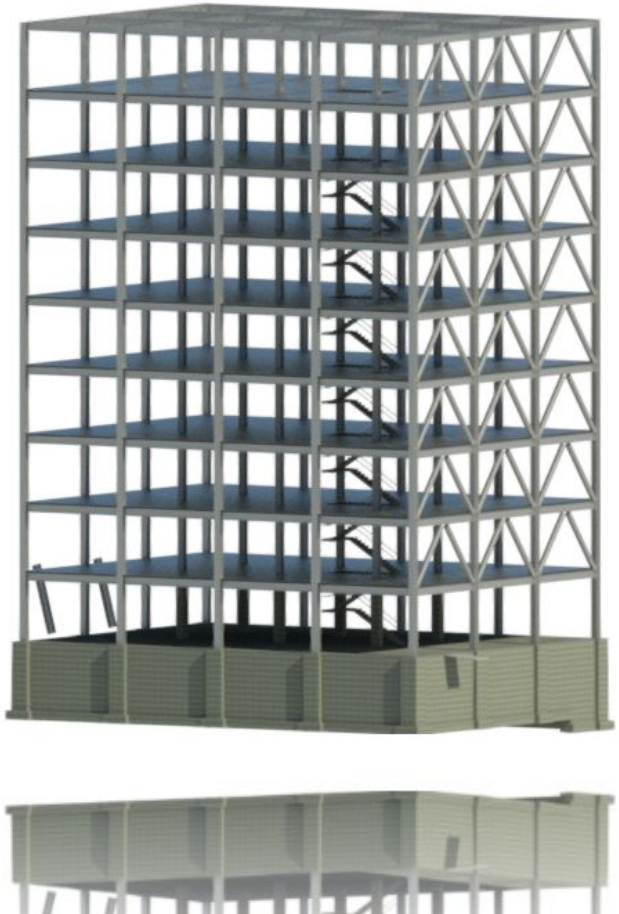


AMERICAN RIVER COLLEGE

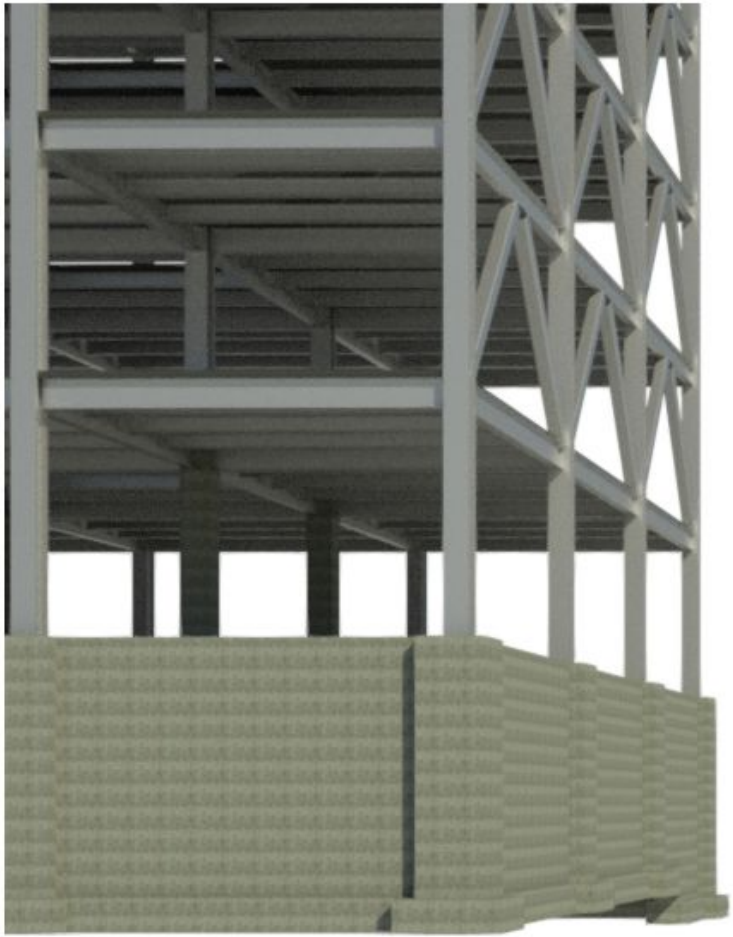
DESGN 360

COMMERCIAL ENGINEERING DESIGN & GRAPHICS

SPRING 2022

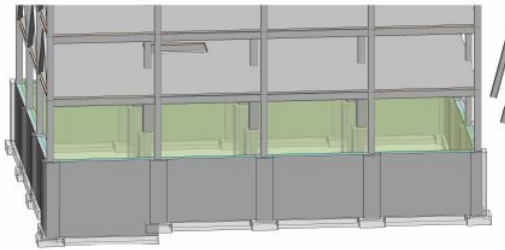
Alejandro Raya

TABLE OF CONTENTS

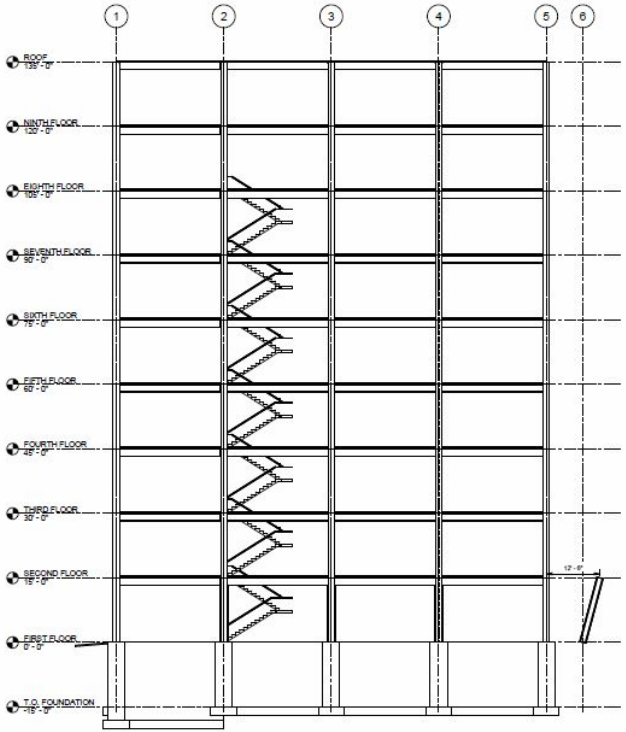


MULTI-STORY STRUCTURAL FRAMING

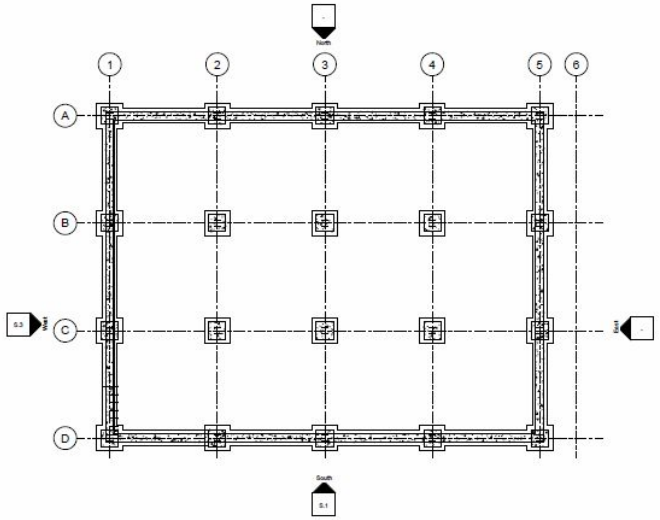
- S-1 - Foundation Plan & Framing
- S-2 - Reinforcements, Floor, Details
- S-3 - Beams, Roof, Joist
- S-4 - Stairs, Ramp, Schedules



3 B-1 3D view



2 South
3/32" = 1'-0"



1 0-T.O. FOUNDATION
3/32" = 1'-0"

ARC

STRUCTURAL FRAMING

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

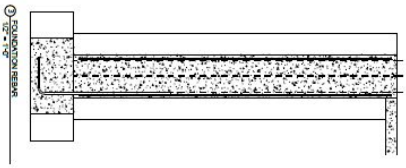
FOUNDATION & COLUMNS

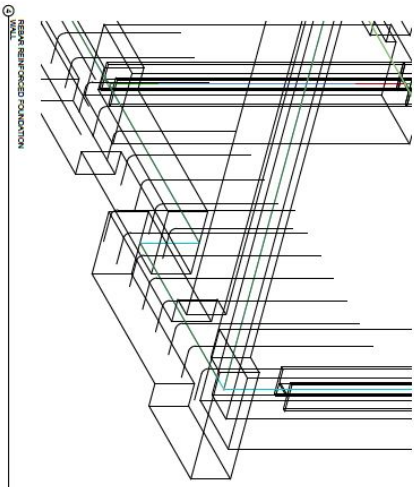
Project number: Project 1
Date: 2/2022
Drawn by: AR

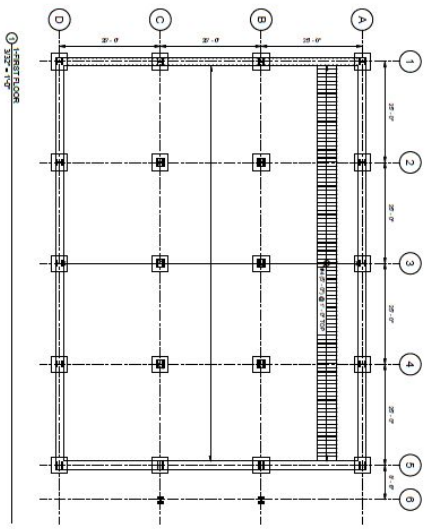
S.1

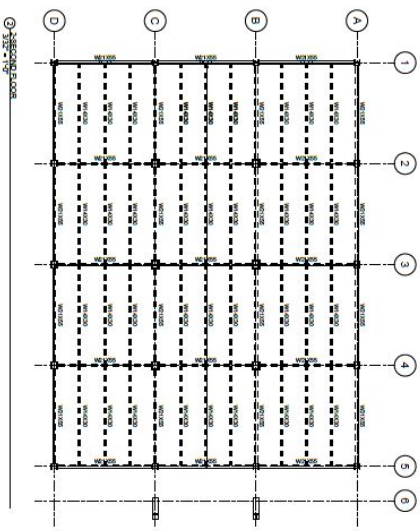
Scale: 3/32" = 1'-0"

C:\Users\14E280\Downloads\S-2 Project2 -R22-22.rvt

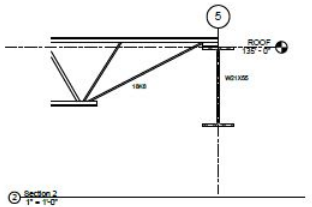


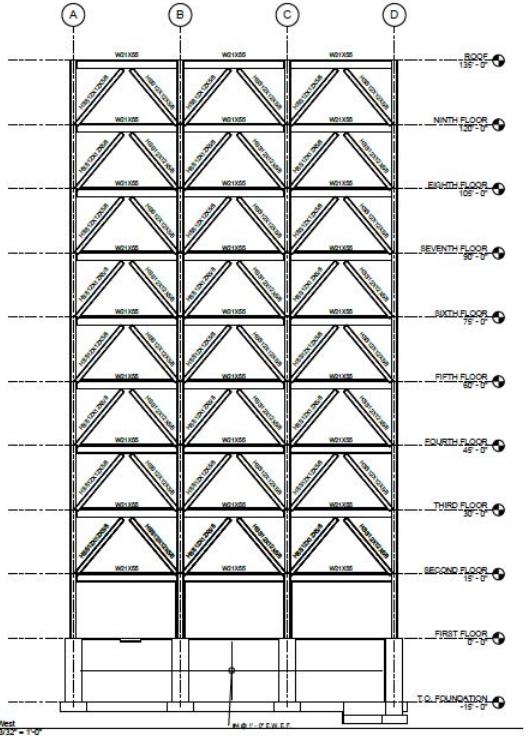


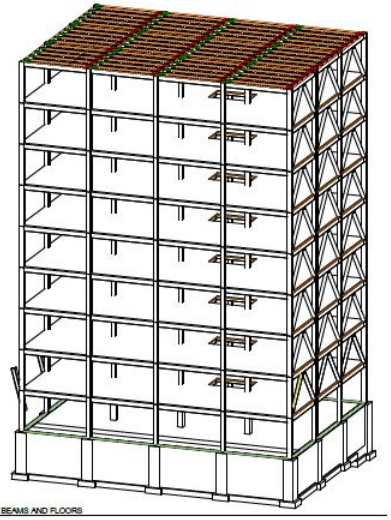


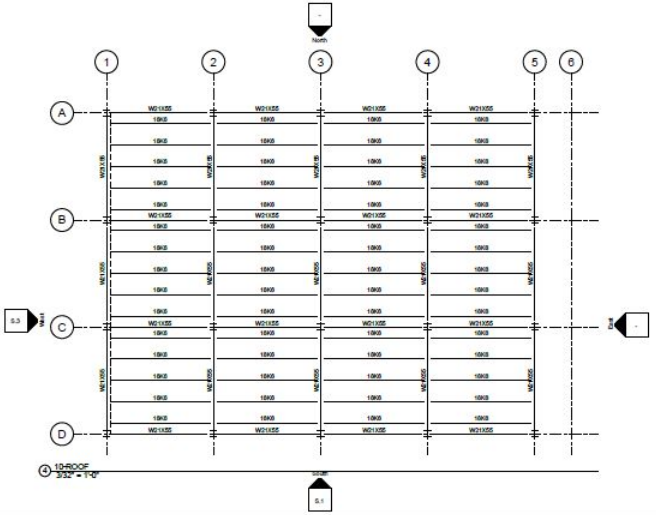


Project number: Project 1 Date: 2/9/23 Drawn by: AR S.2 Scale: As indicated	ALEJANDRO RAYA REINFORCEMENT & BEAMS	STRUCTURAL FRAMING AMERICAN RIVER COLLEGE DESGN 325 ARCHITECTURAL MODELING & DESIGN	ARC









ARC

STRUCTURAL FRAMING

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

BEAMS & ROOF JOISTS

Project number	Project 1
Date	2/9/22
Drawn by	AR
Checked by	
Scale	As indicated

S.3

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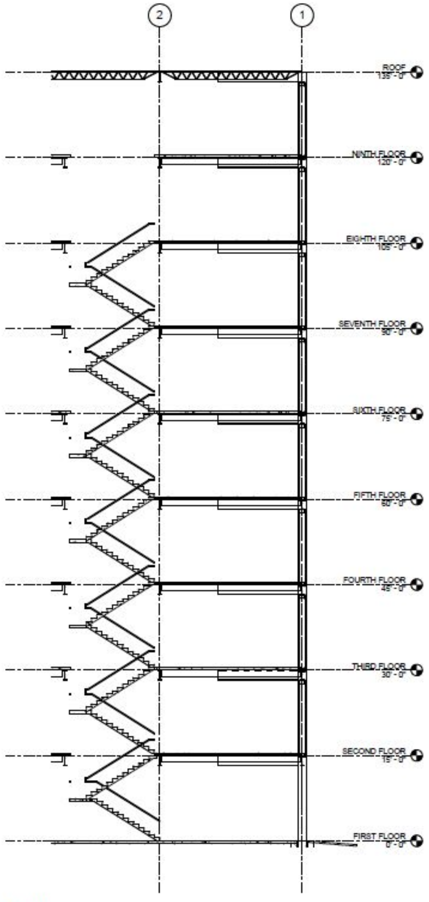
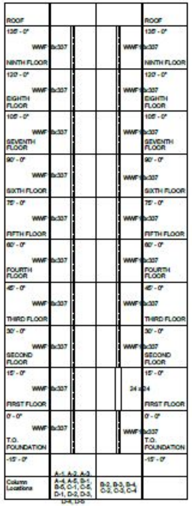


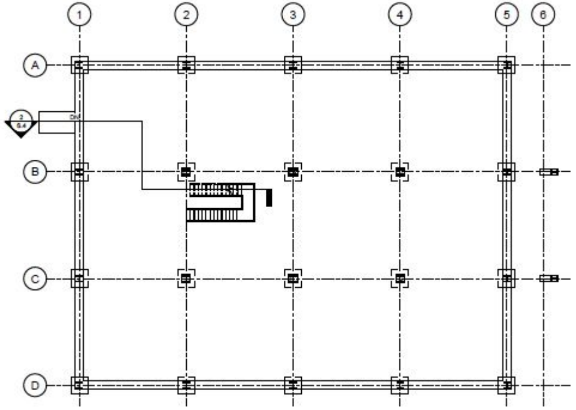
2 Section 3
1/8" = 1'-0"

FOOTING SCHEDULE			
Type Mark	Type	Width	Length
F	72" x 72" x 24"	6' - 0"	6' - 0"

Grand total: 20



Graphical Column Schedule
1/16" = 1'-0"



1 1-FIRST FLOOR Copy 1
3/32" = 1'-0"

STRUCTURAL FRAMING

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

STAIR, RAMPS, & SCHEDULES

Project number	Project 1
Date	2/13/22
Drawn by	AR

S.4

Scale: As indicated

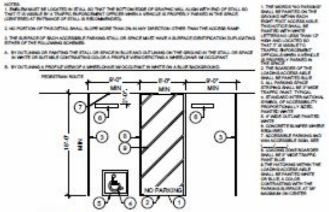
COMCAST BATTERY ROOM REMODEL

- A0.0 - Site Plan, Site Details, Exterior Elevations
- A1.0 - Existing Full Floor Plan, Building Section, Fire Ratings
- A1.1 - Enlarged Existing Floor Plan, Enlarged New Floor Plan, Section at New Ceiling
- S1.0 - New Foundation Plan, New Ceiling Framing Plan, Details

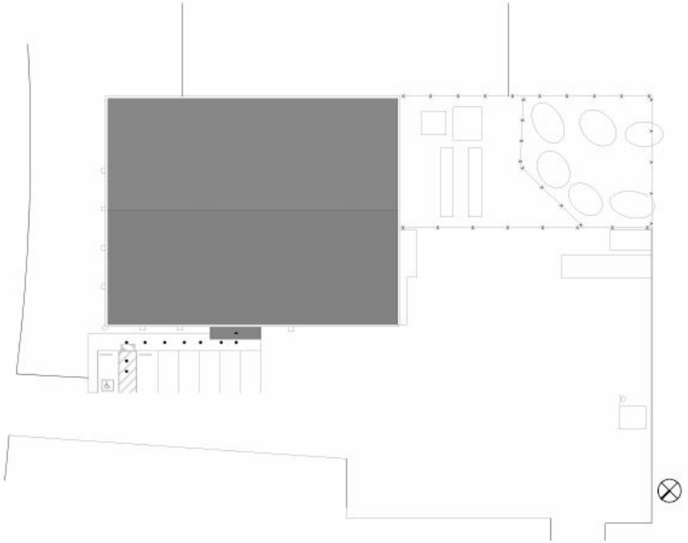
Sheet List	
A0.0	Site plan, Elevations, Site Details
A1.0	EXISTING FULL FLOOR PLAN, BUILDING SECTION, FIRE RATING
A1.1	DEMO/NEW PARTIAL FLOOR PLANS FRAMING SECTION
S1.0	NEW FOUNDATION PLAN PARTIAL NEW CEILING FRAMING DETAILS

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

3 West
1/8" = 1'-0"

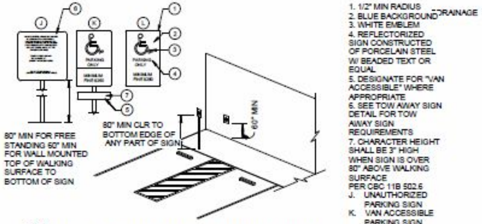


5 Accessible Parking Signage
3/32" = 1'-0"



4 Site
1" = 20'-0"

NOTE:
1. SIGN TO BE CENTERED AT THE INTERIOR END OF THE PARKING SPACE
2. AREA OF SIGN TO BE A MINIMUM OF 70 SQ IN



1. 1/2" MIN RADIUS
2. BLUE BACKGROUND
3. WHITE EMBLEM
4. REFLECTORIZED SIGN CONSTRUCTED OF PORCELAIN STEEL W/ BEADED TEXT OR EQUAL
5. DESIGNATE FOR "VAN ACCESSIBLE" WHERE APPROPRIATE
6. SEE TOW AWAY SIGN DETAIL FOR TOW AWAY SIGN REQUIREMENTS
7. CHARACTER HEIGHT SHALL BE 3" HIGH WHEN SIGN IS OVER 80" ABOVE WALKING SURFACE PER CBC 11B 502.6

J. UNAUTHORIZED PARKING SIGN
K. VAN ACCESSIBLE PARKING SIGN
L. ACCESSIBLE PARKING SIGN

NOTE:
1. UNAUTHORIZED PARKING SIGN TO BE INSTALLED AT EACH PARKING LOT ENTERANCE OR IN FRONT OF AND VISIBLE FROM EACH ACCESSIBLE PARKING STALL.
2. UNAUTHORIZED PARKING SIGN SHALL BE WHITE WITH BLACK BOARDER.

1 Accessible Parking
3/8" = 1'-0"

ARC

FULL EXISTING FLOOR PLAN

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

Site plan, Elevations, Site Details

Project number	Project 2
Date	3/20/22
Drawn by	AR
Scale	As indicated

A0.0

GA FILE NO. FC 4490	GENERIC	1 HOUR FIRE	35 to 39 STC SOUND

STEEL CHANNEL JOISTS, GYPSUM WALLBOARD

Base layer ⅝" type X gypsum wallboard applied at right angles to channel shaped steel joists 24" o.c. with 1¼" Type S drywall screws 24" o.c. **Face** layer ⅝" type X gypsum wallboard or gypsum veneer base applied at right angles to joists with 1⅞" Type S drywall screws 12" o.c. at joints and intermediate joists and 1½" Type G drywall screws 12" o.c. placed 2" back on either side of end joints. Joints offset 24" from base layer joints. Steel joists supporting ½" wood structural panels applied at right angles to joists with screws. **Ceiling provides one hour fire resistance protection for framing.**

Approx. Ceiling Weight: 5 psf
Fire Test: FM FC 172, 2-25-72; ITS, 8-6-88
Sound Test: Estimated

GA FILE NO. CM 1850	GENERIC	1 HOUR FIRE

GYPSUM WALLBOARD, STEEL COLUMN COVER

Base layer ⅝" type X gypsum wallboard applied around TS8x8x0.250 tube steel column and held in place with paper masking tape. **Face** layer either No. 24 MSG galvanized steel column cover consisting of two L-shaped sections with snap-lock sheet steel joints or No. 22 MSG galvanized steel column covers consisting of two L-shaped sections with lap joints fastened with No. 8x½" sheet metal screws 12" o.c.

Fire Test: UL NC505-(1-6), 71NK2639, 12-23-75; UL NC505, 77NK1518; UL Design X526

GA FILE NO. WP 1071	PROPRIETARY®	1 HOUR FIRE	45 to 49 STC SOUND

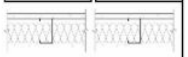
GYPSUM WALLBOARD, STEEL STUDS, MINERAL FIBER INSULATION

One layer ⅝" proprietary type X gypsum wallboard or gypsum veneer base applied at right angles to each side of 2½" steel studs 24" o.c. with 1" Type S drywall screws 8" o.c. at vertical joints and 12" o.c. at intermediate studs and wall perimeter. 2" mineral fiber insulation, 3.0 pcf, friction fit in stud space.

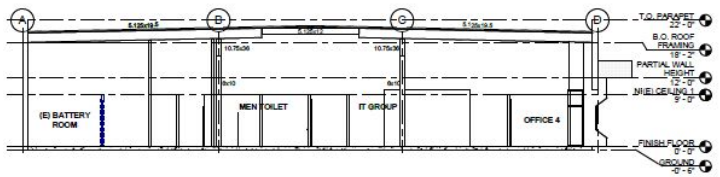
Vertical joints staggered 24" on each side and on opposite sides. Horizontal joints need not be staggered. **(NLB)**

PROPRIETARY GYPSUM BOARD

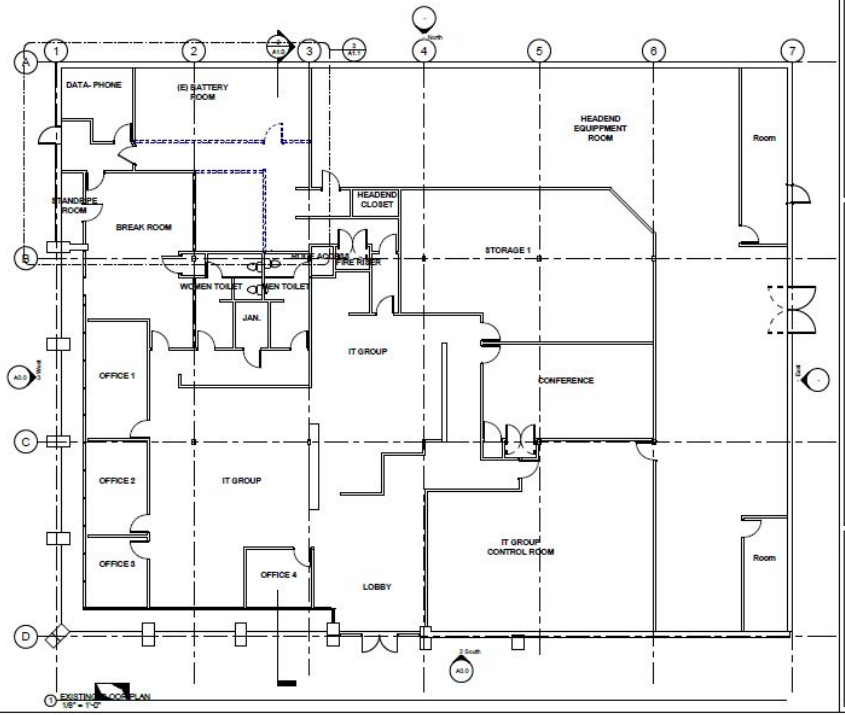
National Gypsum Company - ⅝" Gold Bond® Brand FIRE-SHIELD C™ Gypsum Board



Thickness: 3½"
Approx. Weight: 5 psf
Fire Test: UL R3501, 93NK22748, 9-15-93, UL Design V401; FM WP-731, 9-12-84
Sound Test: See WP 1070 (RAL TL69-42, 10-17-68)



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



1 EXISTING FLOOR PLAN
1/8" = 1'-0"

ARC

FULL EXISTING FLOOR PLAN

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

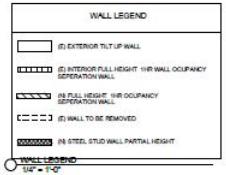
EXISTING FULL FLOOR PLAN, BUILDING SECTION, FIRE RATING.

Project 2
3/30/22
AR

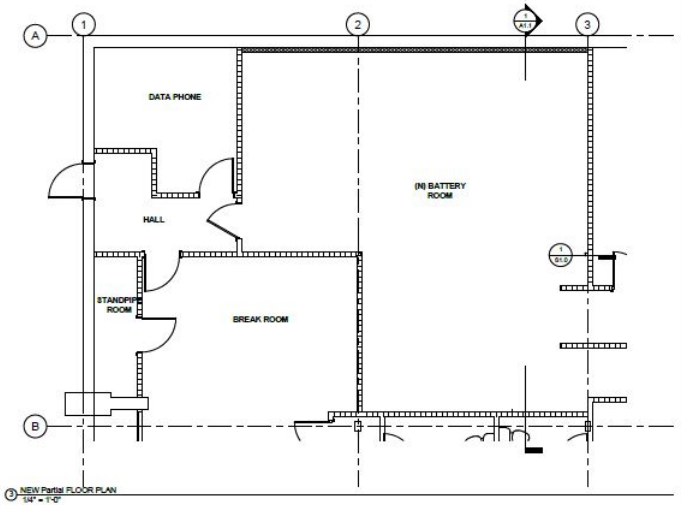
A1.0

1/8" = 1'-0"

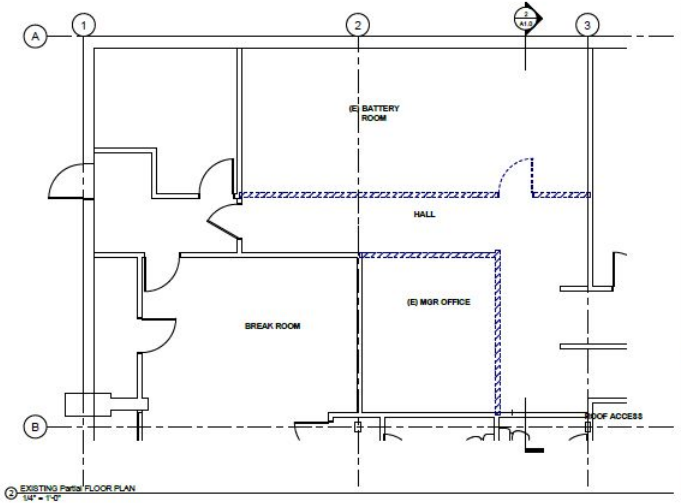
C:\Users\14023\Documents\Project 2 3-10-22.rvt



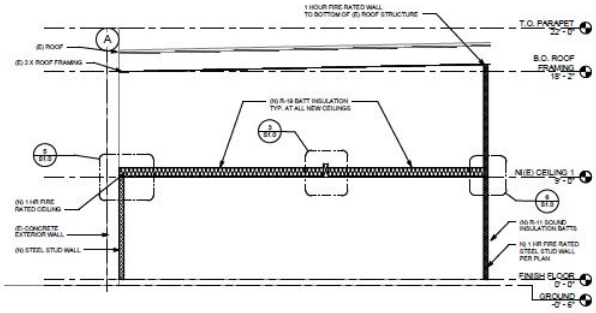
WALL LEGEND
1/4" = 1'-0"



3 NEW Partial FLOOR PLAN
1/4" = 1'-0"



2 EXISTING Partial FLOOR PLAN
1/4" = 1'-0"



1 NEW STRUCTURAL FRAMING SECTION
1/4" = 1'-0"

C:\Users\ALEJO\Documents\NEW VERSIONS\Project 2 1-0-22.rvt

COMCAST PLEASANTON BATTERY UPGRASDE

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

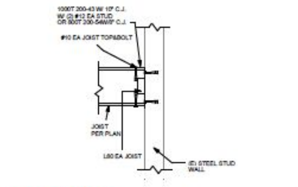
ALEJANDRO RAYA

DEMO/NEW PARTIAL FLOOR PLANS
FRAMING SECTION

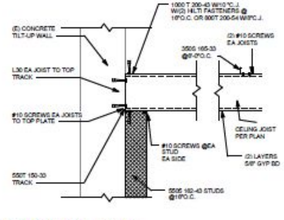
Project number: Project 2
Date: 3/20/22
Drawn by: AR

A1.1

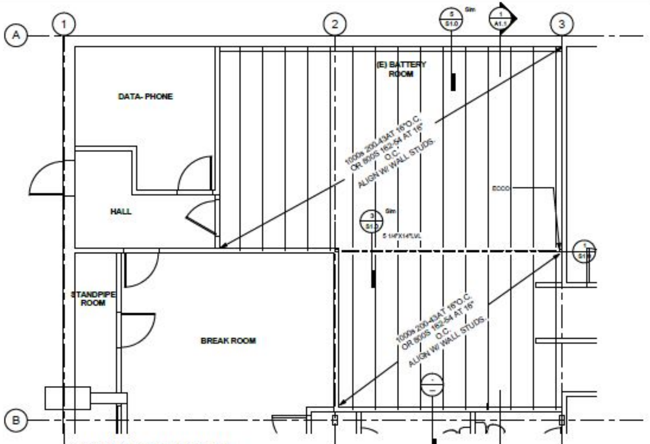
Scale: 1/4" = 1'-0"



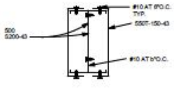
6 JOIST TO (E) STUD WALL
1" = 1'-0"



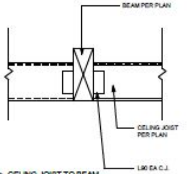
5 CELING JOIST TO FULL HGT WALL
1" = 1'-0"



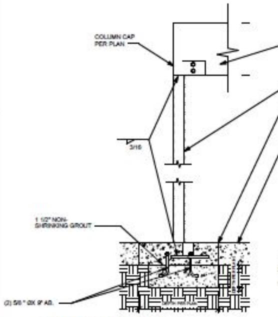
7 PARTIAL NEW CEILING FRAMING PLAN
1/4" = 1'-0"



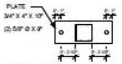
4 BUILT UP COLUMN
3" = 1'-0"



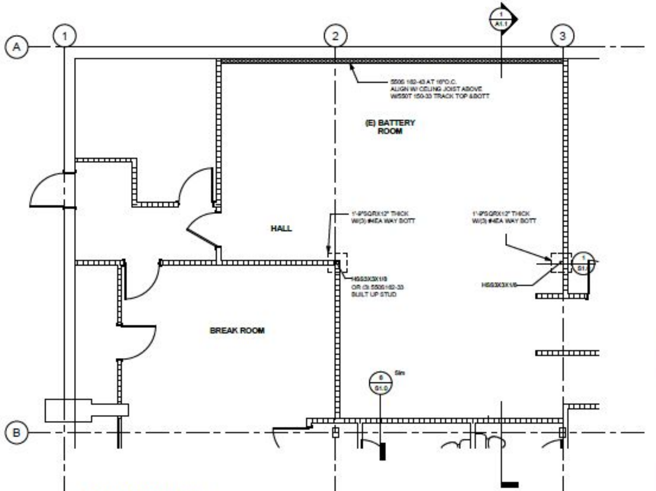
3 CELING JOIST TO BEAM
1" = 1'-0"



1 STEEL COLUMN TO BEAM.
1" = 1'-0"



2 Section A
1 1/2" = 1'-0"



8 Partial New FOUNDATION PLAN
1/4" = 1'-0"

COMCAST PLEASANTON BATTERY UPGRASDE

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

NEW FOUNDATION PLAN PARTIAL NEW CEILING FRAMING DETAILS

Project number	Project 2
Date	3/20/22
Drawn by	AR

S1.0

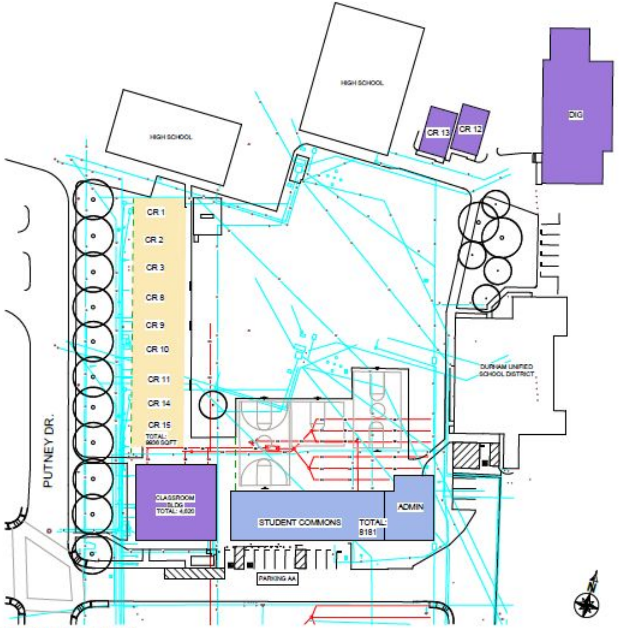
Scale: As indicated

SCHOOL SITE STUDY

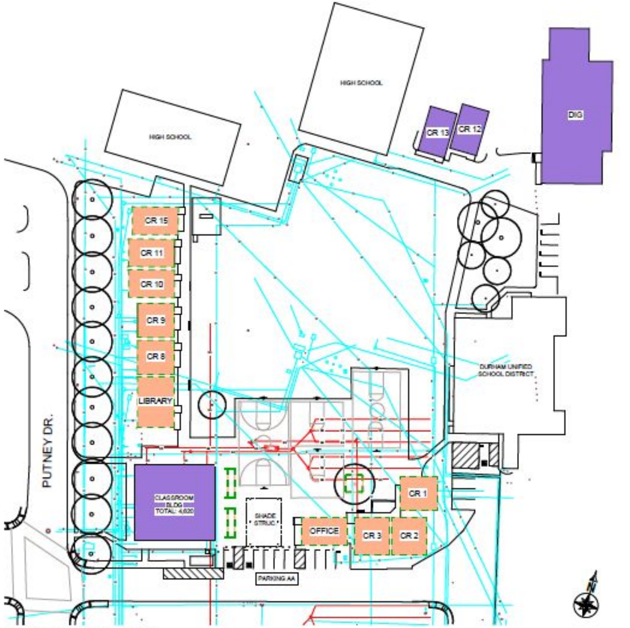
- SP-1 - Intermediate School Campus Site Plan
- SP-2 - Options A & B New Campus Site Plan

EXISTING BUILDING LEGEND					
UNIT	BUILDING TYPE	SQ FEET	OCC.	CONST TYPE	DSA #
OFFICE	ADMINISTRATION	960 SF	E	V-B	02-63767
CR BLDG 4-7	CLASSROOMS	4,620 SF	E	V-B	02-44094
CR 1	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-51575
CR2	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-51575
CR 3	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-51575
CR 8	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-51575
CR 9	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-51575
CR 10	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-63767
CR 11	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-63767
CR 12	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-65044
CR 13	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-65044
CR 15	RELOCATABLE CLASSROOMS	960 SF	E	V-B	02-66373
LIBRARY	RELOCATABLE LIBRARY	1,408 SF	E	V-B	02-50726
GYM/DIGGS	GYMNASIUM		E	V-B	2295
SHADE STTRUC.	SHADE STTRUCTURE	1,200 SF	A-3	II-B	02-108431
TOTAL		17,788 SF			

Legend 1
1" = 40'-0"



2 NEW CAMPUS SITE PLAN OPT. B
1" = 40'-0"



1 EXISTING CAMPUS SITE PLAN OPT. A
1" = 40'-0"

INTERMEDIATE SCHOOL SITE STUDIES

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

INTERMEDIATE SCHOOL CAMPUS SITE PLAN

Project number	4
Date	3/27/21
Drawn by	AR

SP-1

Scale 1" = 40'-0"

New Building Estimates

Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 1		**New Administration**				
	1	Lobby/Waiting Area		1	200	
	1A	Office Mgr/Attend Aid		1	160	
	1B	Office Storage		0	80	
	1C	Nurse		1	140	
	1D	Nurse Restroom (accessible)		0	80	
	1E	Conference/Meeting Room		0	240	
	1F	Counseling Office		0	120	
	1G	Principal Office		0	160	
	1H	Staff Restrooms-Accessible (2) 80 SF each		2	160	
	1I	Staff Workroom		0	600	
	1H	IT Data Room		0	120	
			Subtotal	5	2,060	
			Circulation Area (15% of total SF)		290	
			NEW ADMINISTRATION TOTAL REQUIRED SQ FT		2,350	

Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 2		**Student Commons**				
	2A	Multi-Use/Library/Dining		1	3,750	
	2B	Library Storage		0	500	
	2C	Serving Area			500	
	2D	Storage		0	200	
	2E	Janitor Room/Water Heater/Electrical		0	120	
	2F	Covered Outdoor Dining (1875 sf is not part of total)			0	
			Subtotal	1	5,070	
			Circulation Area (15% of total SF)		761	
			NEW STUDENT COMMONS TOTAL REQUIRED SQ FT		5,831	

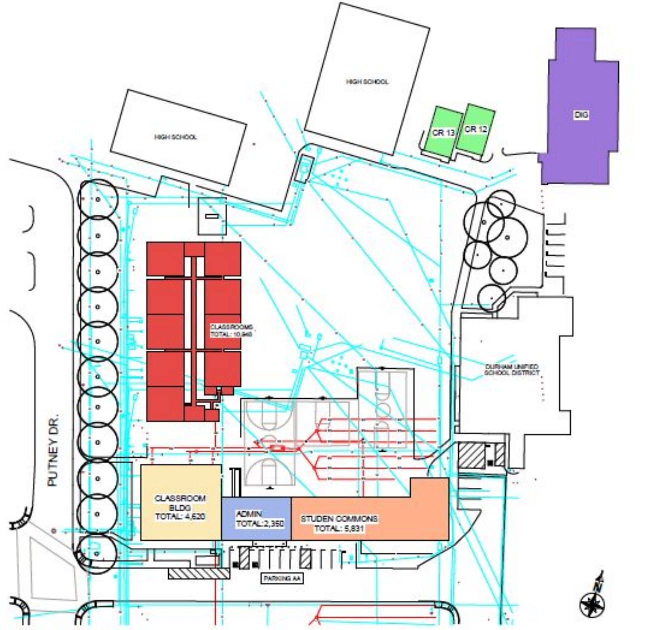
Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 3		**New Classrooms**				
	3A	Classroom 1		1	960	
	3B	Classroom 2		1	960	
	3C	Classroom 3		1	960	
	3D	Classroom 8		1	960	
	3E	Classroom 9		1	960	
	3F	Classroom 10		1	960	
	3G	Classroom 11		1	960	
	3H	Classroom 12 (PE)		1	960	
	3I	Classroom 15 (Deaf/Hard of Hearing)		1	960	
	3L	Staff Restrooms (2 @ 80 SF ea)		2	160	
	3M	Boys Restroom		1	300	
	3N	Girls Restroom		1	300	
	3O	Electrical / IT Data Room		1	120	
			Subtotal	13	9,520	
			Circulation Area (15% of total SF)		1,428	
			NEW CLASSROOM TOTAL REQUIRED SQ FT		10,948	

Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 4		**Classrooms 4 - 7 Bldg (Existing to Remain)**				
	4A	Classroom 4 (Science - Physical)		1	960	
	4B	Classroom 5		1	910	
	4C	Classroom 6		1	910	
	4D	Classroom 7 (Science)		1	960	
	4E	Staff Breakroom		0	338	
	4G	Staff Restroom (Non-accessible)		0	56	
	4H	Boys Restroom (Remodel)		0	218	
	4I	Girls Restroom (Remodel)		0	220	
	4J	Utility Closet		0	38	
			Subtotal	4	4,620	

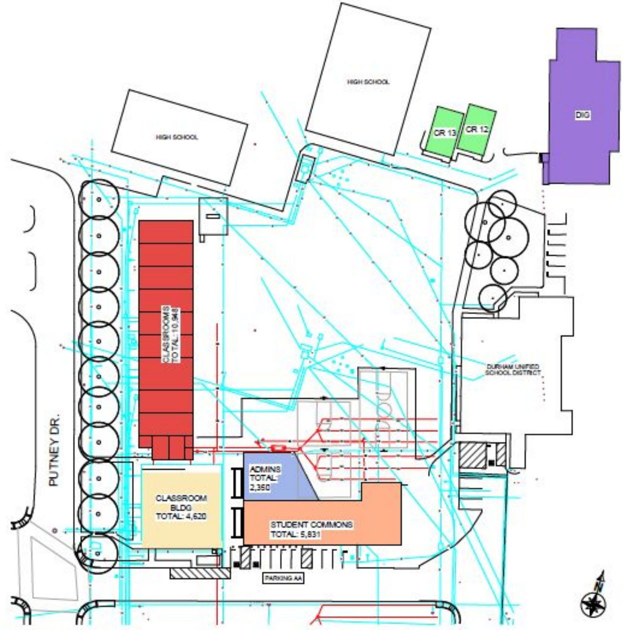
Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 5		**Classrooms (Existing Portables to Remain)**				
	12	Classroom 12 (High School - 3D Printer)		1	960	
	13	Classroom 13 (PE)		1	960	
			Subtotal	2	1,820	

Section	Plan Mark	Description	Staff	Staff/ Areas	Work Space Needs (Sq. Ft.)	Actual NET Sq. Ft.
Section 6		**Gymnasium Restrooms/Locker Rooms (Existing to Remodel)**				
	14A	Gymnasium		1	5,704	
	14B	Girls Locker Room (Includes Shower Area)		1	698	
	14C	Girls Restroom (Accessible)(includes utility closet)		0	210	
	14D	Girls Coach Office		1	98	
	14E	Storage @ Hall (Rear Entry)		0	75	
	14F	Boys Restroom (Accessible)(includes utility closet)		0	105	
	14G	Boys Locker Room (Includes Shower Areas)		0	588	
	14H	Boys Restroom (Non-accessible)		0	88	
	14I	Boys Coach Office		1	58	
	14J	Boys Storage		0	36	
	14K	Vestible - Gym to Boys Locker Room		0	64	
	14L	Vestible - Boys Locker Room to Exterior		0	64	
	14M	Vestible - Gym Rear Entry to Exterior		0	80	
	14N	Lobby - Gym Front Entry to Exterior		0	308	
	14O	Office/Storage (Front Entry)		1	148	
	14P	Storage		0	80	
			Subtotal	6	8,219	

GRAND TOTAL	32	33,903



② EXISTING CAMPUS SITE PLAN B
1" = 40'-0"



① EXISTING CAMPUS SITE PLAN A
1" = 40'-0"

INTERMEDIATE SCHOOL SITE STUDIES

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

OPTIONS A & B CAMPUS SITE PLANS

Project number	4
Date	3/27/21
Drawn by	AR
Scale	1" = 40'-0"

SP-2

PROJECT 3
NEW COMMERCIAL CONSTRUCTION

DUTCH BROS. COFFEE
CONSTRUCTION DOCUMENTS

3 SOUTH-EAST VIEW
12" = 1'-0"

2 NORTH VIEW 7
12" = 1'-0"

DUTCH BROS. YUBA CITY

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

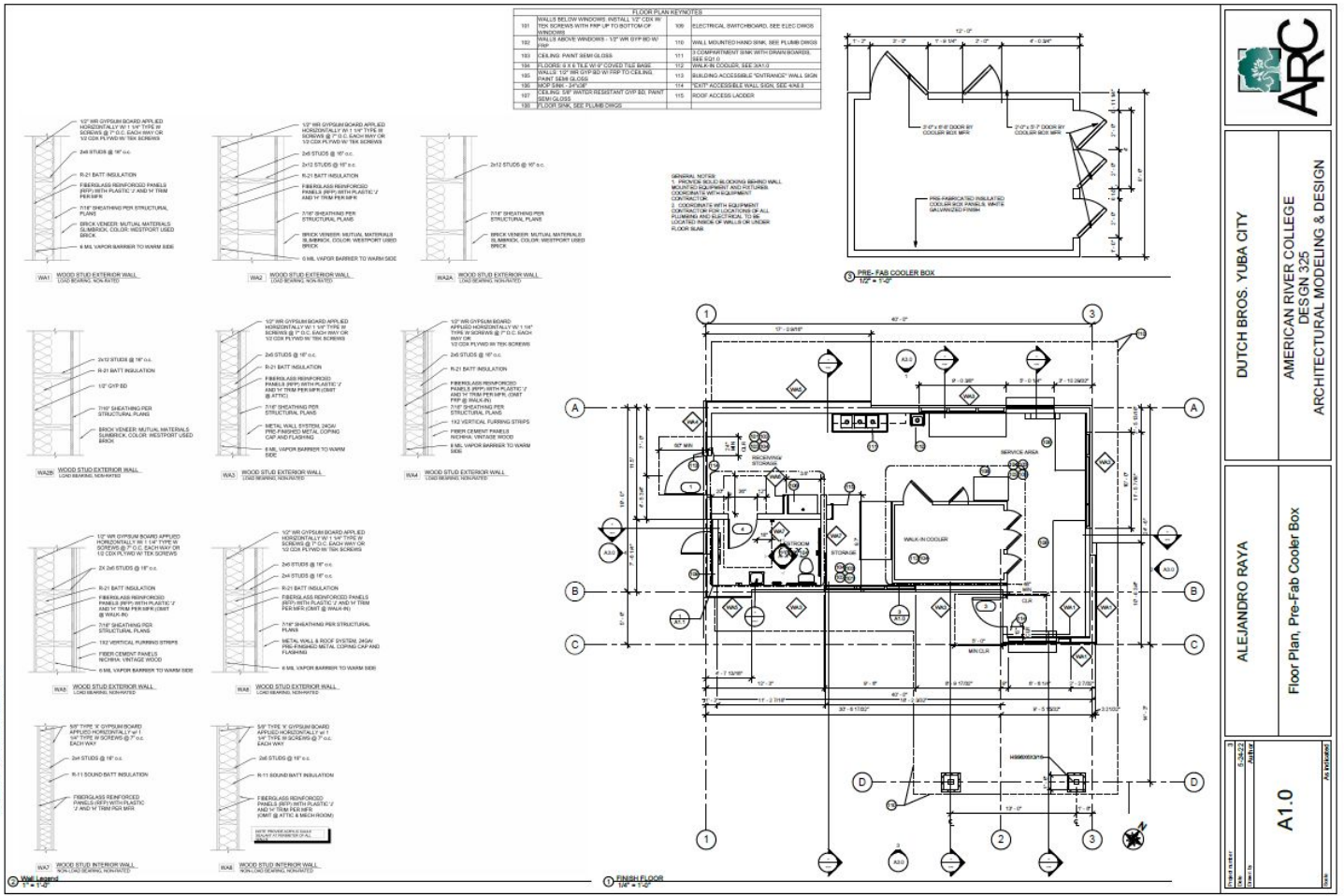
ALEJANDRO RAYA

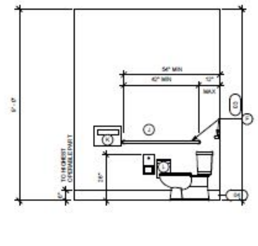
Cover Sheet

A0.0

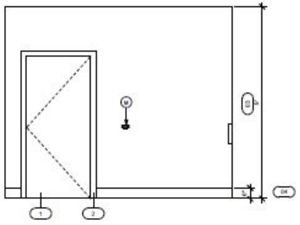
5-3-22

12" = 1'-0"

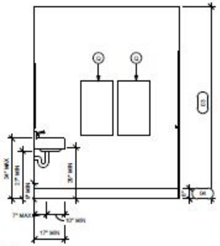

FLOOR PLAN KEYNOTES
101 WALLS BELOW WINDOWS, INSTALL 1/2" CEM. BD. W/ TEK SCREWS WITH FRP UP TO BOTTOM OF WINDOWS
102 WALLS ABOVE WINDOWS - 1/2" WR. GYP BD W/ VINYL
103 CEILING: PAINT SEMI GLOSS
104 FLOORS: 6 X 6 TILE W/ 6" COVED TILE BASE
105 WALLS: 1/2" WR GYP BD W/ FRP TO CEILING. PAINT SEMI GLOSS
106 MOP SINK - 24"x36"
107 CEILING: 5/8" WATER RESISTANT GYP BD, PAINT SEMI GLOSS
108 FLOOR SINK, SEE PLUMB DWGS
109 ELECTRICAL SWITCHBOARD, SEE ELEC DWGS
110 WALL MOUNTED HAND SINK, SEE PLUMB DWGS
111 3 COMPARTMENT SINK WITH DRAIN BOARDS, SEE EQ1.0
112 WALK-IN COOLER, SEE A3A1.0
113 BUILDING ACCESSIBLE "ENTRANCE" WALL SIGN
114 "EXIT" ACCESSIBLE WALL SIGN, SEE 4/A4.0
115 ROOF ACCESS LADDER
GENERAL NOTES:
1. PROVIDE SOLID BLOCKING BEHIND WALL MOUNTED EQUIPMENT AND FIXTURES. COORDINATE WITH EQUIPMENT CONTRACTOR.
2. COORDINATE WITH EQUIPMENT CONTRACTOR FOR LOCATIONS OF ALL PLUMBING AND ELECTRICAL TO BE LOCATED INSIDE OF WALLS OR UNDER FLOOR SLAB.
WA1 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA2 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA2A WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA2B WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA3 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA4 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA5 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA6 WOOD STUD EXTERIOR WALL
LOAD BEARING, NON-RATED
WA7 WOOD STUD INTERIOR WALL
NON-LOAD BEARING, NON-RATED
WA8 WOOD STUD INTERIOR WALL
NON-LOAD BEARING, NON-RATED
2 Wall Legend
1" = 1'-0"
3 PRE- FAB COOLER BOX
1/2" = 1'-0"
1 FINISH FLOOR
1/4" = 1'-0"
SERVICE AREA
RECEIVING/ STORAGE
WALK-IN COOLER
MEN'S RESTROOM
WOMEN'S RESTROOM
STORAGE
MIN CLR
DUTCH BROS. YUBA CITY
AMERICAN RIVER COLLEGE
DESIGN 325
ARCHITECTURAL MODELING & DESIGN
ALEJANDRO RAYA
Floor Plan, Pre-Fab Cooler Box
A1.0
As indicated
5-24-23
ARC



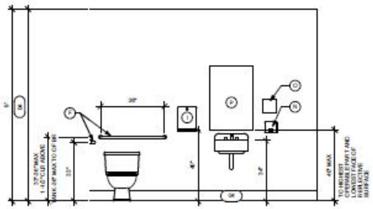
5 4 - D
1/2" = 1'-0"



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

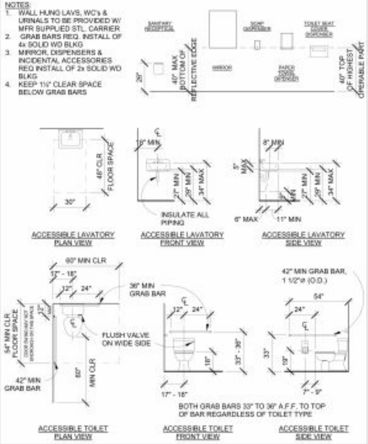


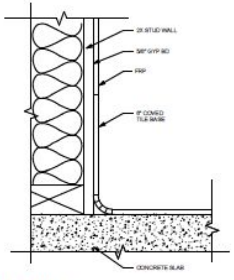
3 4 - B
1/2" = 1'-0"



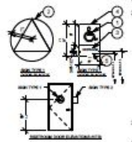
2 4 - A
1/2" = 1'-0"

NOTES:
1. WALL HUNG LAVS, WC's & URINALS TO BE PROVIDED W/ MFR SUPPLIED STL. CARRIER
2. GRAB BARS REQ. INSTALL OF 4x SOLID WD BLKG
3. MIRROR, DISPENSERS & INCIDENTAL ACCESSORIES REQ INSTALL OF 2x SOLID WD BLKG
4. KEEP 1½" CLEAR SPACE BELOW GRAB BARS





7 COVER BASE - TILE
3" = 1'-0"



1. ISA PICTOGRAM
2. 12" CIRCLE W SUPERIMPOSED EQUILATERAL TRIANGLE RESTROOM PLAQUE: 1/4" THICK TRIANGLE& 1/4" THICK CIRCLE, ACRYLIC PLASTIC, OPAQUE. SECURE TO DOOR W/ TAMPER RESISTANT FASTENERS. SYMBOLS & LETTERING SHALL BE WHITE ON BLUE BACKGROUND U.O.N. BACKGROUND COLOR SHALL CONTRAST W/ DOOR COLOR. TRIANGLE SHALL CONTRAST WITH CIRCLE, CIRCLE SHALL CONTRAST WITH DOOR. EDGES AND VERTICES TO COMPLY WITH 11B-703.7.2.5.4
3. 5/8" TALL SAN SERIF UPPERCASE LETTERS, RAISED 1/32"
4. ROOM PLAQUE: 1/8" THICK ACRYLIC PLASTIC, OPAQUE. SECURE TO WALL W/ TAMPER RESISTANT FASTENERS. SYMBOLS & LETTERING SHALL BE WHITE ON BLUE BACKGROUND U.O.N.
5. CORRESPONDING BRAILLE
NOTE:
REFER TO TYPICAL SIGN NOTES, THIS SHEET

6 RESTROOM DOOR SIGNAGE
1/2" = 1'-0"

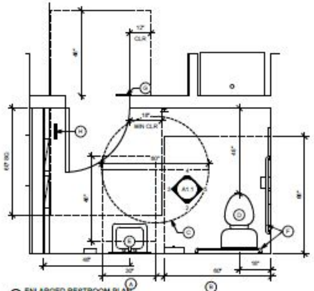
GENERAL NOTES:

A. ALL PLUMBING FIXTURES, FAUCETS AND ACCESSORIES TO BE ADA COMPLIANT
B. ALL EXPOSED PIPING UNDER LAVATORIES TO BE INSULATED TO PROTECT FROM CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES
C. DOOR TO HAVE LEVER HARDWARE & CLOSER
D. TOILET PAPER DISPENSER SHALL BE MOUNTED BETWEEN 7" AND 9" IN FRONT OF WATER CLOSET; OUTLET OF DISPENSER SHALL BE LOCATED BETWEEN 15" AND 48" A.F.F.; THERE SHALL BE A CLEARANCE OF 1.5" MIN. BELOW AND 12" MIN. ABOVE THE GRAB BAR
E. TOILET PAPER DISPENSER SHALL BE MOUNTED BETWEEN 7" AND 9" IN FRONT OF WATER CLOSET; OUTLET OF DISPENSER SHALL BE LOCATED BETWEEN 15" AND 48" A.F.F.; THERE SHALL BE A CLEARANCE OF 1.5" MIN. BELOW AND 12" MIN. ABOVE THE GRAB BAR PER ICC A117.1-2009

INTERIOR ELEVATION FINISHES:

01 PAINT DOOR - COLOR #2
02 PAINT DOOR FRAME TO MATCH DOOR - COLOR #2
03 FRP - FULL HEIGHT
04 COVED TILE BASE FLOORING
NOTE:
PAINT GYP BD CEILING - COLOR #3

RESTROOM KEYNOTES	
A	30"X48" MINIMUM CLEAR FLOOR SPACE AT LAV
B	60"X60" MINIMUM CLEAR FLOOR SPACE AT W/C
C	60" MINIMUM TURNING RADIUS
D	ADA COMPLIANT WATER CLOSET, FLUSH VALVE ON OPEN SIDE. SEE PLUMB DRWGS
E	ADA LAVATORY, SEE PLUMB DRWGS
F	S.S. GRAB BAR 1 1/4" - 1 1/2" DIA. BOBRICK 250 LBF, MIN 33"-36" HEIGHT TO THE TOP OF THE GRIPPING SURFACE. THE BAR SHALLA BE 1-1/2" IN DIAMETER & MOUNTED WITH 1-1/2" CLEARANCE FROM THE WALL
G	RESTROOM WALL MOUNT SIGN
H	TOILET I.D. DOOR MOUNT SIGN
I	PAPER TOWEL DISPENSER - BOBRICK B-262, SURFACE MOUNT
J	TOILET PAPER HOLDER - BOBRICK B-3888, RECESSED OR SIMILAR MANUFACTURER
K	TOILET SEAT COVER DISPENCER: BOBRICK B-3013 RECESSED OR SIMILAR MANUFACTURER
L	SANITARY NAPKIN DISPOSAL: BOBRICK CONTRA SERIES B-270, SURFACE MOUNTED
M	COAT HOOK: BOBRICK MODEL # B6717. MOUNT TO WALL AS SHOWN ON PLANS
N	WALL MOUNTED SOAP DISPENSER SUPPLIED BY "ECOLAB" AND INSTALLED BY THE G.C.
O	SIGN "EMPLOYEES MUST WASH HANDS BEFORE RETURNING TO WORK"
P	MIRROR: (BOTTOM OF REFLECTIVE SURFACE AT 40" MAX HEIGHT) MODEL B-1658 1836 (18"X36") STAINLESS STEEL CHANNEL FRAME MIRROR WITH THEFT RESISTANT SCREWS, BY BOBRICK OR APPROVED EQUIVALENT.
Q	ELECTRIC PANEL. SEE ELEC DWGS



1 ENLARGED RESTROOM PLAN
1/2" = 1'-0"

ARC

DUTCH BROS. YUBA CITY

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

Enlarged Restroom Plan

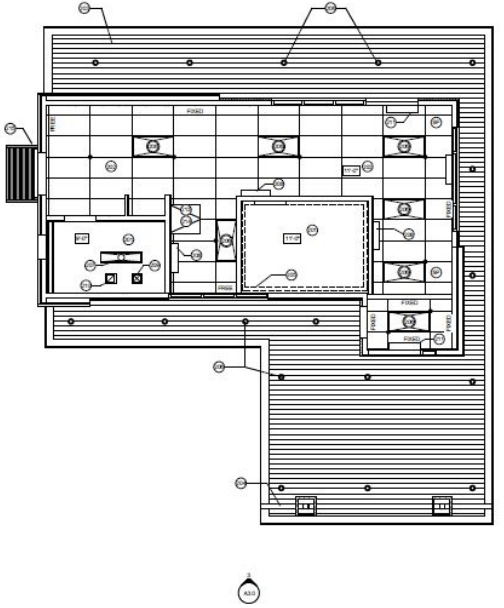
Project number	3
Date	4-27-22
Drawn by	AR

A1.1

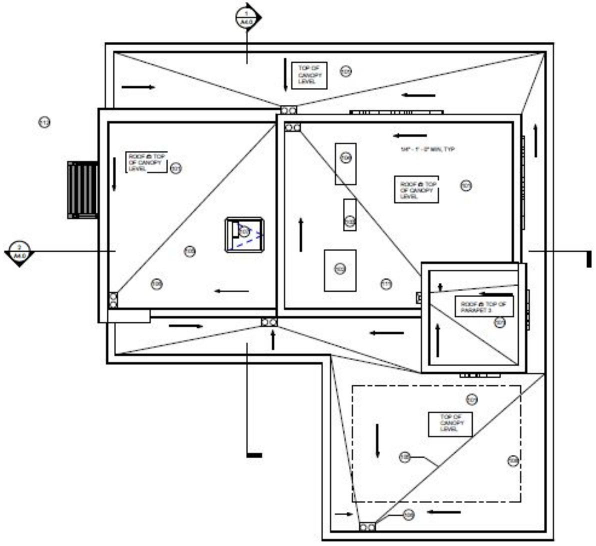
Scale: As indicated

REFLECTED CEILING KEYNOTES	
KEY	DESCRIPTION
201	GYP BD CEILING, PAINT COLOR #3
202	T-BAR CEILING GRID W/ 2x4 ACOUSTICAL CEILING TILES
203	SOFFIT: RE-SAWN PLYWOOD TO BE PAINTED, COLOR: OLD TOWN GRAY
204	PAINT BEAM TO MATCH COMPOSITE WALL CLADDING: COLOR - GRAY
205	OUTLINE OF WALK-IN COOLER BELOW
206	4" RECESSED EXTERIOR SOFFET LED FIXTURE, SEE ELEC DWGS
206	2' x 4' RECESSED INTERIOR LED FIXTURE, SEE ELEC DWGS
207	1' x 4' SURFACE MOUNTED INTERIOR LED FIXTURE, SEE ELEC DWGS
208	SURFACE MOUNTED DUCTLESS HVAC UNITS, SEE MECH DWGS
209	AIR SUPPLY DIFUSER, SEE MECH DWGS
210	RETURN AIR DIFUSER, SEE MECH DWGS
211	FLY FAN ABOVE PASS-THRU WINDOW, SEE MECH DWGS
212	RECESSED STEREO SPEAKER LOCATION
213	ROOF ACCESS HATCH
214	ROOF ACCESS LADDER
215	LOUVERED METAL CANOPY

ROOF PLAN KEYNOTES	
KEY	DESCRIPTION
101	SINGLE PLY ROOF SYSTEM (TPO), WHITE, SEE GENERAL NOTES
102	WALK-IN COOLER CONDENSER, PROVIDE ROOF CURBS, FLASHING AND ROOFING, EQUIPMENT CONTRACTOR TO INSTALL UNIT
103	MINI-SPLIT HEAT PUMP OUTDOOR UNIT, PROVIDE ROOF CURBS, FLASHING AND FOOFING, EQUIPMENT CONTRACTOR TO INSTALL UNIT
104	ICE MACHINE CONDENSER, PROVIDE ROOF CURBS, FLASHING AND ROOFING, EQUIPMENT CONTRACTOR TO INSTALL UNIT
105	RIGID INSULATION CRICKETS, SLOPE 1/4" = 1'-0"
106	ROOF DRAIN & OVERFLOW, SEE PLUMB DRWGS
107	ROOF ACCESS HATCH
108	FUTURE SOLAR READY ZONE, SEE MECH & ELEC DRWGS FOR LOCATION OF INVERTERS & METERING EQUIP
111	GSM THRU-WALL SCUPPER AND OVERFLOW AND GSM DOWNSPOUT, PAINT COLOR TO MATCH ROOFING - WHITE
112	LOUVERED METAL AWNING



1 REFLECTED CEILING PLAN
1/4" = 1'-0"



2 ROOF PLAN
1/4" = 1'-0"

ARC

DUTCH BROS. YUBA CITY

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

Reflected Ceiling Plan & Roof Plan

Project number	3
Date	5-8-22
Drawn by	AR

A2.0

Scale 1/4" = 1'-0"

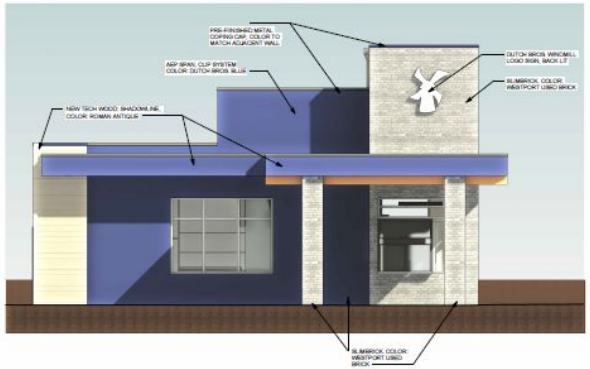
AEP SPAN, CLIP SYSTEM
COLOR: DUTCH BROS.
BLUE

NEW TECH WOOD: SHADOWLINE,
COLOR: ROMAN ANTIQUE

SLIMBRICK,
COLOR: WESTPORT USED
BRICK

SOFFIT: COMPOSITE CLADDING SOFFIT,
NEWTECHWOOD ULTRA-SHIELD SHADOWLINE
US31. COLOR: ROMAN ANTIQUE (LG)

4 West
1/4" = 1'-0"



3 South
1/4" = 1'-0"

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

1 North
1/4" = 1'-0"

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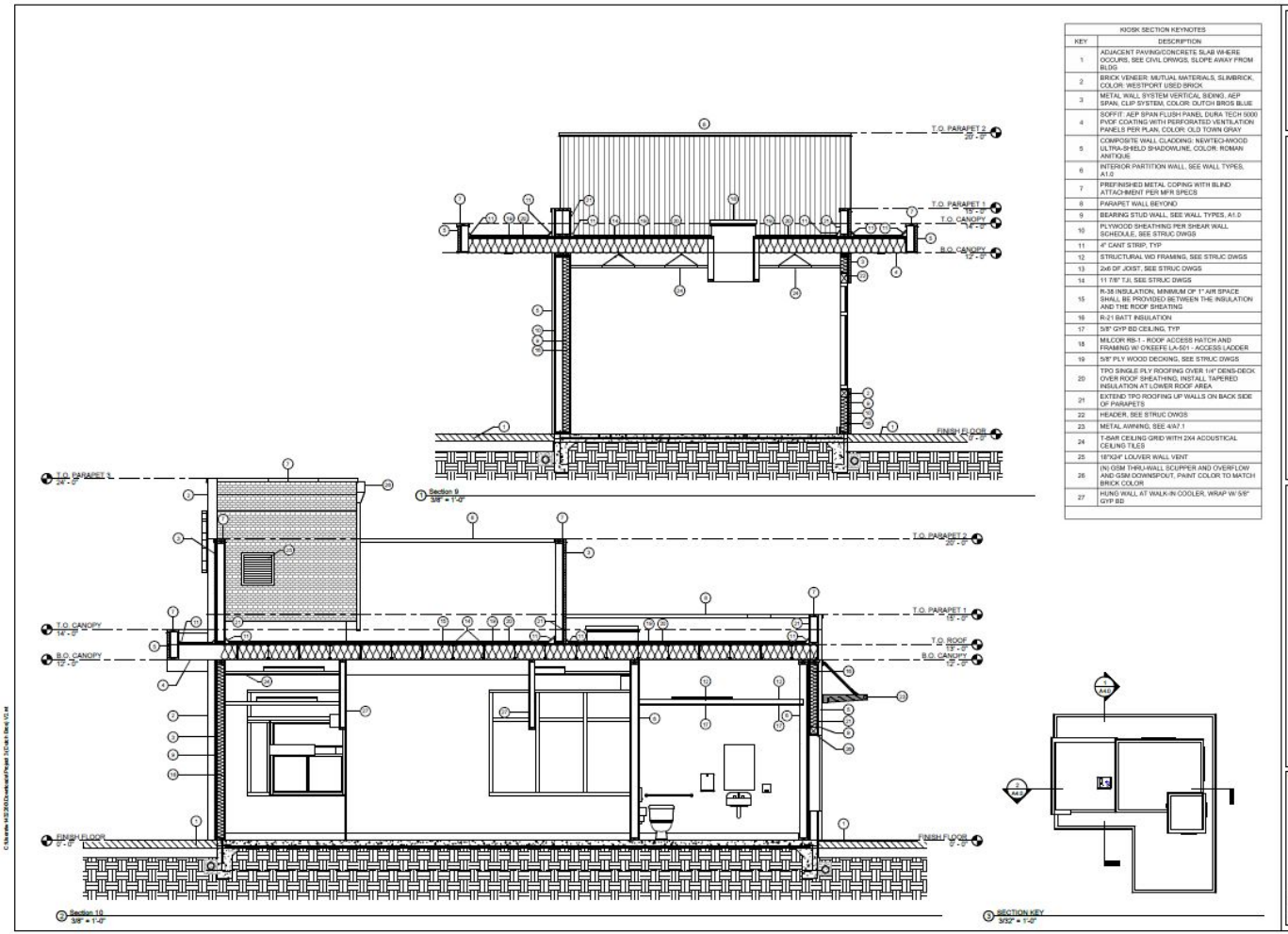
DUTCH BROS. YUBA CITY

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

Exterior Elevations (Color Elevations)

Project number	
Date	5-12-22
Sheet No.	A3.0
Scale	1/4" = 1'-0"



KIOSK SECTION KEYNOTES	
KEY	DESCRIPTION
1	ADJACENT PAVING/CONCRETE SLAB WHERE OCCURS, SEE CIVIL DRWGS, SLOPE AWAY FROM BLDG
2	BRICK VENEER: MUTUAL MATERIALS, SLIMBRICK, COLOR: WESTPORT USED BRICK
3	METAL WALL SYSTEM VERTICAL SIDING, AEP SPAN, CLIP SYSTEM, COLOR: DUTCH BROS BLUE
4	SOFFIT: AEP SPAN FLUSH PANEL DURA TECH 5000 PVDF COATING WITH PERFORATED VENTILATION PANELS PER PLAN, COLOR: OLD TOWN GRAY
5	COMPOSITE WALL CLADDING: NEWTECHWOOD ULTRA-S-WELD SHADOWLINE, COLOR: ROMAN ANTIQUE
6	INTERIOR PARTITION WALL, SEE WALL TYPES, A1.0
7	PREFINISHED METAL COPING WITH BLIND ATTACHMENT PER MFR SPECS
8	PARAPET WALL BEYOND
9	BEARING STUD WALL, SEE WALL TYPES, A1.0
10	PLYWOOD SHEATHING PER SHEAR WALL SCHEDULE, SEE STRUC DWGS
11	4" CANT STRIP, TYP
12	STRUCTURAL WD FRAMING, SEE STRUC DWGS
13	2x6 DF JOIST, SEE STRUC DWGS
14	11 7/8" TJI, SEE STRUC DWGS
15	R-38 INSULATION, MINIMUM OF 1" AIR SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATING
16	R-21 BATT INSULATION
17	5/8" GYP BD CEILING, TYP
18	MILCOR RS-1 - ROOF ACCESS HATCH AND FRAMING W/ O'KEEFE LA-501 - ACCESS LADDER
19	5/8" PLY WOOD DECKING, SEE STRUC DWGS
20	TPO SINGLE PLY ROOFING OVER 1/4" DENS-DECK OVER ROOF SHEATHING, INSTALL TAPERED INSULATION AT LOWER ROOF AREA
21	EXTEND TPO ROOFING UP WALLS ON BACK SIDE OF PARAPETS
22	HEADER, SEE STRUC DWGS
23	METAL AWNING, SEE 4/A7.1
24	T-BAR CEILING GRID WITH 2X4 ACOUSTICAL CEILING TILES
25	18"X24" LOUVER WALL VENT
26	(N) GSM THRU-WALL SCUPPER AND OVERFLOW AND GSM DOWNSPOUT, PAINT COLOR TO MATCH BRICK COLOR
27	HUNG WALL AT WALK-IN COOLER, WRAP W/ 5/8" GYP BD

DUTCH BROS. YUBA CITY

AMERICAN RIVER COLLEGE
DESGN 325
ARCHITECTURAL MODELING & DESIGN

ALEJANDRO RAYA

SECTIONS

A4.0

Project number
Date: 5-15-22
Drawn by: AR
Check by:
Scale: As indicated

DESGN 360

Spring 2022

Alejandro Raya

Description:

Research Project

History of Shipping Container Homes.

Malcolm McLean was the inventor of shipping containers in 1956 with the intention of solving international shipping problem, but little did Mclean know that his idea would bring muchmore that just a shipping solutions. At the time he owned the largest trucking company in the country. He came up with idea of how to make transportation seamless and efficient; for years, when Malcolm started his trucking company, cargo was loaded and unloaded in odd sized wooden cases, he watched dock loaders unloading freight from trucks and transferring it to ships, and was amazed by the inadequacy of this method. So, Malcolm decided to make a change he purchased Pan Atlantic Tanker Company with all its shipping assets. With it, he started experimenting with better ways of loading and unloading trucks, finally came up with what is now called a ***shipping container.*** It's strong, theft resistant, reliable and easy to transfer. The cost to ship cargo had dropped more than 90% due to the new method of shipping.

In 1956, cargo cost $5.86 per ton to load, while now it only costs around $0.16 per ton. In 1966, around 1% of countries had container ports, but this rose to 90% by 1983. Malcolm McLean has been awarded "Man Of The Century" by the International Maritime Hall of Fame. Pre-containers, cargo could be loaded at around 1.3 tons per hour. This increased to over 30 tons per hour by 1970. By the end of the century 90% of the whole world was using shipping containers even though through there was a lot of people who first refused this type of transportation due to being afraid of job lose since there was some cut hours/shorter work load.

In 2011, the shipping ports of America received $1.73 trillion worth of goods. Around 90% of every purchased item has been shipped inside of a container. There are close to twenty million shipping containers in the world, which make over 200 million trips per year. A sweater can now travel 3,000 miles for 2.5 cents by sea. There are more than 6,000 container vessels currently in service. The largest container ships in the world as of 2019 are the MSC Gülsün Class with a TEU of 23,756. But this is just the beginning of the story!

REFERENCES:

1. Container one
2. History of container
3. Discovery of containers

Notable Early Projects

REFERENCES:

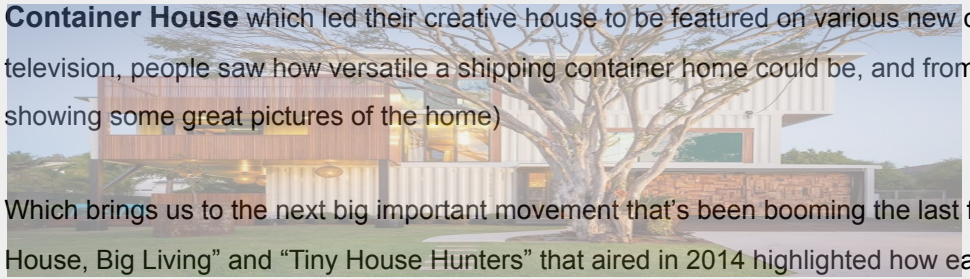
1. Container one
2. Youtube Graceville Container House

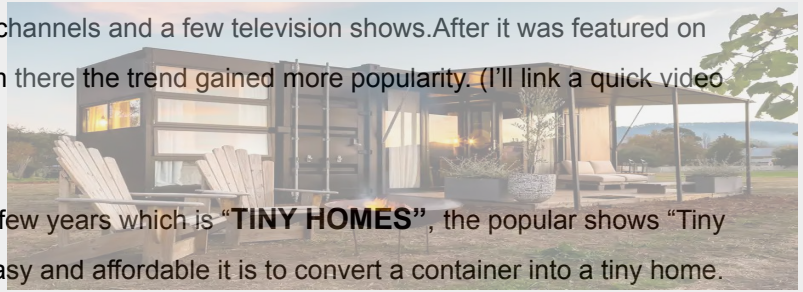
The **first** official record of a shipping container **home** was in November 1987, owned by a man named Phillip Clark. He had filed a patent for the "method for converting one or more steel shipping containers into a habitable building." In his patent he covered how shipping containers could be modified to be turned into living quarters; two years later his patent was approved. Clark was not the first person to come up with the idea, he was just the first on official records.

The first building to be fully comprised of shipping containers was "The Simon's Town High School Hostel", which was completed in 1998. It is capable of housing up to 120 people comfortably at any given time.

The first shipping container home in the U.S. is recorded to be made in 2007 by Peter DeMaria, an architect from California.

In 2012 the a couple in australia lost their home due to a flood so they decided to build their own home, but they took a risk and wanted to cut cost by using shipping containers. The couple ended up using 31 containers and it ended up becoming a shipping container mansion called **Graceville Container House** which led their creative house to be featured on various new channels and a few television shows.After it was featured on television, people saw how versatile a shipping container home could be, and from there the trend gained more popularity. (I'll link a quick video showing some great pictures of the home)

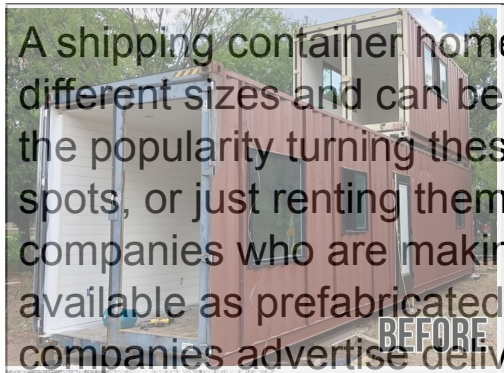




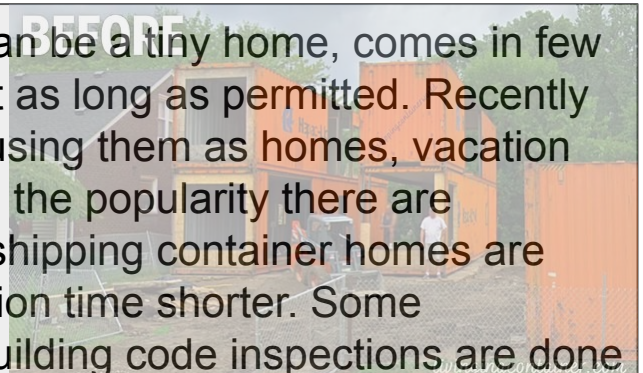
Which brings us to the next big important movement that's been booming the last few years which is "**TINY HOMES"**, the popular shows "Tiny House, Big Living" and "Tiny House Hunters" that aired in 2014 highlighted how easy and affordable it is to convert a container into a tiny home.

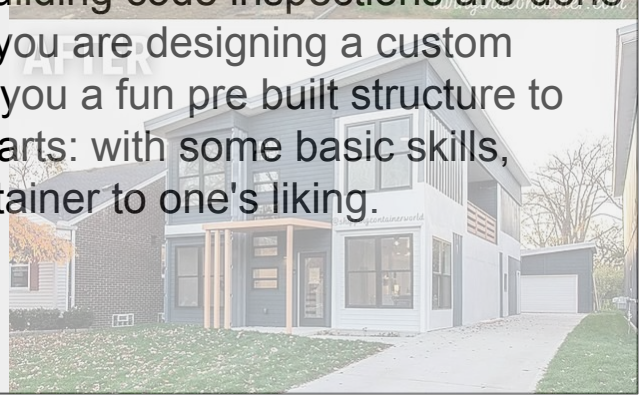
The Use of Shipping container as homes

References:
Shipping container homes



A shipping container home has multiple uses as a home, it can be a tiny home, comes in few different sizes and can be relatively easy to add more upon it as long as permitted. Recently the popularity turning these into tiny homes is booming and using them as homes, vacation spots, or just renting them out like AirBnB. On top of this with the popularity there are companies who are making these into prefab homes. Many shipping container homes are available as prefabricated modular homes, making construction time shorter. Some companies advertise delivery within 10 weeks! Most of the building code inspections are done at the factory, which makes things simpler and quicker. Or if you are designing a custom home or building a do-it-yourself project, the container gives you a fun pre built structure to work with. The versatility of these homes is one of the best parts: with some basic skills, determination, and imagination one can build a shipping container to one's liking.





Forming methods Part 1

REFERENCES:

1. Shipping container Process

Before using a shipping container as a home we take a look at how these are made which typically is a 8 step process. **STEP 1**: **Wall Panel**s;Large steel sheets are cut down into sheets, which are sand-blasted and primed to remove dust and other contaminants. They are then corrugated, which actually adds strength to walls and gives shipping containers their wave like texture. The corrugated sheets are welded to the tubular frame.

STEP 2: **Floor Frame Assembly** primarily consists of two longer I-beams aid out perpendicular to each other. Smaller I-beams are then welded in between the longer I-beams to create a slab-like base. Once the welding is complete, the floor frame is sanded with a flap disc angle grinder to remove any rough welding joints.

The flooring is Marine grade pressure treated with FDA approved chemicals to include pesticides and anti decomposing agents to insure safety and longevity of the wood floors.

STEP 3: **DOORS AND CORNER POSTS** Like the side walls, the doors are mainly made out of corrugated steel. Once the corrugated steel has been cut to size, it is encased in square steel tubing.

The doors are installed on the floor frame, followed by the wall panels. Then the corner posts, walls and door are welded in place and the roof panel is assembled and attached.

STEP 4: FINISHING THE BOX Cranes are used to lift the door frames so they can be positioned on top of the floor frame and welded into place. The wall panels are lifted and welded next, and the roof panel is welded in place last.

STEP 5: **PRIMING AND PAINTING** it needs primed and painted to provide protection from harsh environments. Priming (undercoating) is the first layer of paint to be sprayed on the container.

Multiple layers of paint ensure the container is protected against the harsh elements of sea travel such as salt and water.

The flooring panels are varnished to prevent water and pest damage to the wood, and the floor is installed in the frame. Finally, the door is fitted with rubber seals and the bottom of the container is waterproofed.

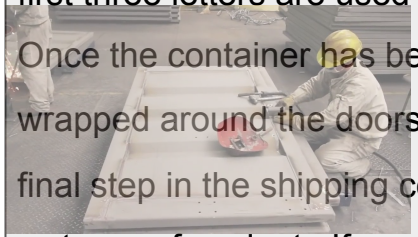
Forming methods Part 2

REFERENCES:

1. Shipping container Process

STEP 6: FLOORING; the wooden flooring needs to be fit on top of the floor frame. Six plywood panels are used to floor the container. The pressure-treated panels are placed inside the container and screwed into the steel floor beams.

STEP 7: **DECALS AND IDENTIFICATION;** the shipping containers are now ready for company decals and logos. They also need labels with unique identification codes that can be used to identify the container from anywhere in the world. The identification code has 11 alphanumeric characters each of which corresponds to a meaning. The first three letters are used to identify the owner of the container.



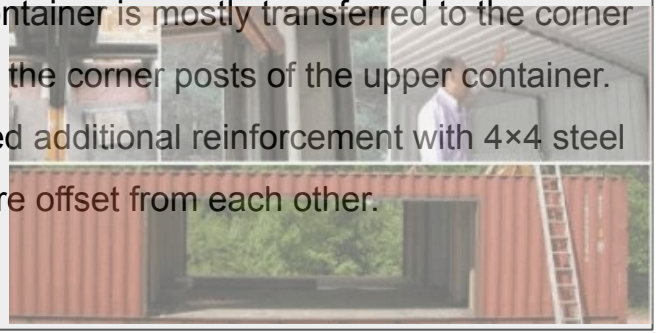
Once the container has been labelled, the door handles and locking mechanism are attached. A rubber seal is then wrapped around the doors to make sure they are watertight. **STEP 8**: **WATERPROOFING AND TESTING;** The final step in the shipping container manufacturing process is the spraying of the container's underside with a waterproof sealant. If no defects or leaks are found, the container is now complete and can be transported to its intended location.

How is it Reinforced

REFERENCES:

1. Reinforcing

So depending on how the shipping container is being used for a home might mean how it's going to be reinforced; for windows and doors it's best to use metal strips or flat steel bars. Weld a strip below and above the window or door. Fit a strip on each side of the cut-out between the upper and lower strips.If the window or door spans the entire height of the container, add steel support beams that reach from the floor to the upper rail. Use 4×4 steel beams when adding vertical reinforcements. Now if you want to connect two containers together after cutting out the ends you can use steel beams on the upper rails where they meet and you must make sure the foundation is perfectly leveled to seal them properly. Or if you're thinking of stacking the containers on top of each other you must also think of reinforcing them properly. The weight from the upper container is mostly transferred to the corner posts of the lower container, steel beams should be welded directly below the corner posts of the upper container. If the lower container has cut-outs for windows or doors, the rails may need additional reinforcement with 4×4 steel beams, and steel beams are also needed when the stacked containers are offset from each other.

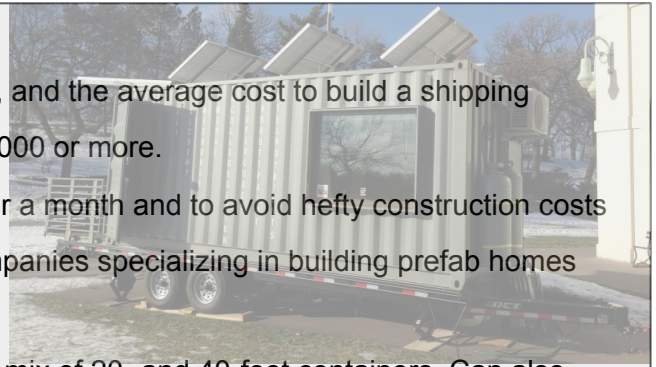


Key benefits of this methods

REFERENCES:

1. Cost range
2. advantages

There are so many Benefits of turning shipping container into homes;



Cost of Labor a rough estimate, a Shipping container homes range in size and cost, and the average cost to build a shipping container home is around $10,000 to $35,000, while larger homes can cost up to $175,000 or more.

Quick to construct, some contractors can build a shipping container home in under a month and to avoid hefty construction costs altogether, you can purchase a prefabricated container home from a growing list of companies specializing in building prefab homes off-site.

Can be **modular homes**, are relatively easy to modify, you can build a home with a mix of 20- and 40-foot containers. Can also combine multiple containers to create a larger home with a living room, dining room, extra bedrooms, a second floor, or even a container guesthouse.

They're durable, manufacturers typically use corten steel to build shipping containers. This self-healing steel protects cargo during transport across bodies of water and shipping container homes made from weathering steel can likely withstand inclement weather conditions better than traditional housing.

There are tons of more benefits but one of my favorite things about these homes are that **they can be mobile!** If someone wants to create a tiny home on wheels it's definitely possible.

The restrictions

REFERENCES:

1. Advantages
2. Trend
3. Loan guide

Height- it doesn't seem like there is a law enforcing max height in California(yet), but they say we should not stack more than eight containers high.

Codes and Regulations- are required to meet the same building codes and are permitted the same as a traditional build.- Getting the permits might be more difficult than a traditional build.

Electricity- it would be best to find a reliable licensed electrician who is familiar with shipping container architecture to design and install custom electrical setups for your house. If your location doesn't have access to electricity, you may need to hire a contractor to install solar panels onto the roof.

Be aware of compromising the structural integrity- While storage containers are built out of durable steel, you can weaken them with certain modifications like; cutting holes for a door or large windows.

Certain Weather conditions- While shipping containers can withstand certain weather conditions, the weight from heavy snow can cause the roof to bow if the corner castings aren't strong enough. You will need to hire a contractor to reinforce load-bearing walls or install a sloped rooftop.

Cost- There is a misconception that just because it's a shipping container the home will be cheap to make, but it's not always the case. Yes, at times it can be more of budget friendly home, but also depends on all sorts of factors. Especially if one wants the home build correctly, made into a adu, hiring contractors, materials, permits, ect.. The amount can add up fast.

Loans- A lot of banks don't see these as actual homes so sometimes finding a lender can be quite difficult, it might have to be a construction loan, personal loan, or it might need to be set on a permanent foundation with utility hookups to be considered real estate, for a better chance of getting a loan.

How is it Insulated

REFERENCES:

1. Insulation/ styles of container
2. Forms of Insulation

Typically people choose to get a standard container which is 8 feet high, but for a little more money you can get a high cube container which is 9 feet 6 inches. In a standard container, if you insulate the ceiling, the remaining interior ceiling height is only about 7 feet. Using a high cube container, you can install insulation and still have an 8-foot ceiling height.

Spray foam- is another very popular insulation, can be used interior or exterior depending on weather conditions could call for it. Also adds as a layer of protection since many shipping containers are coated with highly toxic paints to withstand life at sea.

Cotton- is another very good type and this insulation has an R-Value of 3.5 per inch, similar to that of more traditional fiberglass insulation. It is usually treated with boric acid, a natural fire retardant.

Wool- is very similar to Cotton Same R value, same fire resistance, but all natural no need to treat and unlike cotton if wool gets wet it keeps all it's insulation properties.

Cork insulation- is another natural insulation alternative for container homes, it is a renewable and biodegradable resource from trees.The acoustic property of cork is yet another benefit of cork insulation for shipping container homes.

Fire rating

REFERENCES:

1. Fire ratings

Fire Rating- there is a 2 hour rating between containers.

Fire Resistance- Depending on the insulation used it can add an extra 10-15mins of fire resistance that can be the difference between someone living or saving your home.

The bottom line is that container-based houses, when properly designed and equipped, are less prone to catch fire and generally safer than traditional houses. If correctly designed and properly equipped these homes are very safe places to live in, offering higher overall security than traditional houses. They also have a much higher chance to survive wildfires compared to traditional residential houses.

Shipping Container homes Energy Efficiency

REFERENCES:

1. Energy
2. Insofast insulation
3. Container energy efficiency

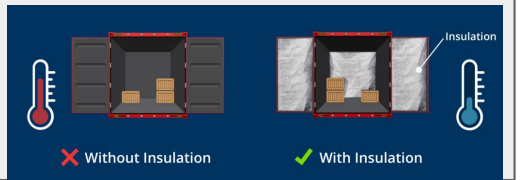
First, the decision to turn an unused shipping container into a living space is already an energy-efficient choice. Shipping container homes can be highly energy efficient; for example, solar panels, low-flush toilets and showerheads, ceiling fans, tankless water heaters, LEDs, proper insulation … All the things that make an ordinary home energy-efficient can be utilized in a container home..

For insulation " InSoFast" insulation panels for a comfortable home that doesn't take much energy to heat or cool. To render a container house energy efficient in a cold climate, you'd need to insulate it outside, and possibly inside as well. You would need to ensure on all sides, including the bottom, that the metal does not act as a thermal bridge, robbing you of your hard earned heat.

In order to attain a energy efficiency, you would end up still having to build an entire additional structure to accommodate insulation, as well as install exterior cladding. Optionally you could put all your insulation on the interior, but to have a sufficient amount of it you would significantly reduce the amount of usable interior space. One option is spray foam, interior, exterior, or both especially if in very cold climates like where it snows.

Installing a roof to help with some shade can help with cooling or installing solar panels could help save energy and provide shade.

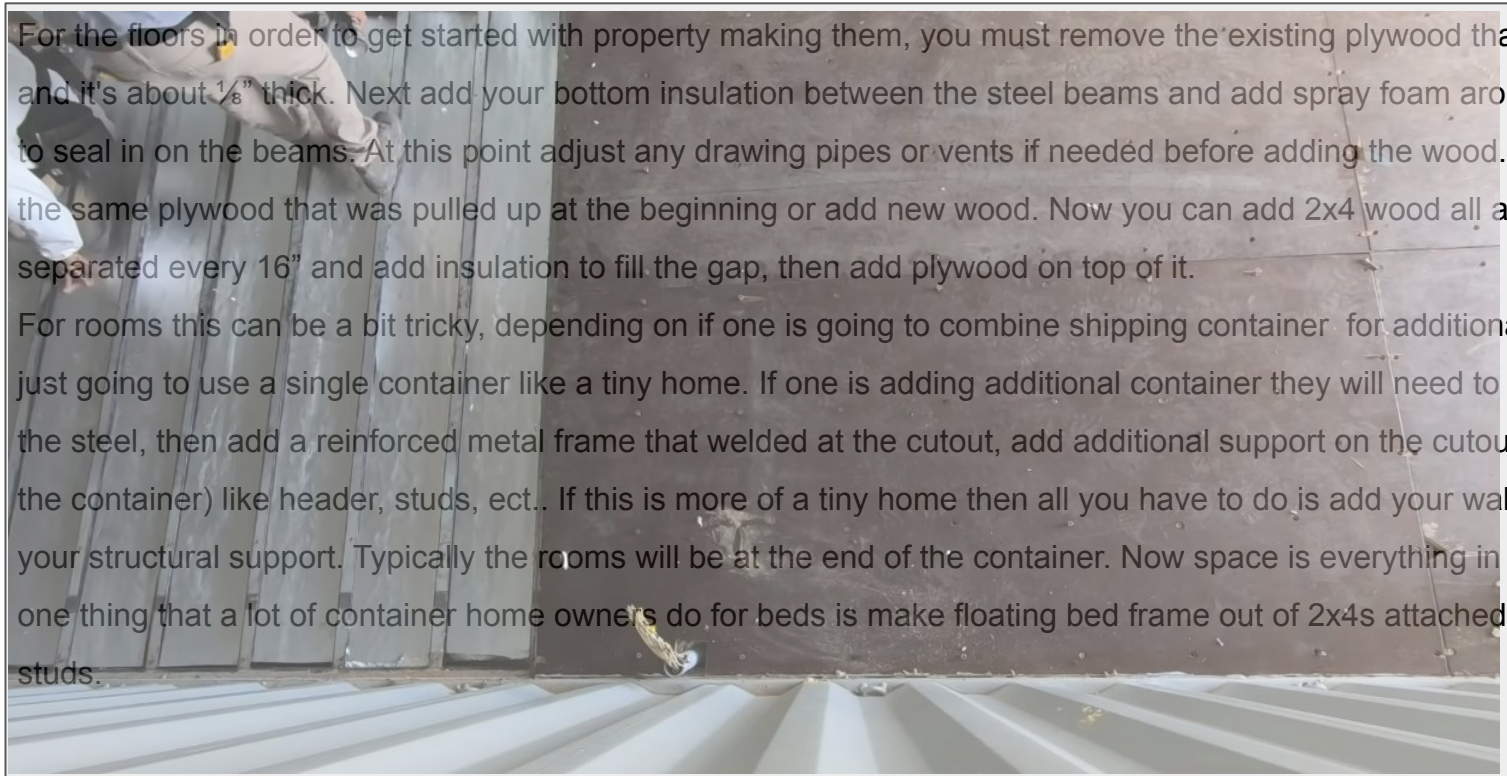
Using star appliances like "ENERGY STAR" products are the same or better than standard products, only they use less energy.



How the room & floor gets attached

REFERENCES:

1. Ben's shipping container build



For the floors in order to get started with property making them, you must remove the existing plywood that's already there and it's about ⅛" thick. Next add your bottom insulation between the steel beams and add spray foam around the insulation to seal in on the beams. At this point adjust any drawing pipes or vents if needed before adding the wood. Now you may add the same plywood that was pulled up at the beginning or add new wood. Now you can add 2x4 wood all along the floor that separated every 16" and add insulation to fill the gap, then add plywood on top of it.

For rooms this can be a bit tricky, depending on if one is going to combine shipping container for additional room, or if one is just going to use a single container like a tiny home. If one is adding additional container they will need to make a cutout on the steel, then add a reinforced metal frame that welded at the cutout, add additional support on the cutout(well throughout the container) like header, studs, ect.. If this is more of a tiny home then all you have to do is add your walls when adding your structural support. Typically the rooms will be at the end of the container. Now space is everything in these homes so one thing that a lot of container home owners do for beds is make floating bed frame out of 2x4s attached to the ends of studs.

How the room & floor gets attached (Continuation pictures)

REFERENCES:

1. Ben's shipping container build

How to make it look appealing/disguise it.

REFERENCES:

1.

One of the best features about these homes is the ability to be creative with the look of the home. You can add doors and windows to make it look more like a traditional home and paint it. I one likes the look of metal and depending on codes or weather you can leave it the way it is, or disguise it by adding siding to it to hide the metal and add protection. If someone really want to use shipping containers, but wants a more traditional look that can be achieved, it will cost more and take longer but is possible. Although some would rather have a tiny home in a off grid type living and if that's the case some things to make it look a bit nicer is adding some color or plants to brighten up the home while making it look nice. Even though some would say these types of homes are ugly and can't be made to look appealing, I strongly disagree I don't know what it is about them, but they're absolutely charming!