per their recommendations, we created exhibits showing the turning movements for the delivery truck and the garbage truck. The Transportation and Traffic groups have reviewed and approved these exhibits.

We are proposing that the delivery trucks back into the loading space, which is a protected space with no traffic, rather than pulling into the loading space and then backing out into 4th Street, which is an unprotected space with traffic. The attached Exhibit 1 shows the loading space maneuvering movements.

Waste Management will be providing the trash service for the site. The trash trucks are front-loading and pick up the dumpsters and lift them over the front of the truck. The attached Exhibit 2 shows the trash truck maneuvering movements, pulling into the space to pick up the dumpster, and then backing out into 4th Street to leave.

The location of our site is on a low traffic volume street, which will allow minimal interference with the delivery truck and garbage truck visits.

We appreciate your consideration and approval of this variance request. If you should have any questions or comments regarding the information in this letter, or presented on the attached exhibits, please do not hesitate to contact our office.

Sincerely,

A handwritten signature in black ink that reads "Julia M. Laskowski". The signature is written in a cursive, flowing style.

Julia M. Laskowski, P.E.
Project Engineer

Attachments (2)

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NETWORK DESIGN AND ENGINEERING



VAULT PACKET

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Network Transformer Vaults

In this Vault Packet you will find the following:

- Standard transformer vault drawings with legend. These are Austin Energy's "standard" drawings which show the minimum dimensions of various network vaults according to power needs as well as all of the features that Austin Energy requires. We will need to meet to go over and discuss each feature. The vault drawings in this packet are for reference only. You will receive your unique vault plan from Austin Energy at a later time.
- An Electric Service Planning Application (ESPA) will need to be completed and given to your appointed designer before design work will begin. It will be checked and signed by the designer and then be sent back to you. You will need the ESPA to apply for permits with The City of Austin's Planning and Development Department.
- Detail drawings of items that are required for the electrical vault.
- A trench detail for the conduit and duct line that is to be installed to the property line by the customer.

An Austin Energy Network design representative will be in touch with you throughout the design and construction process.

Chuck Purcell (Initial Point of Contact)
(512) 505-7757

Rudy Vela
(512) 505-7650

Kevin Wolf
(512) 505-7539

Chris Yanik
(512) 505-7505

Network Engineering Fax
(512) 505-7747

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IMPORTANT INFORMATION

IT IS **STRONGLY** ADVISED THE VAULT IS BUILT EXACTLY AS REPRESENTED ON YOUR AUSTIN ENERGY VAULT PRINT. ANY DEVIATIONS FROM THE VAULT PRINT ISSUED TO YOU BY AUSTIN ENERGY COULD RESULT IN FAILURE OF ANY OR ALL OF THE FOLLOWING INSPECTIONS AS WELL AS DELAY ENERGIZATION OF THE VAULT.

INSPECTIONS:

SEVERAL VITAL INSPECTIONS BY AUSTIN ENERGY (AE) MUST OCCUR THROUGHOUT THE CONSTRUCTION OF THE TRANSFORMER VAULT. CONTACT AN AE DESIGNER A MINIMUM OF (3) THREE DAYS PRIOR TO EACH INSPECTION. **FAILURE TO COMPLY WITH ANY OF THE INSPECTIONS MAY CAUSE THE VAULT TO FAIL INSPECTION.**

1. **CONDUITS AND TRENCHING:** AE CIVIL DEPT. MUST INSPECT ALL CONDUIT LOCATIONS AND TRENCH DEPTHS PRIOR TO BACK FILL. CALL THE CIVIL DEPT. AT 505-7144 FOR INSPECTION.
2. **GROUND WIRE:** AE MUST INSPECT THE INSTALLATION OF THE GROUND WIRE PRIOR TO ANY CONCRETE BEING PLACED. CONTACT YOUR DESIGNATED AUSTIN ENERGY CONTACT LISTED ON YOUR VAULT PRINT.
3. **FINAL INSPECTION:** UPON COMPLETION OF THE VAULT BY THE CUSTOMER, AE MUST INSPECT THE VAULT TO ENSURE THAT ALL AE AND NATIONAL ELECTRIC SAFETY CODE REQUIREMENTS HAVE BEEN MET. CONTACT YOUR DESIGNATED AUSTIN ENERGY CONTACT LISTED ON YOUR VAULT PRINT.
4. **METERING:** FOR METERING LOCATION CONTACT METERING AT 505-7068.

THESE INSPECTIONS INCLUDE ONLY THOSE REQUIRED PRIMARY CONDUIT AND THE TRANSFORMER VAULT. ALL OTHER INSPECTIONS OF THE CUSTOMERS EQUIPMENT AND INSTALLATION SHALL BE COORDINATED WITH THE CITY OF AUSTIN DEPT. OF PLANNING AND DEVELOPMENT AND ELECTRICAL INSPECTION SECTION.

TRANSFORMER VAULT COMPLETION:

THE COMPLETION OF THE VAULT WILL BE APPROVED WHEN ALL SPECIFICATIONS AND REQUIREMENTS OF AE HAVE BEEN MET AND FINAL INSPECTION HAS BEEN SUCCESSFULLY COMPLETED. AE WILL NOT BEGIN CONSTRUCTION IN THE VAULT UNTIL THE FINAL INSPECTION HAS CLEARED. ONCE THE VAULT PASSES FINAL INSPECTION, AE WILL HAVE **A MINIMUM OF (6) SIX WEEKS** TO COMPLETE EQUIPMENT INSTALLATION WITHIN THE VAULT TO PROVIDE SERVICES.

CITY OF AUSTIN ELECTRICAL INSPECTIONS:

CALL THE INSPECTIONS DEPARTMENT AT (512) 974-6476

SERVICE ORDER:

AE MUST RECEIVE EITHER A "SERVICE TURN-ON" OR A "SET ORDER" RELEASE FROM THE UTILITY CUSTOMER SERVICE OFFICE (UCSO):

TO GET THIS, CALL UCSO AT (512) 494-9400. IN THE VOICE MAIL MENUS, CHOOSE OPTION 1, THEN OPTION 3, AND THEN OPTION 1. WHEN A PERSON ANSWERS THE PHONE, TELL THEM THAT YOU NEED A "SERVICE TURN-ON." THEY WILL ASK YOU FOR YOUR BILLING ADDRESS, FEDERAL TAX IDENTIFICATION NUMBER, AND ELECTRICAL PERMIT NUMBER.

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ABOVE GRADE VAULT LEGEND

1. THE CUSTOMER IS TO INSTALL 9-5", 3-4", AND 2-2" CONDUITS (SCH #40 PVC) FROM THE VAULT TO THE PROPERTY LINE. THE CONDUIT LOCATION AND ORIENTATION IS SHOWN ON THE PRINT. THE CONDUIT IS TO BE CONCRETE ENCASED 30" BELOW GRADE, WITH A 1% SLOPE AWAY FROM THE VAULT. THE CONDUITS SHALL TERMINATE IN THE VAULT 6" ABOVE THE FINISHED FLOOR WITH BELL ENDS. AUSTIN ENERGY (AE) WILL INSTALL CONDUITS FROM THE CUSTOMERS STUB AT THE PROPERTY LINE TO THE AE MANHOLE. REFER TO CONDUIT AND TRENCH DETAIL IN VAULT PACKET. CONTACT AE CIVIL DEPT. AT 505-7144 FOR INSPECTION.
 2. AIR INTAKE AND EXHAUST OPENING LOCATIONS AND SIZES TO BE DETERMINED BY AE DESIGN. CUSTOMER SHALL PROVIDE GALVANIZED LOUVERS WITH A 1/2" GALVANIZED WIRE MESH AND CURTAIN STYLE THREE-HOUR FIRE RATED DAMPERS. ALL LOUVERS TO BE FLUSH WITH INSIDE WALL. REFER TO DETAILS SHOWN IN VAULT PACKET.
 3. CUSTOMER SHALL INSTALL 4/0 BARE COPPER FOR USE AS A GROUND CONDUCTOR. THE GROUND RESISTANCE OF THE CONDUCTOR SHALL BE 8 OHMS OR LESS AND SHALL BE DONE ACCORDING TO NEC STANDARDS. THE COPPER GROUND CONDUCTOR IS TO BE BROUGHT UP THROUGH THE VAULT FLOOR, LEAVING 6' TAILS IN THE VAULT. LOCATION OF THE TAILS IS TO BE WITHIN 6" OF CLOSEST WALL SHOWN ON THE PRINT. CONTACT YOUR DESIGNATED AE NETWORK DESIGNER FOR INSPECTION PRIOR TO POURING OVER.
 4. THE CUSTOMER IS TO CONSTRUCT AN OIL RESERVOIR WITH A WELDED, HOT-DIPPED GALVANIZED STEEL BAR GRATING OVER THE OPENING FLUSH WITH FLOOR AND REMOVABLE. SIZE OF THE RESERVOIR WILL BE DETERMINED BY AE. REFER TO DETAILS SHOWN IN VAULT PACKET.
 5. THE CUSTOMER IS TO INSTALL FIRE RATED DOORS WITH SWEEPS AND/OR ROLL-UP DOORS. ROLL-UP DOORS WILL NOT HAVE FUSABLE LINKS OR THRESHOLDS. CUSTOMER IS TO CONTACT AE NETWORK DESIGN FOR PROPER DOOR FIRE RATING. REFER TO DETAILS SHOWN IN VAULT PACKET.
 6. THE CUSTOMER'S SECONDARY SERVICE STUB-IN TO THE VAULT FROM THE CABLE TAP-BOX ROOM IS TO BE COPPER BUS AND IS TO BE LOCATED AS SHOWN ON PRINT. MANUFACTURER'S DRAWINGS OF THE BUS SHALL BE APPROVED BY AE NETWORK DESIGN SECTION. REFER TO DETAILS SHOWN IN VAULT PACKET.
 7. THE VAULT FLOOR AND UNDERLYING STRUCTURE SHALL BEAR THE WEIGHT OF ALL TRANSFORMER FOOTPRINTS AND OTHER ELECTRICAL EQUIPMENT. THE VAULT FLOORS SHALL BE HARD TROWEL FINISHED FOR SMOOTHNESS. DIVITS OR BUMPS ARE TO BE FILLED OR SCRAPPED PRIOR TO AE ACCEPTING THE VAULT. THE FLOOR SHALL SLOPE TOWARD THE OIL RESERVOIR A MAXIMUM OF 1% FROM EVERY OUTSIDE EDGE OF THE FOUNDATION.
 8. THE VAULT WALLS AND CEILING SHALL HAVE A MINIMUM OF THREE-HOUR FIRE RATING. NO WALL BOARD (SHEET ROCK) CONSTRUCTION IS PERMITTED ON INTERIOR WALLS OF VAULT. NO LIGHTS, SWITCHES, ELEC. CONDUIT, JUNCTION BOXES, VENTILATION, SPRINKLERS, ETC. ARE PERMITTED. LIGHTING INSTALLATION IS THE RESPONSIBILITY OF AE. THE CUSTOMER SHALL PAINT THE INSIDE OF THE VAULT TRUE WHITE SEMI-GLOSS (NO SHADES OF WHITE PLEASE).
9. TRUCK ACCESS - ACCESS TO THE VAULT SHALL BE PROVIDED FROM A PAVED ROAD WITH A MINIMUM WIDTH OF 20' AND A MINIMUM VERTICAL CLEARANCE OF 35'. THE ACCESS ROAD SHALL BE CAPABLE OF SUPPORTING, WITHOUT DAMAGE TO THE ROAD, A TOTAL WEIGHT OF 72,180 POUNDS WITH A MAXIMUM REAR AXLE WEIGHT OF 32,530 POUNDS. THE MAXIMUM ACCEPTABLE GRADE OF ANY OUTSIDE RAMP LEADING TO THE VAULT ENTRANCE IS 12%.
10. THE CUSTOMER IS TO INSTALL A 4"x4" OIL BEARING CURB ACROSS ALL DOOR OPENINGS IMMEDIATELY AFTER PLACEMENT OF TRANSFORMERS BY AE TO CONTAIN OIL IN CASE OF TRANSFORMER RUPTURE.
 11. WHEN REQUESTED THE CUSTOMER SHALL PROVIDE A CONCRETE STEEL REINFORCED PAD WHICH WILL BEAR A MIN. WEIGHT OF 15,000 LBS. OUTSIDE A DESIGNATED VAULT DOOR WHICH WILL BE LEVEL WITH THE POINT AT WHICH IT MEETS THE FINISHED FLOOR/FOUNDATION WITH A 2% SLOPE AWAY FROM THE VAULT. IT SHALL BE A SMOOTH TRANSITION FROM PAD TO FINISHED FLOOR WITH AS SMALL A JOINT AS POSSIBLE.
 12. ALL CRACKS IN WALLS AND CEILING INCLUDING AROUND DOOR JAMBS/TRIM, LOUVERS, STUB-IN BOARDS, ETC. SHALL BE FIRE CAULKED.

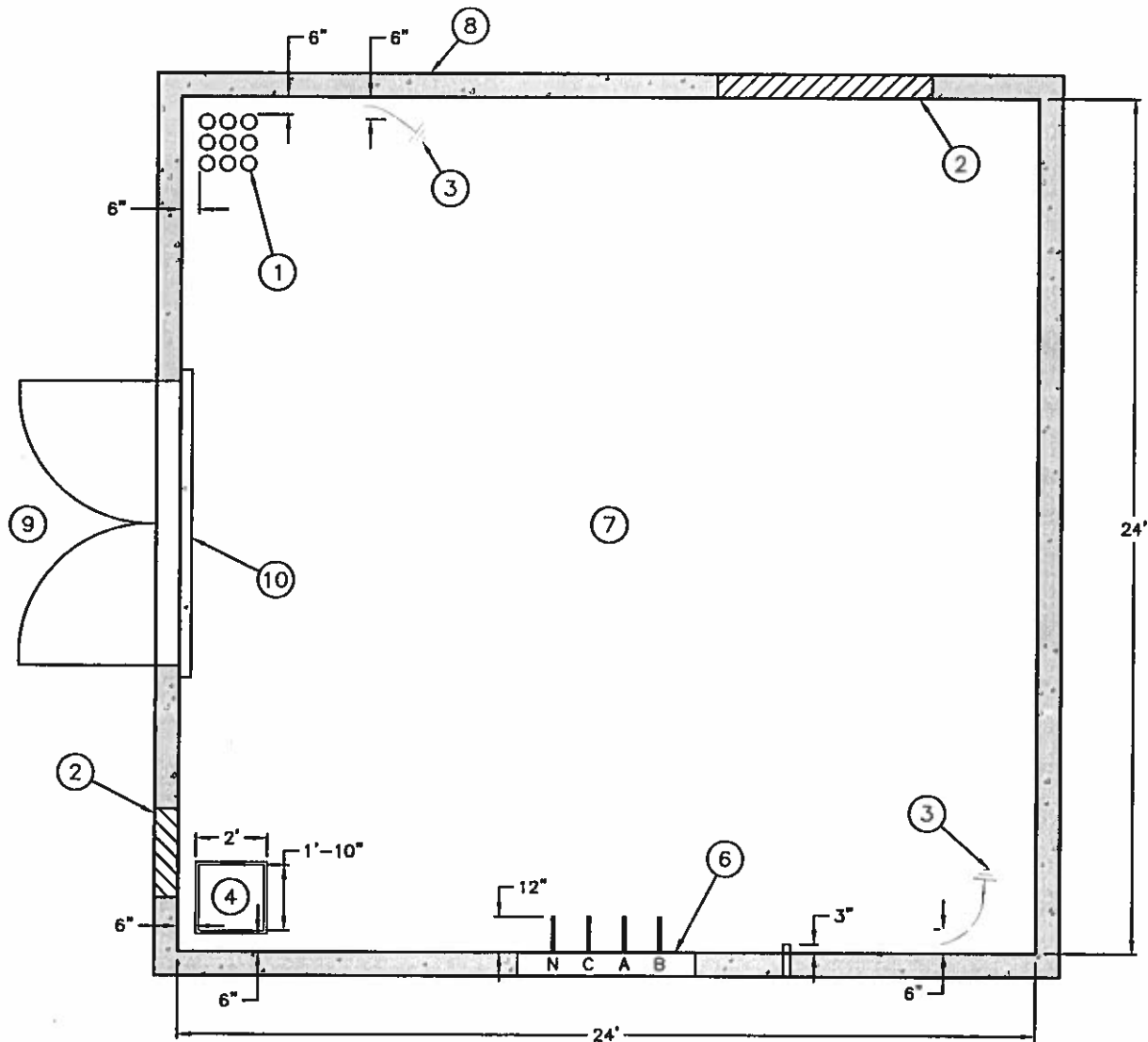
NOTE: IN CERTAIN APPLICATIONS, THE CUSTOMER IS TO INSTALL A 1-1/2" METAL CONDUIT, WITH BUSHING, FROM THE VAULT TO THE ELECTRIC METER. THE LOCATION OF THE METER IS TO BE DETERMINED BY THE AE METER SECTION. CONTACT RYAN MAYBIN AT (512) 505-7068 FOR THIS LOCATION.

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

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NOTE:

ALL WALLS AND CEILING SHALL HAVE A MINIMUM OF THREE HOUR FIRE RATING. STUD AND WALL BOARD-CONSTRUCTION SHALL NOT BE ACCEPTABLE. CUSTOMER SHALL PAINT THE INSIDE OF THE VAULT TRUE WHITE.

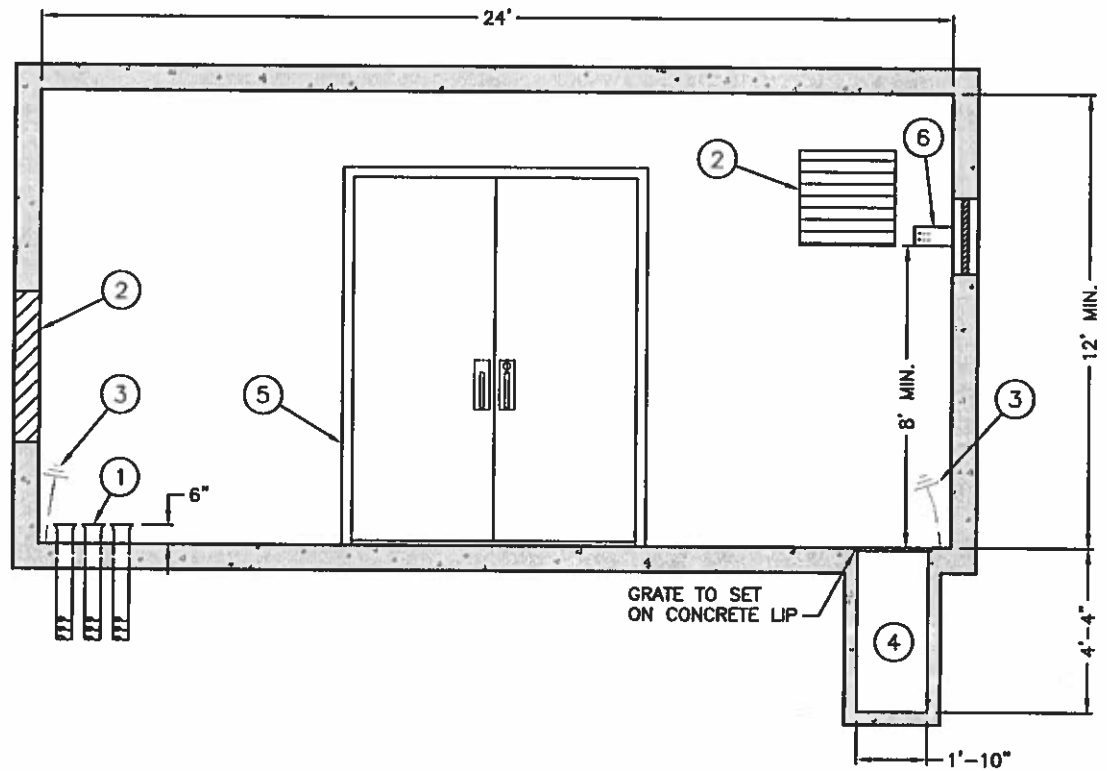


TWO TRANSFORMER VAULT
120/208 VOLT

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

C12
21

NOTE:
AUSTIN ENERGY SHALL SUPPLY INTERIOR
LIGHTING AND VENTILATION EQUIPMENT.



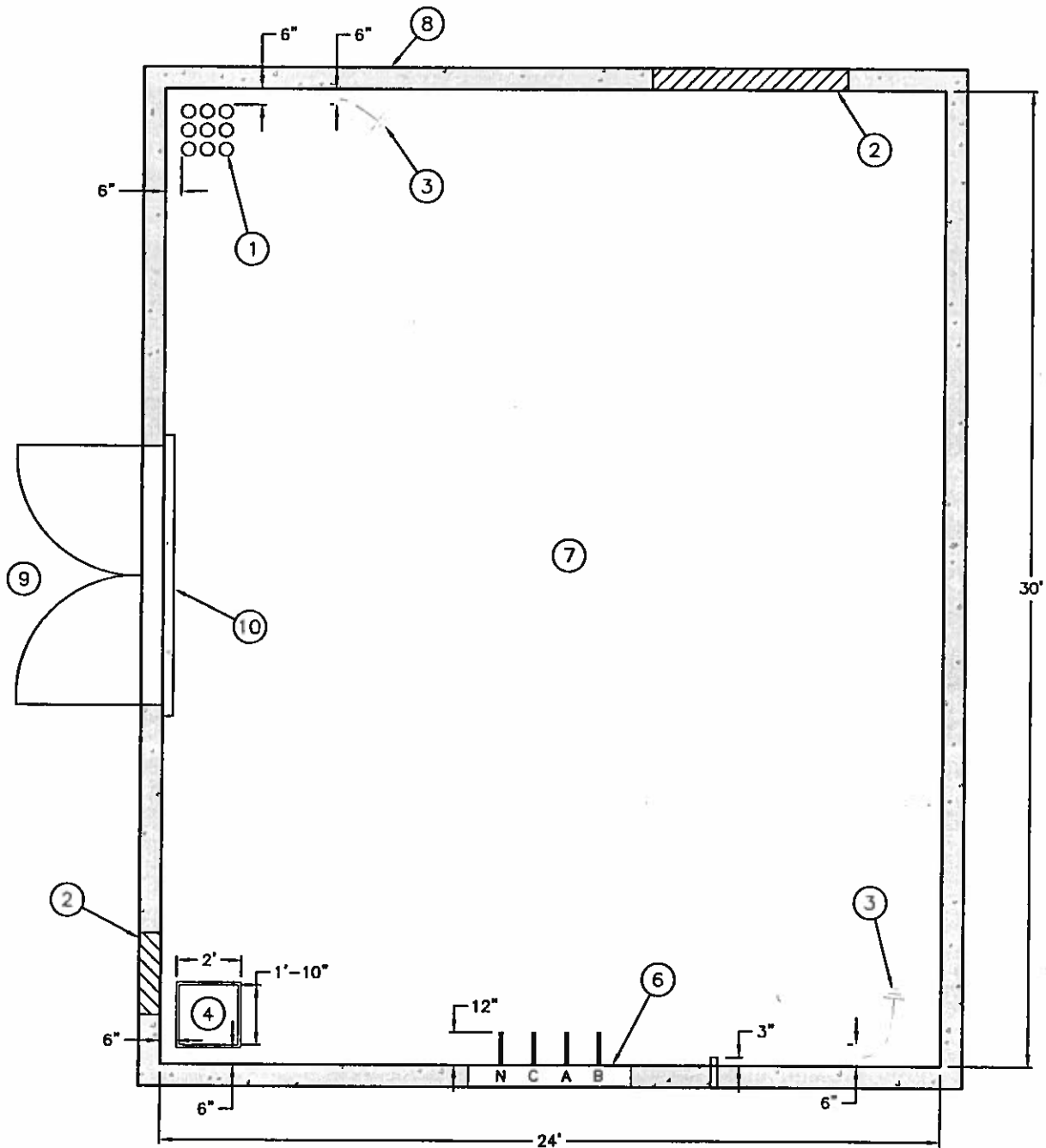
TWO TRANSFORMER VAULT
120/208 VOLT

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

C12/22

NOTE:

ALL WALLS AND CEILING SHALL HAVE A MINIMUM OF THREE HOUR FIRE RATING. STUD AND WALL BOARD-CONSTRUCTION SHALL NOT BE ACCEPTABLE. CUSTOMER SHALL PAINT THE INSIDE OF THE VAULT TRUE WHITE.

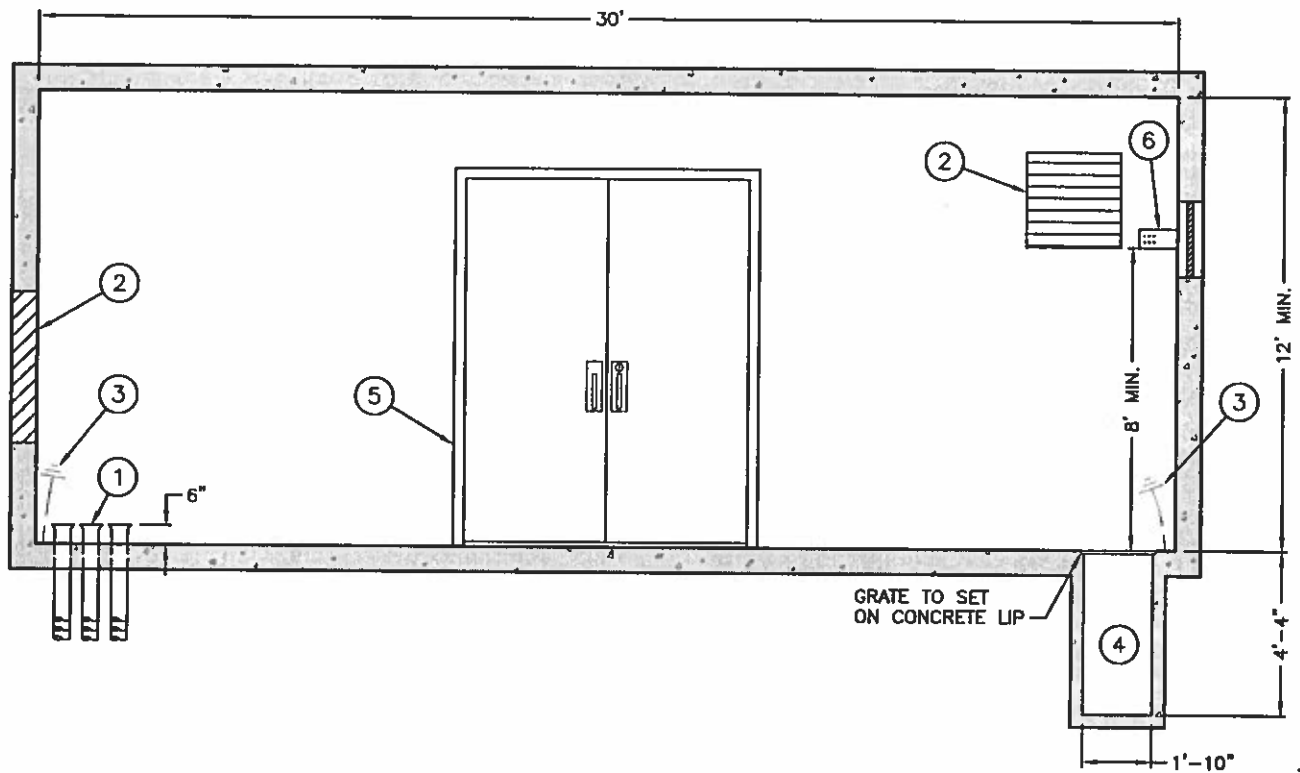


THREE TRANSFORMER VAULT
120/208 VOLT

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

C12/23

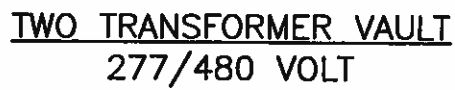
NOTE:
AUSTIN ENERGY SHALL SUPPLY INTERIOR
LIGHTING AND VENTILATION EQUIPMENT.



THREE TRANSFORMER VAULT
120/208 VOLT

24/12

NOTE:
ALL WALLS AND CEILING SHALL HAVE A MINIMUM OF THREE HOUR FIRE RATING. STUD AND WALL BOARD-CONSTRUCTION SHALL NOT BE ACCEPTABLE. CUSTOMER SHALL PAINT THE INSIDE OF THE VAULT TRUE WHITE.

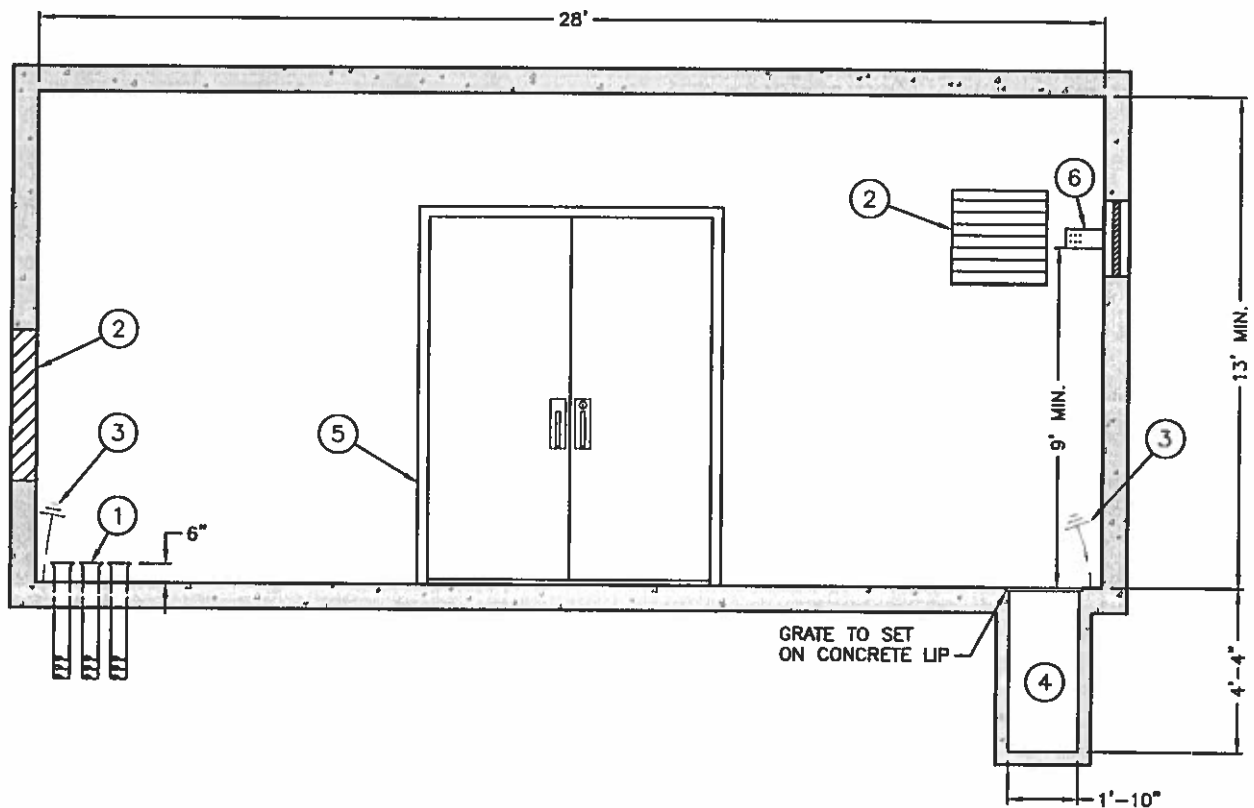


FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

C12
25

NOTE:

AUSTIN ENERGY SHALL SUPPLY INTERIOR LIGHTING AND VENTILATION EQUIPMENT.



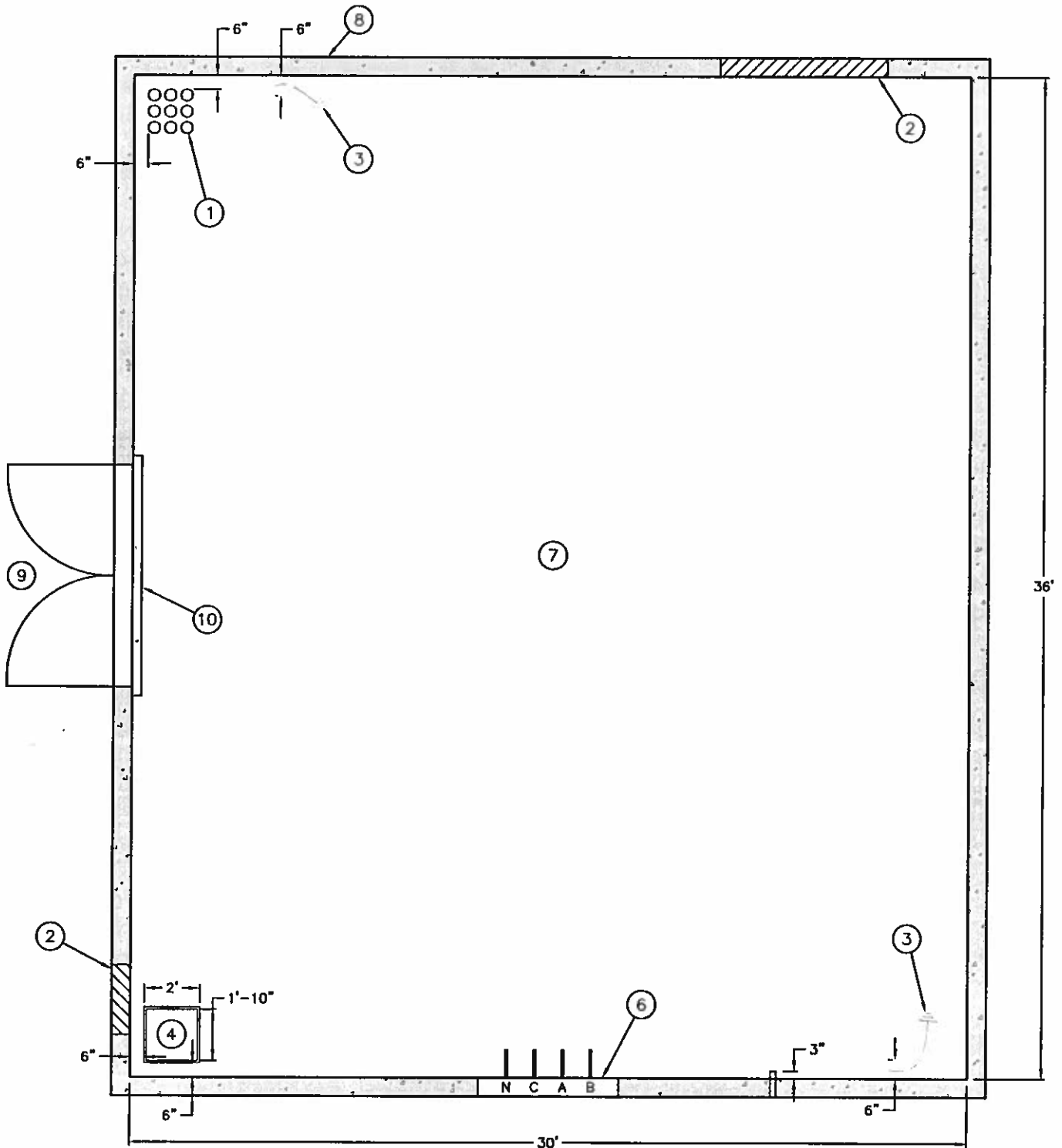
TWO TRANSFORMER VAULT
277/480 VOLT

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

C12
24

NOTE:

ALL WALLS AND CEILING SHALL HAVE A MINIMUM OF THREE HOUR FIRE RATING. STUD AND WALL BOARD-CONSTRUCTION SHALL NOT BE ACCEPTABLE. CUSTOMER SHALL PAINT THE INSIDE OF THE VAULT TRUE WHITE.

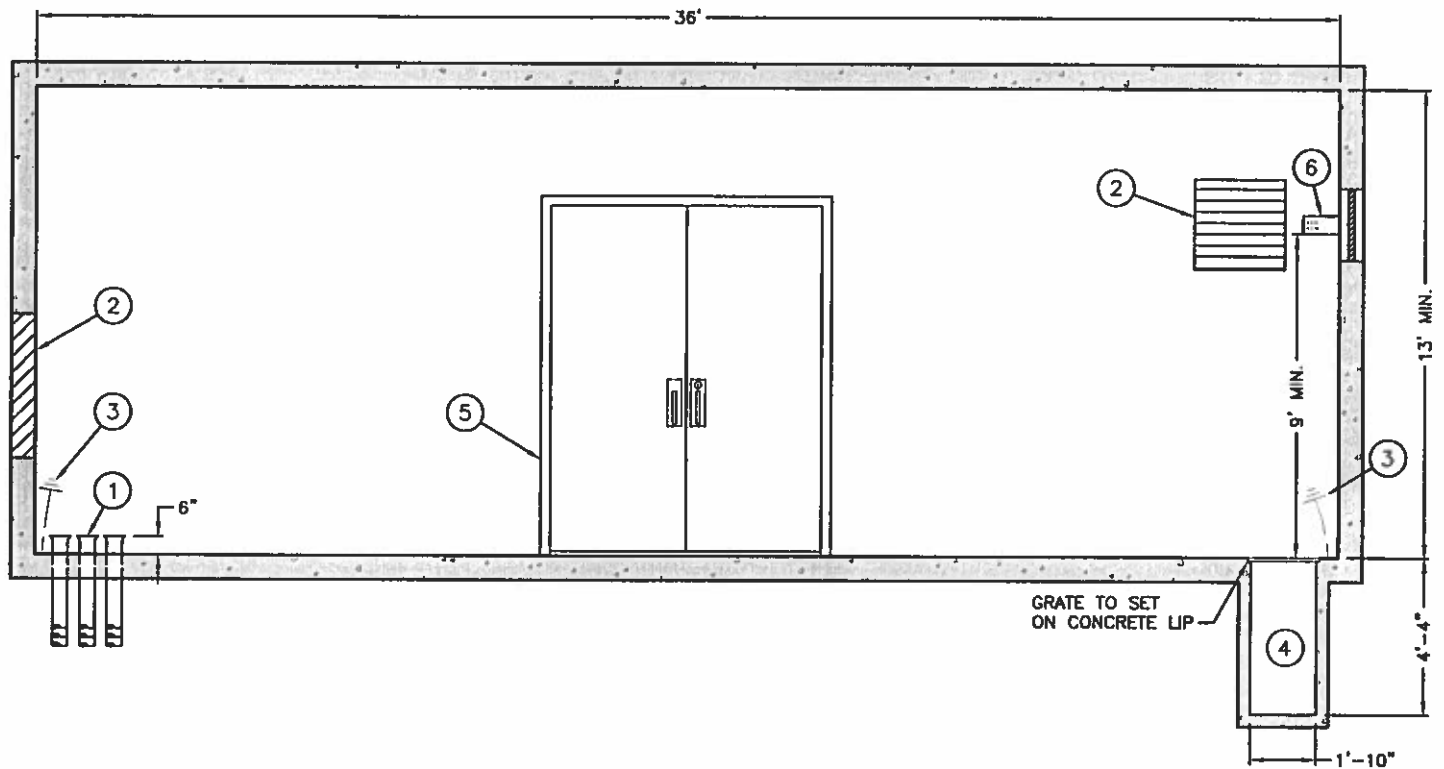


THREE TRANSFORMER VAULT
277/480 VOLT

FOR PLANNING PURPOSES ONLY NOT FOR CONSTRUCTION

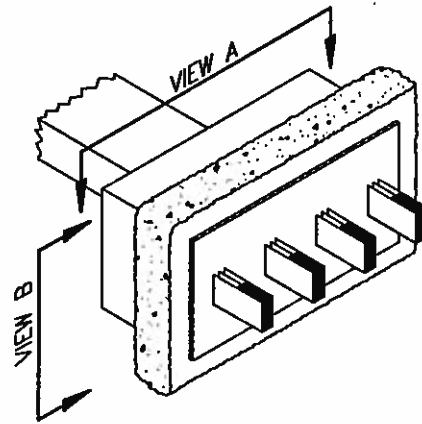
C12
27

NOTE:
AUSTIN ENERGY SHALL SUPPLY INTERIOR LIGHTING AND VENTILATION EQUIPMENT.



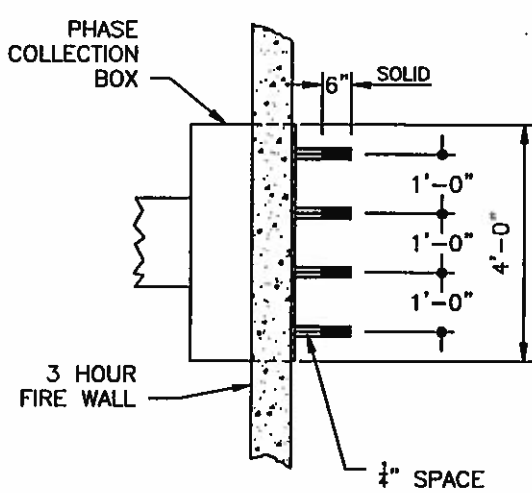
THREE TRANSFORMER VAULT
277/480 VOLT

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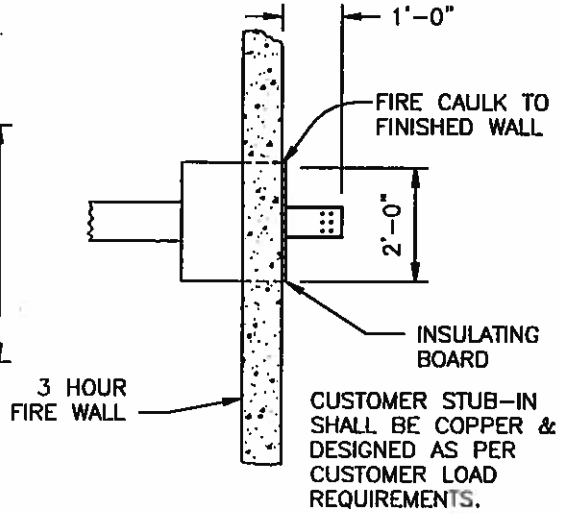


NOTE :
FULL CURRENT
NEUTRAL IS REQUIRED

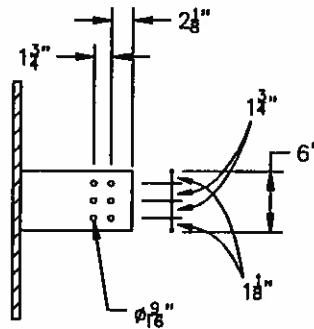
STUB-IN PHASING TO BE
DETERMINED BY AE SHELL
PRINT



VIEW A



VIEW B



1715-010-06

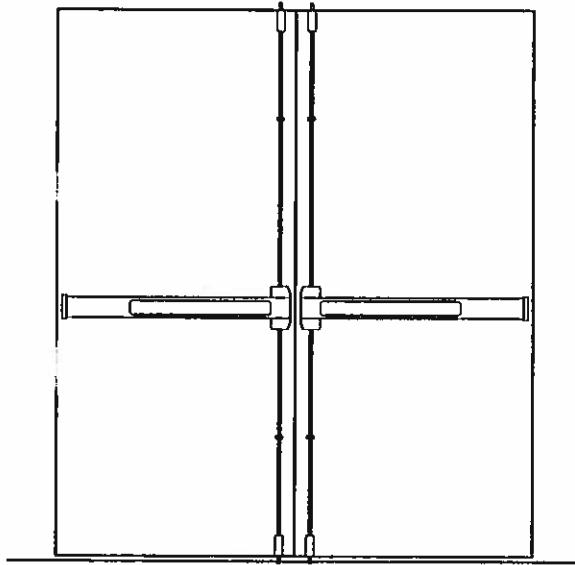
CUSTOMER BUS STUB-IN INTO TRANSFORMER VAULT

N.T.S.

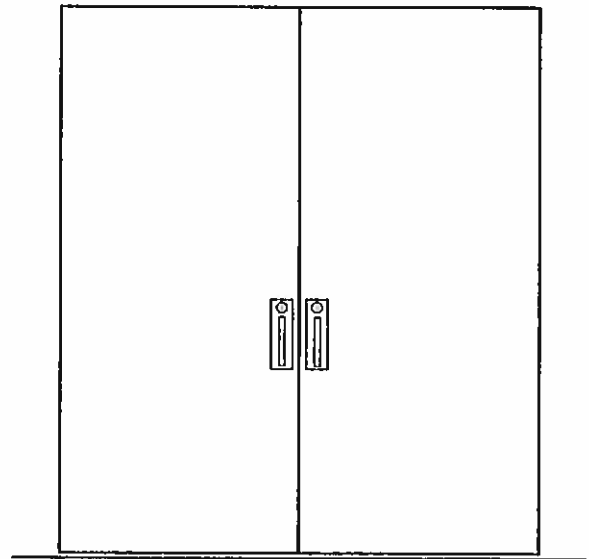
1715-010

ENTRANCE DOORS
TRANSFORMER VAULT
N.T.S.

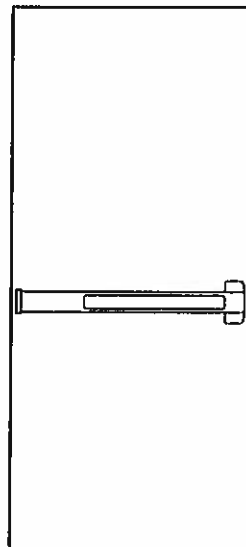
C12/29



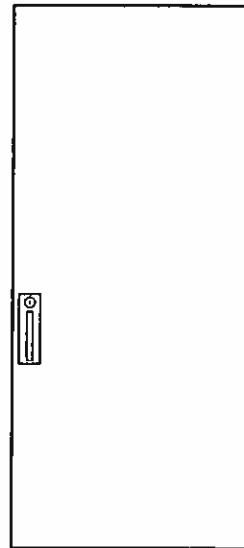
INTERIOR VIEW



EXTERIOR VIEW



INTERIOR VIEW

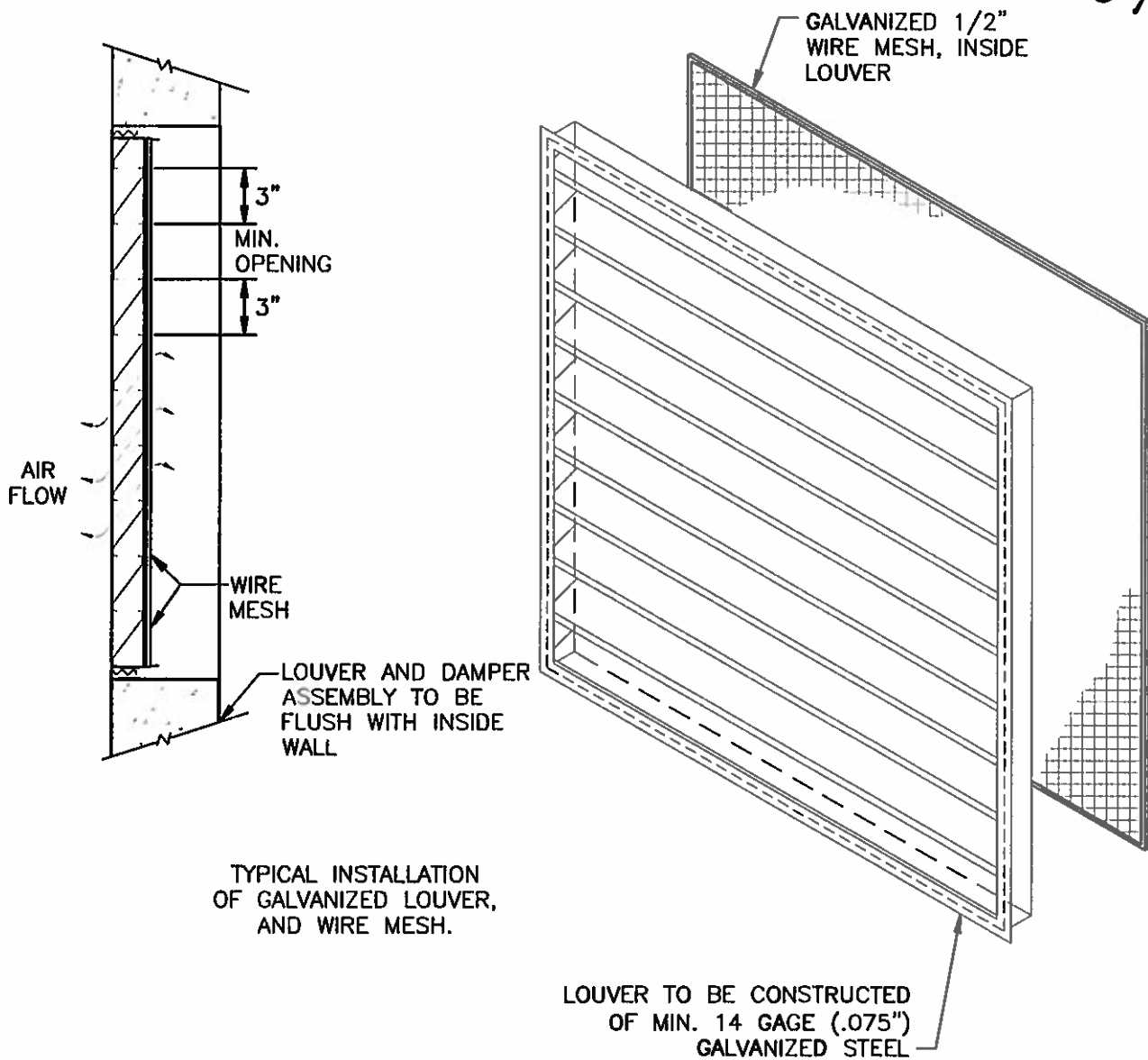


EXTERIOR VIEW

NOTES:

1. DOOR AND FRAME SHALL BE FIRE RATED WITH STEEL BALL BEARING HINGES. CONTACT AE NETWORK DESIGN FOR APPROPRIATE FIRE RATING.
2. DOOR SHALL BE SELF-CLOSING AND SELF-LATCHING WITH SWEEPS.
3. LOCK SHALL BE STOREROOM FUNCTION, MULTI-LOCK, MODEL #MTL-236F KEYWAY - RIM US26D.
4. OUTSIDE TRIM, VON DUPRIN MODEL #990L-NL-R/V-US26D, (SAME FIRE RATING AS THE DOOR)
5. FOR DOUBLE DOORS, HEAVY DUTY PANIC BARS ARE TO BE INSTALLED ON INSIDE OF DOORS. VON DUPRIN MODEL 9927F-EO-US26D. FOR SINGLE PERSONNEL DOOR, HEAVY DUTY PANIC BARS ARE TO BE INSTALLED ON INSIDE OF DOOR, VON DUPRIN MODEL 99F-EO-R/V-US26D. EXTENSION RODS FOR PANIC DEVICES MAY BE NEEDED.
6. DRIP GUARD TO BE INSTALLED ABOVE DOORS.
7. IF REQUESTED BY AE NETWORK DESIGN, THE CUSTOMER IS TO BUILD AND INSTALL STEPS IN FRONT OF DOORS, AS WELL AS GRAB HANDLES ON THE DOORS TO EASE CLIMBING.
8. UNLESS REMOVABLE, THRESHOLDS ARE TO BE INSTALLED AFTER TRANSFORMERS AND PROTECTORS ARE IN THE VAULT.

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NOTE :

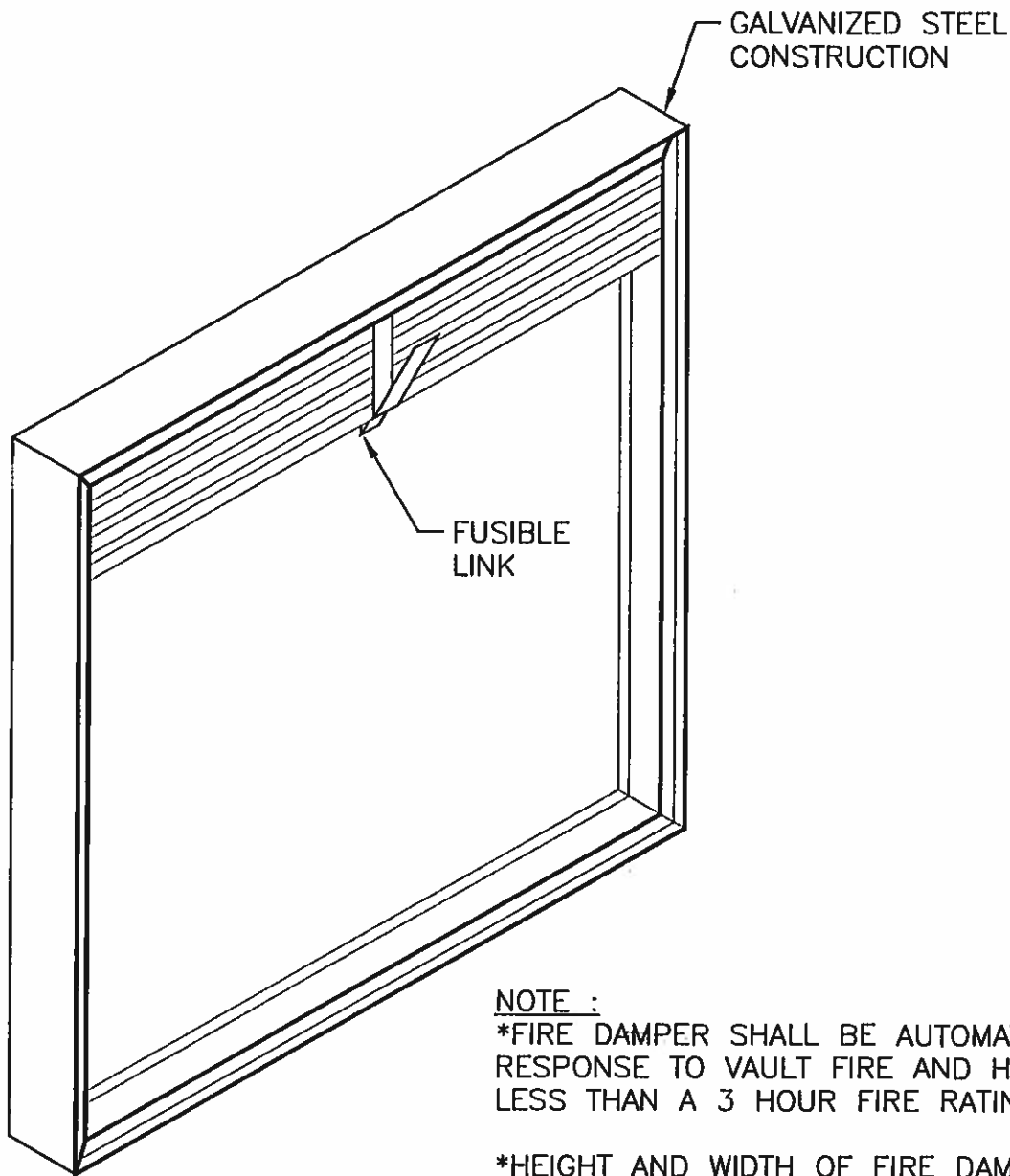
- HEIGHT AND WIDTH OF LOUVERS TO BE SPECIFIED ON CONSTRUCTION PLANS OF THE TRANSFORMER VAULT.
- LOUVER MUST HAVE AT LEAST 50% FREE AREA.
- LOUVER MUST BE FLUSH WITH THE INSIDE AND OUTSIDE OF THE VAULT WALL.

VENTILATION OPENING
DETAIL 1715-060

N.T.S.

1715-060

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NOTE :

*FIRE DAMPER SHALL BE AUTOMATIC CLOSING IN RESPONSE TO VAULT FIRE AND HAVE NO LESS THAN A 3 HOUR FIRE RATING.

*HEIGHT AND WIDTH OF FIRE DAMPERS TO BE SPECIFIED ON CONSTRUCTION PLANS OF TRANSFORMER VAULT.

*CURTAIN STYLE FIRE DAMPERS ONLY.

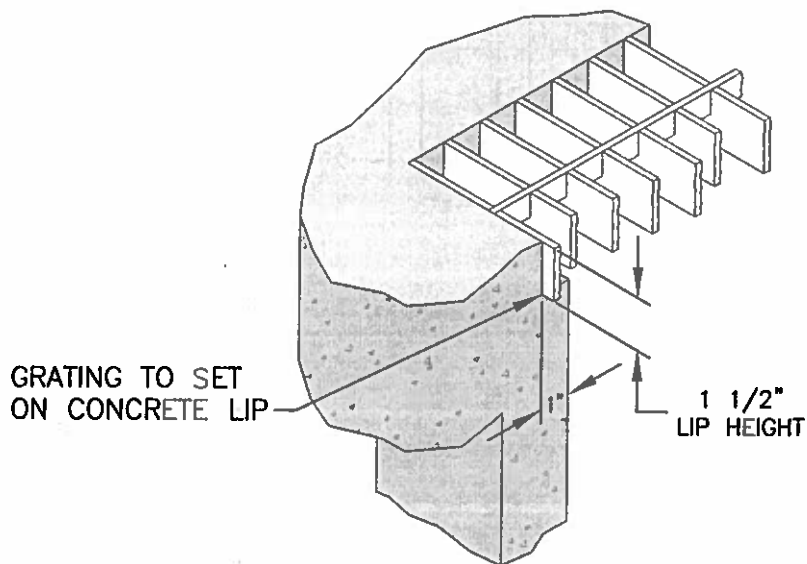
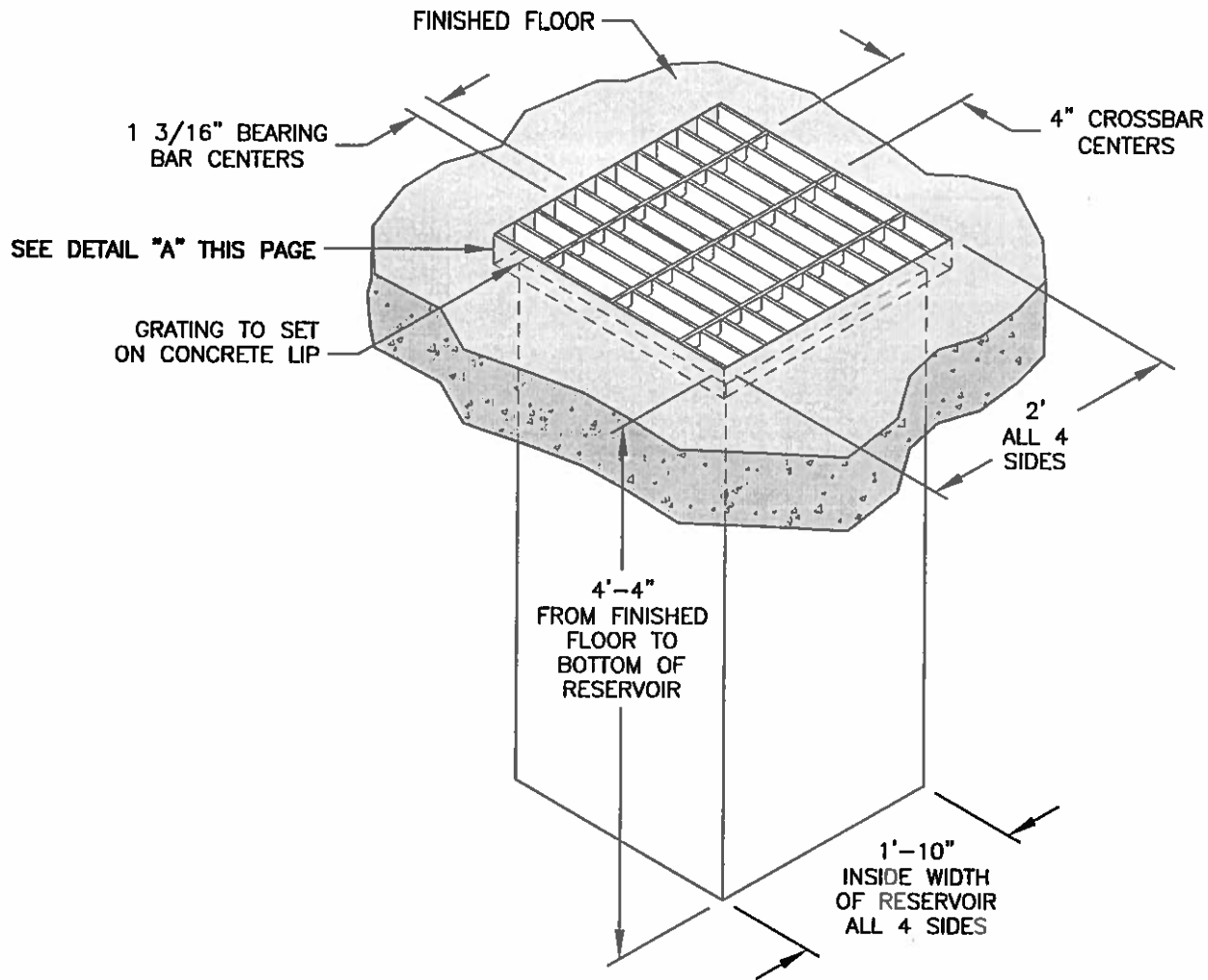
*FIRE DAMPER TO BE INSTALLED ON INTERIOR OF VAULT AND TO BE FLUSH WITH THE INSIDE AND OUTSIDE OF THE VAULT WALL.

VENTILATION FIRE DAMPER
DETAIL 1715-065

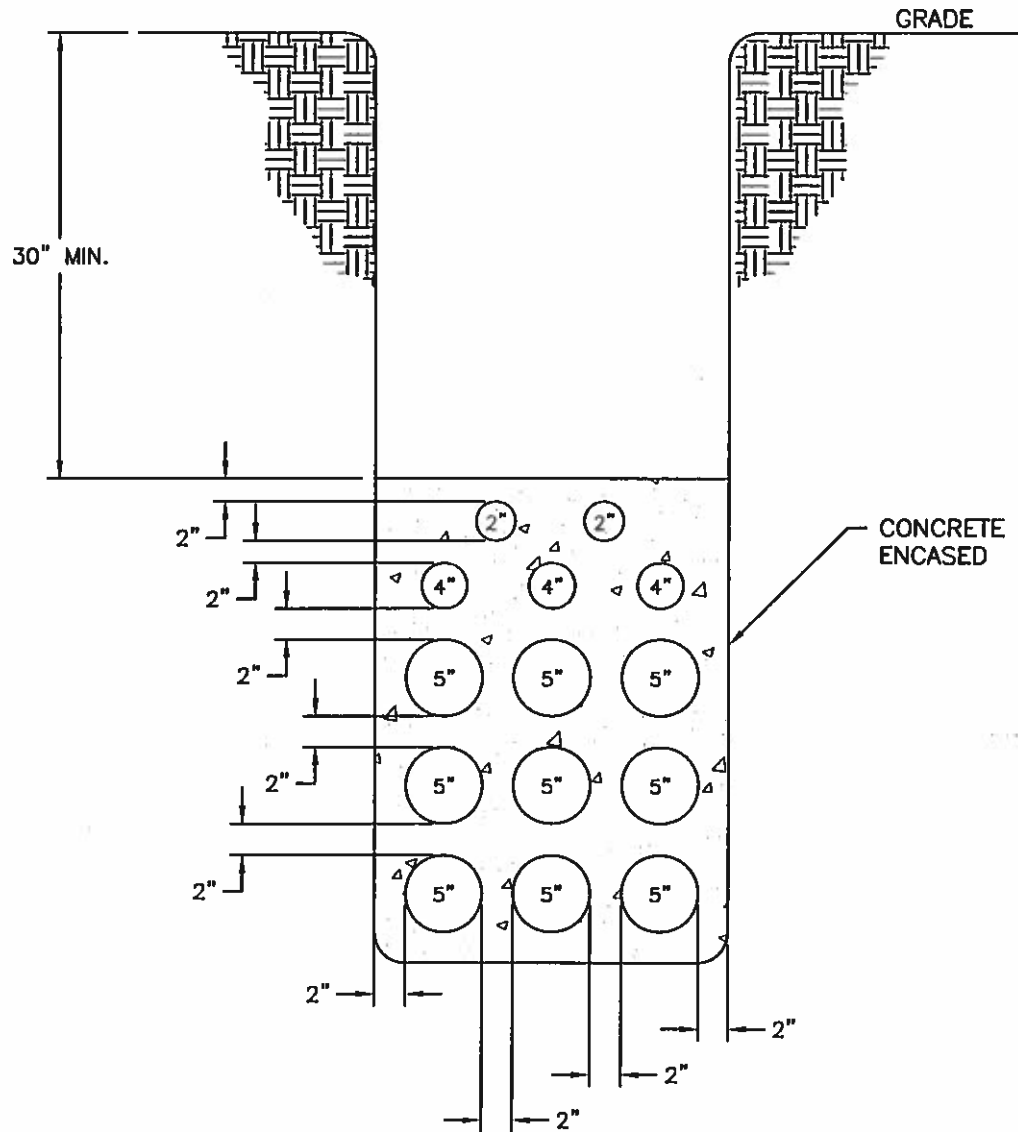
N.T.S.

OIL RESERVOIR & GRATING DETAIL
N.T.S.

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DETAIL "A"



CONDUIT AND TRENCH DETAIL
N.T.S.



Austin Energy

Electric Service Planning Application (ESPA)

Please refer to the appropriate table in the current Austin Energy Criteria Manual for available electric service. The purpose of this form is for planning and permitting and does not constitute a design. A design request can be made by resubmitting an approved copy of this form.

Service Center

Location for customer to return the ESPA. Please check one.

A map of service locations can be found at <http://www.austinenergy.com/go/designContacts>.

All Services under 350 A 1 phase or 225 A 3 phase excluding services in Network area	All Services over 350 A 1 phase or 225 A 3 phase (ALL Network Service requests should be sent to South Service Center)	
<input type="checkbox"/> One Stop Shop 505 Barton Springs Austin, TX 78701 (512) 974-2632 Fax: (512) 974-9779	<input type="checkbox"/> North: Kramer Service Center 2412 Kramer Lane Bldg C Austin, TX 78758 (512) 505-7206 Fax: (512) 505-7208	<input type="checkbox"/> South: St. Elmo Service Center 4411-B Meinardus Dr Austin, TX 78744 (512) 505-7500 Fax: (512) 505-7742 <input type="checkbox"/> Network Service Request (check if applicable)

Customer & Project General Information

Customer Contact: Name: _____ Phone: _____	
Email: _____ Fax: _____	
Title (Check One): <input type="checkbox"/> Electrical Engineer <input type="checkbox"/> Electrical Contractor <input type="checkbox"/> Other _____	
Signature: _____ Date: _____	
Project Information:	
Project Name: _____	Project Type: <input type="checkbox"/> New Construction <input type="checkbox"/> Remodel
Project Address: _____	<input type="checkbox"/> Dual Feed
Nearest Intersection: _____	Estimated Service Need Date: _____
	Service Duration: <input type="checkbox"/> Permanent Service
	<input type="checkbox"/> Construction Power/Temporary Service (usually less than 24 months)

Project Electrical Information

Type of Service Requested:	Service Voltage Requested:	Total Service Size:
<input type="checkbox"/> Overhead	<input type="checkbox"/> 120/240 V, 1 ϕ 3 Wires	<input type="checkbox"/> 100 Amps <input type="checkbox"/> 1200 Amps
<input type="checkbox"/> Secondary Riser	<input type="checkbox"/> 480/277 V, 3 ϕ 4 Wires	<input type="checkbox"/> 200 Amps <input type="checkbox"/> 1600 Amps
<input type="checkbox"/> Underground	<input type="checkbox"/> 208/120 V, 3 ϕ 4 Wires	<input type="checkbox"/> 400 Amps <input type="checkbox"/> 2000 Amps
<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____	<input type="checkbox"/> 800 Amps <input type="checkbox"/> Other _____
	<input type="checkbox"/> 240/120 V, 3 ϕ 4 Wires (Overhead or secondary riser ONLY)	
Additional Service & Electrical Load Information:		
Conductor Type, Quantity, & Size: _____		Fuel Type: <input type="checkbox"/> All Electric
Number of Meters: _____ Number of Existing Meters (for remodels): _____		<input type="checkbox"/> Gas & Electric
Service Length: _____		FT ² /Unit: _____
Building Type/Use (Residential, Warehouse, Restaurant, Retail, Office, Mixed Use, etc.): _____		# Units: _____
		Total FT ² : _____
Distributed Generation:		
<input type="checkbox"/> Yes System Size: _____ kW System Type: _____ (Solar, Wind, etc.)		

Application expires 180 days after date of approval. Any changes to the above information require a new ESPA.

For internal use only

<input type="checkbox"/> Design Required <input type="checkbox"/> Service Only	Verification Stamp
AE Rep: _____	
Phone: _____ Date: _____ Approved: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Elec. Permit #: _____	
Comments: _____	

Utilities Criteria Manual

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2.9.2. Water Systems**A. Size/Capacity Determination****1. General**

a. Hazen Williams Friction Coefficient $C = 80$, higher C coefficient may be used for new mains only upon approval by the City with sufficient documentation to show effects of long-term use.

b. Average day demand = 200 gal/person/day.

c. Peak day demand = 530 gal/person/day.

d. Peak hour demand = 900 gal/person/day.

e. If the maximum static pressure exceeds 80 psi, a pressure-reducing valve (PRV) will be required on the property owner's side of the water meter and should be shown on the plan view.

f. Minimum operating pressure is 50 psi at the highest elevation meter location using average day demand.

2. Peak Hour Demand Requirements

a. The maximum allowable velocity shall not exceed 5 feet per second (fps).

b. The minimum pressure at any point in the affected pressure zone must not be less than 35 psi.

3. Emergency Demand (Fire Flow) Requirements

a. The maximum allowable velocity shall not exceed 10 fps.

b. Fire flow (reference City of Austin Fire Protection Manual) requirements will be determined in accordance with the City of Austin Fire Code and associated rules.

c. The minimum residual pressure at any point in the affected pressure zone at peak day plus fire flow must not be less than 20 psi.

d. Required fire pumps, for high-rise buildings, as defined in the building code, shall be supplied by connections to a minimum of two water mains. The domestic water line will be allowed off one of the fire lines. Domestic water lines must be metered either after the fire line or along the fire line that includes the domestic water line. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through at least one of the connections.

4. Sizing of Water Mains - Computer modeling is preferred for sizing water mains. However, for water mains less than 16 inches in diameter other engineering calculation methods may be accepted. The largest size, as determined by comparing the service area's peak hour demand and peak day plus fire flow demand, shall be used.

5. Storage Requirements - If it is determined by the Austin Water Utility that additional storage is required, the following criteria shall be used:

Effective Storage = 100 gal/person

Emergency Storage = 100 gal/person

TOTAL STORAGE = 200 gal/person

Effective Storage is defined as storage, which will provide a minimum of 35 psi of pressure at the highest service elevation in pressure zone.

The Engineer may be required to provide computer simulations as determined on a case-by-case basis.

B. Mains

1. Minimum main size shall be 8 inches with consideration for 4-inch pipe in cul-de-sacs less than 200 feet in length. Provision must be made in these cases for a flush valve at the end of the 4" line. The minimum size for any street type, however, will be governed by various factors which include fire protection requirements, high density land usage, and the designer's consideration of general system gridding, future transmission mains, neighboring developments and area configuration. Looped systems are required. Transmission line sizes will be determined on a case-by-case basis.

While looped systems are required, it is recognized that in certain situations, short sections of dead end pipe may be more practical. When a dead end section of watermain, containing more than 100 gallons of water, is approved for installation, the following requirements must be met:

a. If a dead end section is installed for future connection or extension, and no service will be taken from the stub prior to the future connection or extension, a valve must be placed at the location where the main becomes a dead end (ie at the tee).

b. If a dead end is installed and service is to be provided via the dead end

i. The water demand from the service (or services) must be sufficient to turn over the water every 72 hours.

ii. If the service(s) do not provide sufficient demand to turn over the water every 72 hours, an approved automatic flushing device must be installed and programmed such that the 72 hour criterion is met.

2. Water mains should be located, where maintenance can be accomplished with the least interference with traffic, structures, and other utilities.

The separation between water and wastewater mains must comply with TCEQ rules or have a variance approved by TCEQ before submittal to the City. A minimum horizontal separation distance of five (5) feet, measured from OD of pipe to OD of pipe, shall be maintained between existing or proposed water mains and all other utilities and/or conduits in order to maintain trench integrity.

Mains should normally be located on the high side of the street. However, mains shall be installed on both sides of all divided road/highways. Roads/highways, where opposing lanes of traffic are separated by a vehicle obstruction, shall be considered a divided road/highway. The following locations may be considered as standard assignments:

<u>Right-of-Way</u>	<u>Assignment</u>
50 to 60 feet	14.5 feet from ROW
70 to 80 feet	17.5 feet from ROW
90 to 120 feet	22.5 feet from ROW

In major collector and arterial roadways, mains should be located outside the pavement, curbs, etc., wherever feasible. When mains are located outside of the right-of-way, they shall be within a dedicated utility easement. Main assignments in such city streets must be approved by the Austin Utility Location and Coordination Committee assignments for lines in such county roads must also be approved by the county engineer.

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3. Piping materials and appurtenances shall conform to City of Austin Standard Specifications and the Utility's Standard Products List (SPL).

4. Minimum depth of cover over the uppermost projection of the pipe and all appurtenances shall be as follows:

a. Water piping installed in undisturbed ground in easements of undeveloped areas, which are not within existing or planned streets, roads, or other traffic areas, shall be laid with at least 36 inches of cover.

b. Water piping installed in existing streets, roads, or other traffic areas shall be laid with at least 48 inches of cover below finished grade.

c. Unless approved by the Austin Water Utility, installation of water piping in proposed new streets will not be permitted until paving and drainage plans have been approved and the roadway traffic areas excavated to the specified or standard paving subgrade, with all parkways and sidewalk areas graded according to any applicable provisions of the drainage plans or sloped upward from the curb line to the right of way at minimum slope of ¼ inch per foot. Piping and appurtenances installed in such proposed streets shall be laid with at least 36 inches of cover below the actual subgrade. The maximum depth will be as approved by the Utility for the specific materials, application, and conditions.

5. For mains 16 inches in diameter and larger and on smaller mains where appropriate, hydrants or drain valves shall be placed at low points and on the up-slope side of all valve locations.

6. All fire lines shall have a gate valve on the line at the connection to the main line and a backflow preventer inside the property line, but accessible for inspection by City personnel. All unmetered fire lines shall have a Utility approved flow detection device. This flow detection service shall be located such that no more than 100 gallons of water is contained between the device and the point where the fire line is connected to the City's main.

7. On water mains 16 inches in diameter and larger and on smaller mains where appropriate, combination air valves will be placed at all high points and air/vacuum valves shall be placed at the down-slope side of all valve locations. Air/vacuum and vacuum release valves shall be approved on a case-by-case basis. All mains twenty-four (24) inches and larger will include an 18" outlet with blind flange installation at high points where the installation of an air release valve (ARV) would be necessary. In the absence of an ARV requirement, an 18" outlet with blind flange shall be placed every 2500 feet.

8. Joint restraint for pipes larger than 16 inch diameter shall be by use of integral, factory joint restraint systems, or by restraint gaskets.

9. Joint restraint shall be provided for all pipe bends and where necessary when joint deflection is utilized. When joint restraint is required in intersections, extend the joint restraint, at a minimum, to the point of curvature (PC) of the curb line. Notes shall be placed in both plan and profile views and shall include at a minimum the type of restraint to be utilized and the beginning and ending stations of the restraint. Concrete thrust blocking may be approved on a case by case basis. The proximity of other utilities and structures must be taken into account when specifying the use of thrust blocking. The use of thrust blocks will be prohibited in the downtown area (Loop 1 to I35 and Lady Bird Lake to 30th Street) due to the congestion of utilities, structures and excavations in the right of way.

10. Allowable pipe sizes.

The following sizes will be the only sizes allowed for use in the system: (4" see item 1. above), (6" fire-hydrant leads and services only), 8", 12", 16", 24", 30", 36", and 42". Larger sizes may be approved on a case by case basis.

11. Connections of new mains to existing mains shall be made by cutting in a tee. Tapping sleeves may be allowed in lieu of cutting in a tee on a case-by-case basis. Full-body tapping

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sleeves shall be used. A tapping sleeve will not be allowed if the materials and conditions of the existing main preclude tapping. "Size on size" taps will not be permitted, unless made by use of an approved full bodied mechanical joint tapping sleeve.

C. Valves

1. There shall be a valve on each fire hydrant lead restrained to the main. These and all valves twenty-four (24) inches and smaller shall be resilient seated gate valves.
2. Valves shall be located at the intersection of two or more mains and shall be spaced so that no more than thirty (30) customers will be without water during a shutout. For lines smaller than twenty-four (24) inches, typical spacing should be 500 feet in high-density areas and 1,200 feet in residential area. Mains twenty-four (24) inches and larger shall be valved at intervals not to exceed 2,000 ft.
3. At dead ends, gate valves shall be located one (1) pipe length ten (10-ft. minimum) from the end points of the main. The Engineer shall provide - and show drawings - complete restraint for all such valves, pipe extensions and end caps.
4. Branch piping (both new and future branches) shall be separated from the main with gate valves.
5. For all mains, valves at intersections shall be placed at point of curvature (p.c.) of the curb line.
6. Valves shall be located so that isolating any segment of water main requires closing of no more than three (3) valves.
7. The operating nut or extension of any valve shall be between eighteen (18) inches and twenty-four (24) inches below finished grade.
8. Valves with valve extensions and those at pressure zone boundaries shall be equipped with a locking type debris cap.
9. All vertical gate valves larger than sixteen (16) inches shall have the bonnet located in a vault or manhole. All horizontal gate valves larger than sixteen (16) inches shall have the valve actuator (gearing) located in a vault or manhole.
10. Valves having "push on" joints are not permitted for fire hydrant leads and laterals.
11. Butterfly valves shall not be allowed.
12. Water mains shall be designed so that valves can be installed vertically unless conditions dictate otherwise.

D. Fire Hydrants

1. Hydrants shall be installed at the intersection of two (2) streets and between intersections where necessary, at distances not in excess of 300 feet between hydrants in commercial or other high-density areas and not more than 600 feet in residential areas.
2. Hydrants shall be installed on both sides of all divided road/highways to provide adequate firefighting coverage. Roads/highways where opposing lanes of traffic are separated by a vehicle obstruction shall be considered a divided road/highway.
3. The entire fire hydrant assembly shall have restrained joints.
4. Fire hydrants shall not be designed to be within nine feet in any direction of any wastewater main, lateral, or service regardless of material of construction.
5. Fire hydrants shall be designed so as not to interfere with sidewalk ramps, trash receptacles, and street light and signal pole foundations.
6. When fire hydrants are subjected to pressures above 150 psi, they shall have an attached pressure reducing valve (PRV) installed to reduce the operating pressure of the fire

hydrants below 150 psi.

7. When new water lines are installed along with new fire hydrant leads, the drawings shall indicate existing fire hydrants are to be replaced with a new one, if it is older than 10 years old.

E. Services

1. Water services shall be in accordance with City of Austin Standard Details. More than two meters on a single service line will be considered on a case-by-case basis.

2. Individual meter services and fire lines will not be taken from transmission lines. Transmission lines are generally considered to be 24 inches in diameter or larger.

3. Water meters shall be placed within the public right-of-way (ROW) or in an easement. Water meter boxes are not allowed in sidewalks or driveways.

4. Service taps to the main shall have a minimum separation distance of 3 feet.

5. Service taps, regardless of type, shall not be made in vaults.

F. Water Meters for Multi-Family and Commercial Customers

1. Properties with two, three, or four living units shall have an individual water meter serving each living unit.

2. Commercial and multi-family properties shall purchase and install a separate meter or meters to measure water used for all common areas and outdoor purposes, including swimming pools, fountains, permanently installed irrigation systems, and irrigation with quick-coupler hose bibbs.

3. All multi-family, manufactured home rental community, or multiple-use facility, in order to provide for the measurement of the quantity of water, if any, consumed by the occupants of each unit, shall install:

a. Submeters, owned by the property owner or manager, for each dwelling unit or rental unit, or

b. Individual meters for each dwelling unit or rental unit.

4. Bypasses shall be provided on all meters three (3) inches and larger.

G. Easements

1. Easements for water mains shall be a minimum of 15 feet wide, or twice the depth of the main, measured from finished grade to pipe flowline, whichever is greater. Mains shall be centered on the easement. Narrower easements will be considered where the Engineer provides evidence, to the satisfaction of AWU, that maintenance activities will not be hindered by the reduced width.

2. Easement documents and the metes and bounds shall be reviewed and approved by AWU Pipeline Engineering prior to recordation in the real property records of the appropriate county. Easement recordation in the real property records of the appropriate county is required prior to AWU approval of construction plans.

H. Requirements for Existing and Proposed Water Infrastructure beneath Circular Intersections or Other Geometric Street Features

1. Installation of Circular Intersections or Other Geometric Street Features over existing water infrastructure.

a. Existing water infrastructure may be allowed to exist beneath circular intersections or other geometric street features such as, but not limited to, modern roundabouts, medians, bulb-outs, splitter islands, channelization islands, and other types of physical roadway features. These features may contain hardscaping, landscaping, water quality features, public art, permanent structures, street furniture, or other similar amenities.

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b. The planning and design of these features and their amenities shall include consideration for access, maintenance, protection, testing, cleaning, and operations of the water infrastructure. Where existing water facilities are to remain, trees with root zones of 18 inches in depth or greater at maturity may be considered for inclusion provided the drip lines at maturity of the proposed trees are not located within a minimum horizontal separation of 7.5 feet from any water infrastructure. Public art, permanent structures, and other similar amenities may be considered for inclusion provided they are not located within a minimum horizontal separation of 7.5 feet from any water infrastructure. The drip lines at maturity of ornamental trees with root zones at maturity of less than 18 inches in depth, grasses, woody or herbaceous shrubs, and street furniture may be located within a minimum horizontal separation of 7.5 feet from any water infrastructure.

c. The need for relocating, replacing or protecting in place existing water infrastructure beneath these features and their amenities shall be determined on a case-by-case basis by AWU.

2. Installation of Circular Intersections or Other Geometric Street Features in new areas of development with no existing water infrastructure.

a. Proposed water infrastructure may be placed beneath proposed circular intersections or other geometric street features such as, but not limited to, modern roundabouts, medians, bulb-outs, splitter islands, channelization islands, and other types of physical roadway features. These features may contain hardscaping, landscaping, water quality features, public art, permanent structures, street furniture, or other similar amenities.

b. The planning and design of these features and their amenities shall include consideration for access, maintenance, protection, testing, cleaning, and operations of utility infrastructures. Trees with root zones of 18 inches in depth or greater at maturity may be considered for inclusion provided the drip lines at maturity of the proposed trees are not located within a minimum horizontal separation of 7.5 feet from any water infrastructure. Public art, permanent structures, and other similar amenities may be considered for inclusion provided they are not located within a minimum horizontal separation of 7.5 feet from any water infrastructure. The drip lines at maturity of ornamental trees with root zones at maturity of less than 18 inches in depth, grasses, woody or herbaceous shrubs, and street furniture may be located within a minimum horizontal separation of 7.5 feet from any water infrastructure.

c. The need for alternative alignments or the inclusion of protective systems for the proposed water infrastructure beneath these features and their amenities shall be determined on a case-by-case basis by AWU.