RIO HONDO COLLEGE

SITE INFRASTRUCTURE

3600 WORKMAN MILL ROAD
WHITTIER CA 90601-1699

RIO HONDO COLLEGE

N:\20.CAD\TTG_Projects\2005\2005-061-00\O-Submittals\2009-09-04 Site infrastructure As-Builts\DWG\1-Architectural\A1.0.dwg Sep. 08, 2009 - 9:21am

Revisions:

No:	Date:

RIO HONDO COLLEGE
SITE INFRASTRUCTURE - AS-BUILT DRAWINGS
3600 WORKMAN MILL ROAD
WHITTIER, CA 90601-1699
DSA FILE NO.: 19-C12
DSA APPL. NO.: 110077

RIO HONDO COLLEGE

Seal

Sheet Title: COVER SHEET

T M A D
TAYLOR
&GAINES

- STRUCTURAL
- MECHANICAL
- ELECTRICAL
- CIVIL

800 North Ferrari Lane, Suite 100
Ontario, California 91764
Phone: 909.477.6915 Fax: 909.477.6916

Drawn By:
Checked By:
Date: August 24, 2009
Scale:
Job No. 2005.061.00

Sheet No:
A1.0

ABBREVIATIONS

A/C	AIR CONDITIONING/ED/
AD.	AREA DRAIN
A/E	ARCHITECT/ENGINEER
A.F.F.	ABOVE FINISH/ED/ FLOOR
A.F.S.	ABOVE FINISH/ED/ SURFACE
ALUM.	ALUMINUM
ALT.	ALTERNATE
AMT.	AMOUNT
∠	ANGLE/S/
ANOD.	ANODIZE/D/
APPROX.	APPROXIMATE/LY/
ARCH.	ARCHITECT/S/
ASPH.	ASPHALT
BD.	BOARD/S/
BIT.	BITUMINOUS
BLDG.	BUILDING
BLK/G./	BLOCK/ING/
BU/R/	BUILT-UP /ROOFING/
CB.	CATCH BASIN
C.F.	CUBIC FOOT /FEET/
C.J.	CONTROL JOINT
C.L.	CENTERLINE
CLG.	CEILING
C.L.L.	CONTRACT LIMIT LINE
CLR.	CLEAR/ANCE/
C.M.U.	CONCRETE MASONRY UNIT/S/
C.O.	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CORR.	CORRIDOR, CORRUGATE/D/
C.T.	CERAMIC TILE
CTR.	COUNTER
D.	DRAIN
DEMO.	DEMOLISH
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER, DISPOSAL
DN.	DOWN
DR.	DOOR
D.S.	DOWNSPOUT
D.T.	DRAIN TILE
DTL.	DETAIL
DRWG.	DRAWING
EA.	EACH
E.J.	EXPANSION JOINT
EL.	ELEVATION /GRADE/
ELEC.	ELECTRIC/AL/
ELEV.	ELEVATION, ELEVATOR
EMER.	EMERGENCY
EQUIP.	EQUIPMENT
E.W.C.	ELECTRIC WATER COOLER
EXH.	EXHAUST
EXTG.	EXISTING
EXP.	EXPAND/SION/, EXPOSED
F.A.	FIRE ALARM
F.D.	FIRE DAMPER, FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.F.	FINISHED FLOOR
F.H.	FIRE HOSE
F.H.C.	FIRE HOSE CABINET
F.H.R.	FIRE HOSE RACK
F.H.YD.	FIRE HYDRANT
F.S.P.	FIRE STANDPIPE
FIN.	FINISH/ED/
FLASH.	FLASHING
FL.	FLOOR
FND.	FOUNDATION
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUDS
F.O.S.H.	FACE OF SHEATHING
FT.	FOOT, FEET
FTG.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GL.	GLASS/GLAZING
GR.	GRADE
GRD.	GUARD
GWB.	GYPSUM WALL BOARD
GYP.	GYPSUM
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HD.	HEAD
HDWD	HARDWOOD
HDWR.	HARDWARE
HM.	HOLLOW METAL
HORIZ.	HORIZONTAL
HT.	HEIGHT
HVAC	HTG. VENTILATION & A/C
HYD	HYDRANT
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
J.B.	JUNCTION BOX
JT.	JOINT
K.D.	KNOCK DOWN
KIT.	KITCHEN, KITCHENETTE
KO/P./	KNOCK OUT /PANEL/
LAV.	LAVATORY
LB.	POUND
L.F.	LINEAR FOOT /FEET/
LVR.	LOUVER
LT/WT.	LIGHTWEIGHT
MAS.	MASONRY
MATL.	MATERIAL
MAX.	MAXIMUM
MB.	MACHINE BOLT
MDF.	MEDIUM DENSITY FIBER BOARD
MECH.	MECHANIC/AL/
MEMBR.	MEMBRANE
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MT/D,X,G./	MOUNT/ED,X/NG/
MTL.	METAL
N/A	NOT APPLICABLE
N.I.C.	NOT-IN-CONTRACT
NO.	NUMBER
N.R.C.	NOISE REDUCTION COEFFICIENT
N.T.S.	NOT-TO-SCALE
O.C.	ON-CENTER
O.D.	OUTSIDE DIAMETER
OPNG.	OPENING
OPP.	OPPOSITE
PAV/MT./	PAVING, PAVEMENT
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER, PLASTIC
PLBG.	PLUMBING
PLYWD.	PLYWOOD
PKG.	PARKING
PNT.	PAINT
PREFAB.	PREFABRICATE/D/
PREFIN.	PREFINISH/ED/
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
PTD.	PAINTED
PVMT.	PAVEMENT
QUAL.	QUALITY
QUAN.	QUANTITY
RB.	RUBBER BASE
R.C.P.	REINFORCED CONCRETE PIPE
R.D.	ROOF DRAIN
REF.	REFERENCE
REFRIG.	REFRIGERATOR
REG.	REGISTER
REQ'D.	REQUIRED
RET.	RETAINING
R.L.	ROOF LEADER, RAIN LEADER
RM.	ROOM
RT.	RIGHT
S.C.	SOLID CORE
SCHED.	SCHEDULE
S.D.	SOAP DISPENSER; STORM DRAIN
SF.	SQUARE FOOT /FEET/
SHT.	SHEET
SHTG.	SHEATHING
S.O.G.	SLAB ON GRADE
S.T.C.	SOUND TRANSMISSION CLASS
STD.	STANDARD
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
T.	TREAD, TILE, TOILET
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.O.CONC.	TOP-OF-CONCRETE
T.O.C.	TOP-OF-CURB
T.O.M.	TOP-OF-MASONRY
T.O.S.	TOP-OF-SLAB
T.O.ST.	TOP OF STEEL
T.O.W.	TOP-OF-WALL
TR.	TRENCH
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V.B.	VAPOR BARRIER, VINYL BASE
V.C.T.	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
V.T.	VINYL TILE
W /W/O/	WITH /WITHOUT/
W.C.	WATER CLOSET
WD.	WOOD
W.W.F.	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH

SCOPE OF WORK

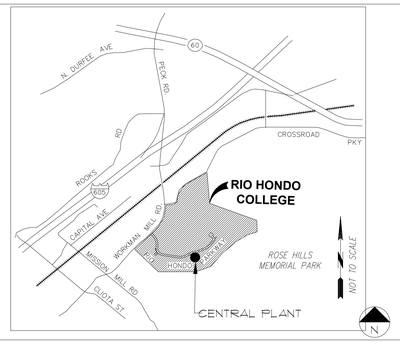
THE PROJECT SCOPE OF WORK INCLUDES:

1. MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY INFRASTRUCTURE UPGRADE PER PLANS.

2. FOLLOWING BUILDINGS ARE AFFECTED BY SITE INFRASTRUCTURE WORK. THE WORK INCLUDES NEW HOT AND CHILLED WATER ENTERING EXISTING BUILDING FOR POINT OF CONNECTION TO EXISTING HOT AND COLD WATER.

SCIENCE BUILDING - A# 26205
BUSINESS BUILDING - A# 25081

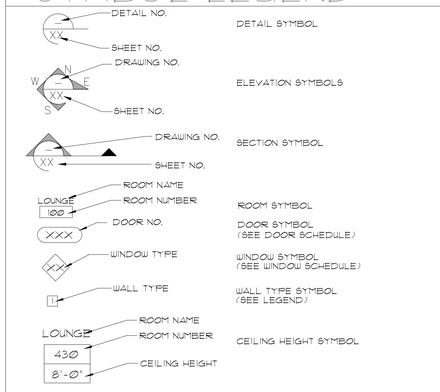
VICINITY MAP



PROJECT ADDRESS

3600 WORKMAN MILL ROAD
WHITTIER, CA 90601-1699

SYMBOL LEGEND



APPROVALS

A CLASS 1 INSPECTOR OF RECORD (IOR) IS REQUIRED FOR THIS PROJECT. THE IOR SHALL HAVE SUCCESSFULLY COMPLETED THE REQUIRED DSA CERTIFICATION PROCESS FOR THE REQUIRED CLASSIFICATION.

DEFERRED APPROVALS

INSTALLATION OF:
1.

SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS ARE APPROVED BY THE DIVISION OF THE STATE ARCHITECT ALLOW 60 DAYS FOR APPROVAL.

THE PLANS AND SPECIFICATIONS SHALL BE STAMPED AND SIGNED BY THE ARCHITECT AND ENGINEER OF RECORD BEFORE SUBMITTING TO DSA.

CODE REFERENCES

THE APPROVAL JURISDICTION IS THE CALIFORNIA DIVISION OF THE STATE ARCHITECT (DSA).

1. IF THE SCOPE OF WORK IS INCREASED, A CHANGE ORDER SHALL BE SUBMITTED TO DSA.

2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR A CHANGE ORDER APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

3. A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.

PROJECT TEAM

M.E.P. ENGINEERS

TMAD TAYLOR AND GAINES
CONTACT: CHRIS RADTKE
800 NORTH FERRARI LN. SUITE 100
ONTARIO, CALIFORNIA 91764
PHONE: (909) 477-6915
FAX: (909) 477-6916

STRUCTURAL ENGINEER

TMAD TAYLOR AND GAINES
CONTACT: ED GHARIBANS
320 HALSTEAD STREET, SUITE 220
PASADENA, CALIFORNIA 91107
PHONE: (626) 351-8881
FAX: (626) 351-3203

CIVIL ENGINEERS

TMAD TAYLOR AND GAINES
CONTACT: RON SHELDON
320 HALSTEAD STREET, SUITE 220
PASADENA, CALIFORNIA 91107
PHONE: (626) 351-8881
FAX: (626) 351-3203

OWNER INFORMATION

RIO HONDO PROGRAM MANAGEMENT TEAM
CONTACT: KARL SCHRADER
MEASURE A TRAILER-HS 6
3600 WORKMAN MILL ROAD
WHITTIER, CALIFORNIA 90601-1699
PHONE: (562) 692-0921
FAX: (562) 463-4657

DSA NOTES

1. ALTERATION, REHABILITATION OR RECONSTRUCTION PROJECTS:

SECTION 4-317(C), PART 1 TITLE 24, CCR,

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY CONTRAC DOCUMENTS WHEREIN THE FINISH WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

CODE ANALYSIS

NO.	ITEM	CODE DATA
1.	JURISDICTION	STATE OF CALIFORNIA, DIVISION OF STATE ARCHITECT
2.	APPLICABLE CODES	CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24. CALIFORNIA BUILDING STANDARDS CODE, 2001 EDITION PART 1. 2001 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 2. 2001 CALIFORNIA BUILDING CODE PART 3. 2004 CALIFORNIA ELECTRICAL CODE PART 4. 2001 CALIFORNIA MECHANICAL CODE PART 5. 2001 CALIFORNIA PLUMBING CODE PART 6. 2005 CALIFORNIA ENERGY CODE PART 7. 2001 CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE PART 9. 2001 CALIFORNIA FIRE CODE PART 12. 2001 CALIFORNIA REFERENCED STANDARDS CODE 1990 TITLE 19. PUBLIC SAFETY STATE FIRE MAR

SHEET INDEX

ARCHITECTURAL

A1.0	COVER/ TITLE SHEET
A1.1	ABBREVIATIONS, PROJECT INFO, CODE ANALYSIS, & SHEET INDEX
A2.1	MAIN ELECT. YARD FLOOR PLAN, ROOF PLAN, & ELEVATIONS

CIVIL

C1.1	TITLE SHEET, INDEX MAP
C2.1	STORM DRAIN, PLAN AND PROFILE
C2.2	STORM DRAIN, PLAN AND PROFILE
C2.3	STORM DRAIN, PLAN AND PROFILE
C2.4	STORM DRAIN, PLAN AND PROFILE
C2.5	STORM DRAIN, DETAIL

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S1.1	TYPICAL DETAILS
S1.2	TYPICAL DETAILS
S2.1	FOUNDATION PLAN & ROOF FRAMING PLAN
S3.1	SECTIONS & DETAILS

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M1.2	PARTIAL SITE EXISTING PLAN - SECTOR 12
M1.3	PARTIAL SITE EXISTING PLAN - SECTOR 13
M2.0	REMODEL SITE KEY PLAN
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M2.2	PARTIAL SITE REMODEL PLAN - SECTOR 12
M2.3	PARTIAL SITE REMODEL PLAN - SECTOR 13
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M3.2	DETAILS
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PLUMBING

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P1.0	EXISTING SITE KEY PLAN
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P1.2	PARTIAL SITE DEMOLITION PLAN - SECTOR 7
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P1.5	PARTIAL SITE DEMOLITION PLAN - SECTOR 12
P1.6	PARTIAL SITE DEMOLITION PLAN - SECTOR 13
P1.7	PARTIAL SITE DEMOLITION PLAN - SECTOR 15
P1.8	PARTIAL SITE DEMOLITION PLAN - SECTOR 16
P2.0	REMODEL SITE KEY PLAN
P2.1	PARTIAL SITE REMODEL PLAN - SECTOR 4
P2.2	PARTIAL SITE REMODEL PLAN - SECTOR 7
P2.3	PARTIAL SITE REMODEL PLAN - SECTOR 8
P2.4	PARTIAL SITE REMODEL PLAN - SECTOR 11
P2.5	PARTIAL SITE REMODEL PLAN - SECTOR 12
P2.6	PARTIAL SITE REMODEL PLAN - SECTOR 13
P2.7	PARTIAL SITE REMODEL PLAN - SECTOR 15
P2.8	PARTIAL SITE REMODEL PLAN - SECTOR 16

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E0.3	SINGLE LINE DIAGRAM - DEMOLITION
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E1.0	EXISTING SITE KEY PLAN
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E1.5	PARTIAL SITE DEMOLITION PLAN - SECTOR 8
E1.6	PARTIAL SITE DEMOLITION PLAN - SECTOR 9
E1.7	PARTIAL SITE DEMOLITION PLAN - SECTOR 11
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E1.9	PARTIAL SITE DEMOLITION PLAN - SECTOR 13
E1.10	PARTIAL SITE DEMOLITION PLAN - SECTOR 15
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E2.5	PARTIAL SITE REMODEL PLAN - SECTOR 8
E2.6	PARTIAL SITE REMODEL PLAN - SECTOR 9
E2.7	PARTIAL SITE REMODEL PLAN - SECTOR 11
E2.8	PARTIAL SITE REMODEL PLAN - SECTOR 12
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E4.0	DETAILS
E4.1	DETAILS

Revisions:

No:	Date:

RIO HONDO COLLEGE
SITE INFRASTRUCTURE - AS-BUILT DRAWINGS
3600 WORKMAN MILL ROAD
WHITTIER, CA 90601-1699
DSA FILE NO.: 19-C12
DSA APPL. NO.: 110077

RIO HONDO COLLEGE

Seal

Sheet Title: **ABBREVIATIONS, PROJECT INFO.**

T M A D T A Y L O R & G A I N E S

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▪ STRUCTURAL
▪ MECHANICAL
▪ ELECTRICAL
▪ CIVIL

Drawn By:	
Checked By:	
Date:	August 24, 2009
Scale:	
Job No.	2005.061.00

Sheet No:
A1.1

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

RIO HONDO COLLEGE

3600 WORKMAN MILL ROAD
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DSA FILE NO.: 19-C12
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RIO HONDO COLLEGE

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TAYLOR & GAINES
- STRUCTURAL
- MECHANICAL
- ELECTRICAL
- CIVIL

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Sheet Title: **MAIN ELECT. YARD PLANS & ELEVATIONS**

Drawn By:	
Checked By:	
Date:	August 24, 2009
Scale:	1/8"=1'-0"
Job No.	2005.061.00

Sheet No: **A2.1**

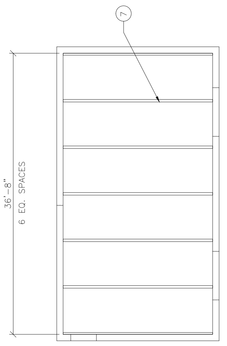
KEYNOTES

1. CONCRETE BLOCK WALL. SEE STRUCTURAL.
2. ELECT. EQUIPMENT CONC. PADS. SEE STR. FOR DETAILS.

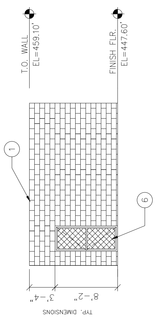
   EQUIPMENT CONC. PAD DIMENSIONS ARE ONLY APPLICABLE FOR THE MANUFACTURER'S MODEL NUMBERS INDICATED ON THE EQUIPMENT SCHEDULE. ANY CHANGES TO THE EQUIPMENT MAY WILL AFFECT THE SIZE OF CONC. PAD.
3. NOT USED
4. CONCRETE EXPANSION SLAB JOINT. SEE STRUCTURAL.
5. CHAIN LINK GATE, 6'-0" X 8'-0". DOOR NUMBER - 101B & 101C.
6. CHAIN LINK GATE, 3'-0" X 8'-0". DOOR NUMBER 101A.
7. STEEL TUBE SUPPORT FOR CHAIN LINK SCREEN. SEE STR. FOR DETAILS.

PLAN LEGEND

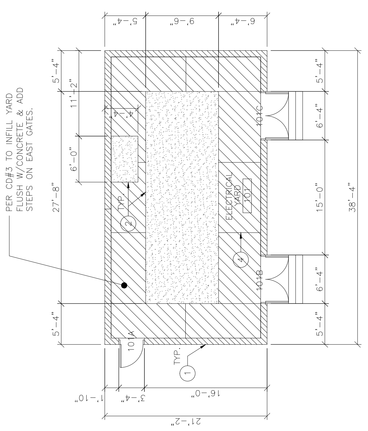
CONCRETE MASONRY WALL



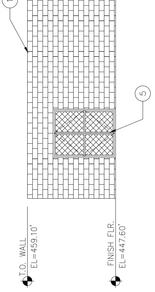








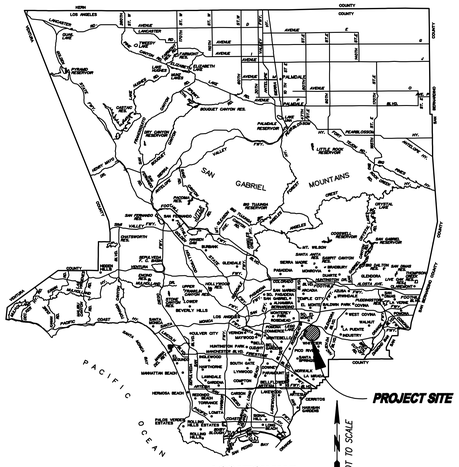






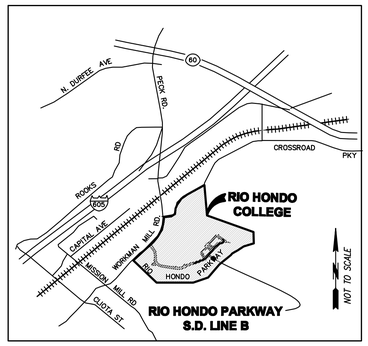
RIO HONDO COMMUNITY COLLEGE

STORM DRAIN LINE B (PARTIAL CONSTRUCTION)



LOCATION MAP

THOMAS GUIDE:
LOS ANEGLES COUNTY :
PAGE 637 D/7 & PAGE 677 D/1



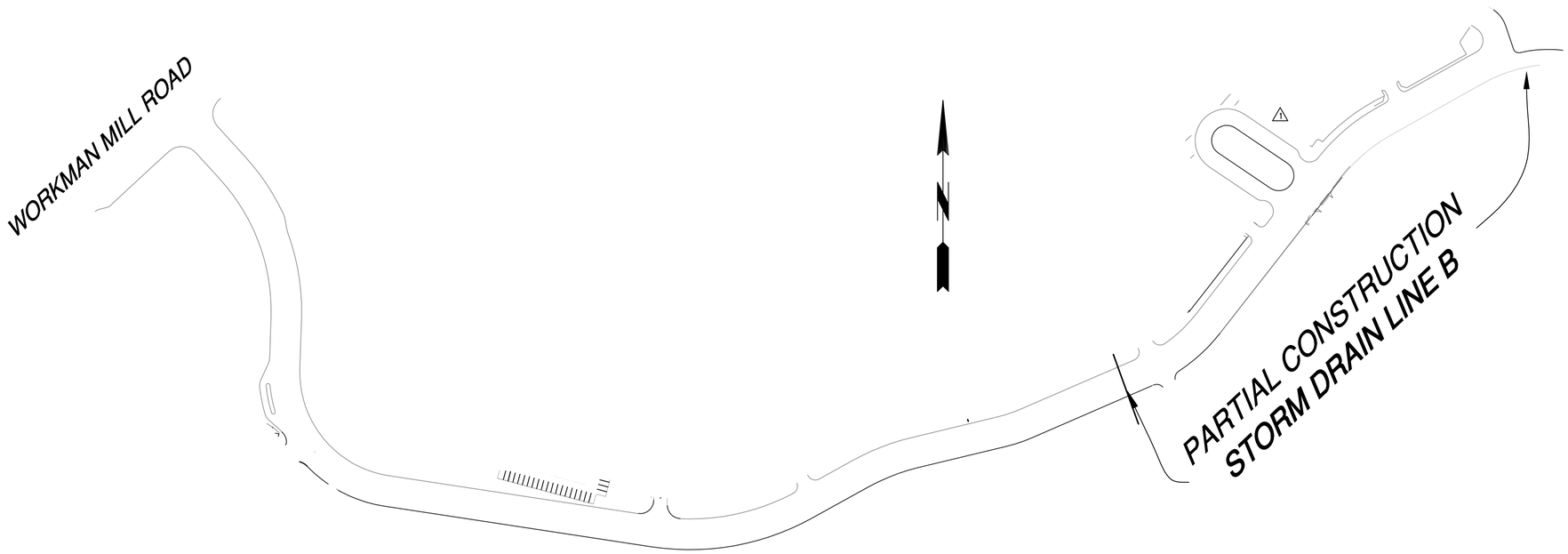
VICINITY MAP

THOMAS GUIDE:
LOS ANEGLES COUNTY :
PAGE 637 D/7 & PAGE 677 D/1

SHEET INDEX	
SHEET	DESCRIPTION
C1.1	TITLE SHEET, INDEX MAP
C2.1	STORM DRAIN, PLAN AND PROFILE
C2.2	STORM DRAIN, PLAN AND PROFILE
C2.3	STORM DRAIN, PLAN AND PROFILE
C2.4	STORM DRAIN, PLAN AND PROFILE
C2.5	STORM DRAIN, DETAIL

NOTES TO THE CONTRACTOR

1. REPLACE EXISTING SURFACE IN KIND.
2. TOP OF FINISH SURFACE OF ALL NEW STRUCTURE TO MATCH EXISTING GRADE
3. CONTRACTOR SHALL PROVIDE SHOP DRAWING SUBMITTALS FOR ALL TRENCH SHORING / PROTECTION
4. ALL EXISTING UTILITIES CROSSING TO BE LOCATED BY CONTRACTOR PRIOR TO CONSTRUCTION. ANY CONFLICTS WITH NEW STORM DRAIN CONSTRUCTION ALIGNMENT TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.



RIO HONDO PARKWAY

(FUTURE CONSTRUCTION)

KEY MAP

SCALE: 1"=100'

DIGALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
OF SOUTHERN CALIFORNIA

NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS AN INQUIRY I.D. NUMBER FROM "UNDER-GROUND SERVICE ALERT" (1-800-227-2600) AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

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Revisions:	
No:	Date:
1	ADDENDUM #1 MARCH 2, 2007

RIO HONDO COLLEGE

SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

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DSA FILE NO.: 19-C12
DSA APPL. NO.: 110076

RIO HONDO COLLEGE

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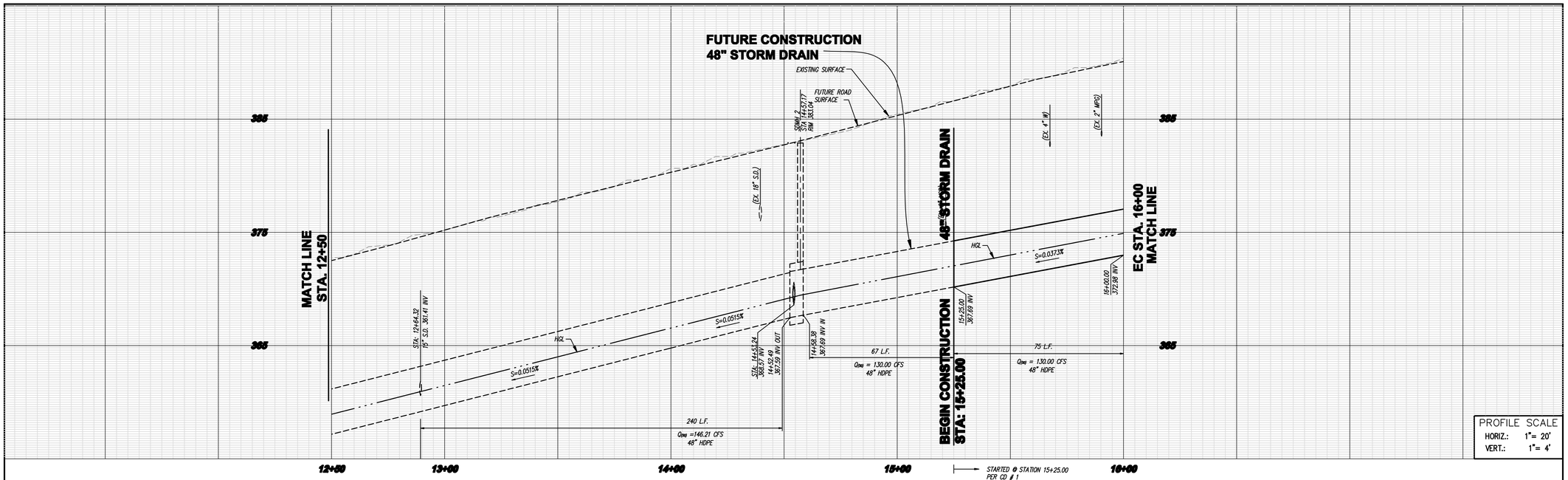
Sheet Title: **TITLE**

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800 North Ferrari Lane, Suite 100
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Phone: 909.477.8915 Fax: 909.477.8916

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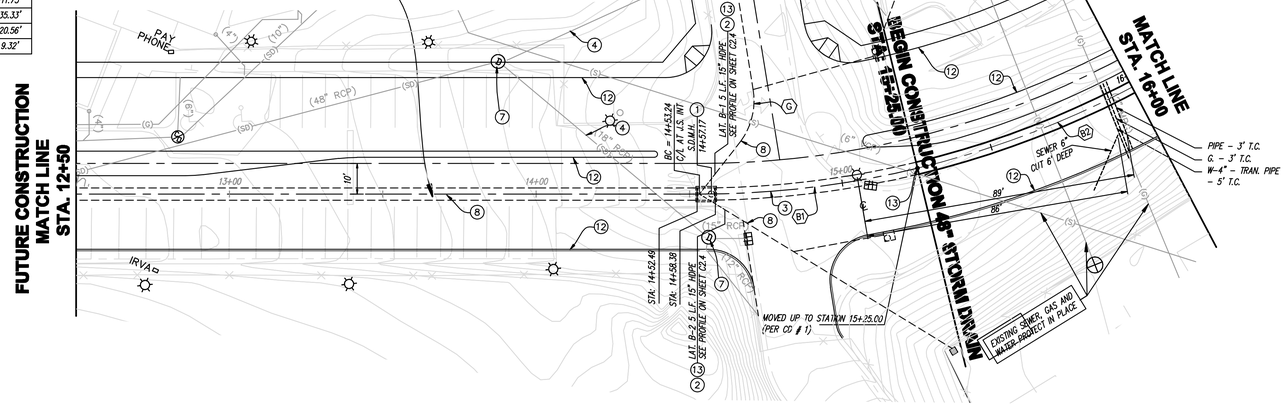


PROFILE SCALE
HORIZ.: 1"= 20'
VERT.: 1"= 4'

STORM DRAIN CURVE DATA				
NUMBER	DELTA	LENGTH	RADIUS	TANGENT
⟨A⟩	14°44'27"	27.73'	100.00'	12.94'
⟨B1⟩	13°34'08"	71.76'	303.00'	36.05'
⟨B2⟩	14°58'50"	39.84'	303.00'	39.84'
⟨C⟩	22°39'26"	125.75'	318.00'	63.71'
⟨D⟩	115°52'52"	141.57'	70.00'	111.75'
⟨E⟩	115°00'43"	45.17'	22.50'	35.33'
⟨F⟩	49°07'03"	38.58'	45.00'	20.56'
⟨G⟩	45°00'00"	17.67'	22.50'	9.32'

LINE B

NOTE:
ALL EXISTING UTILITIES TO BE PROTECTED IN PLACE



RIO HONDO PARKWAY

STORM DRAIN CONSTRUCTION NOTES

1. CONSTRUCT STORM DRAIN MANHOLE PER APWA STD. PLAN 320-1 SEE DETAIL ON SHEET C2.5
2. INSTALL 15" HDPE 35 STUB AND PLUG FOR FUTURE CONNECTION
3. INSTALL 48" HDPE 35
4. PROTECT EXISTING STORM DRAIN IN PLACE
5. STORM DRAIN MANHOLE ADJUST TO GRADE
6. JUNCTION STRUCTURE PER APWA STANDARD PLAN 332-1, SEE SHEET C2.5
7. PROTECT EXISTING UTILITY MH IN PLACE
8. FUTURE STORM DRAIN
9. JUNCTION STRUCTURE PER APWA STANDARD PLAN 330-1, SEE SHEET C2.5
10. EXISTING CATCH BASIN PROTECT IN PLACE
11. INSTALL 24" HDPE 35 STUB FOR FUTURE CONNECTION
12. FUTURE STREET IMPROVEMENTS
13. CONSTRUCT PLUG WITH BRICK AND MORTAR

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

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1	ADDENDUM #1 MARCH 2, 2007

RIO HONDO COLLEGE
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WHITTIER, CA 90601-1699

SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

DSA FILE NO.: 19-C12
DSA APPL. NO.: 110076

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Registered Professional Engineer JAMES R. HAITLAND No. C33292 Exp. 06/30/08 CIVIL STATE OF CALIFORNIA

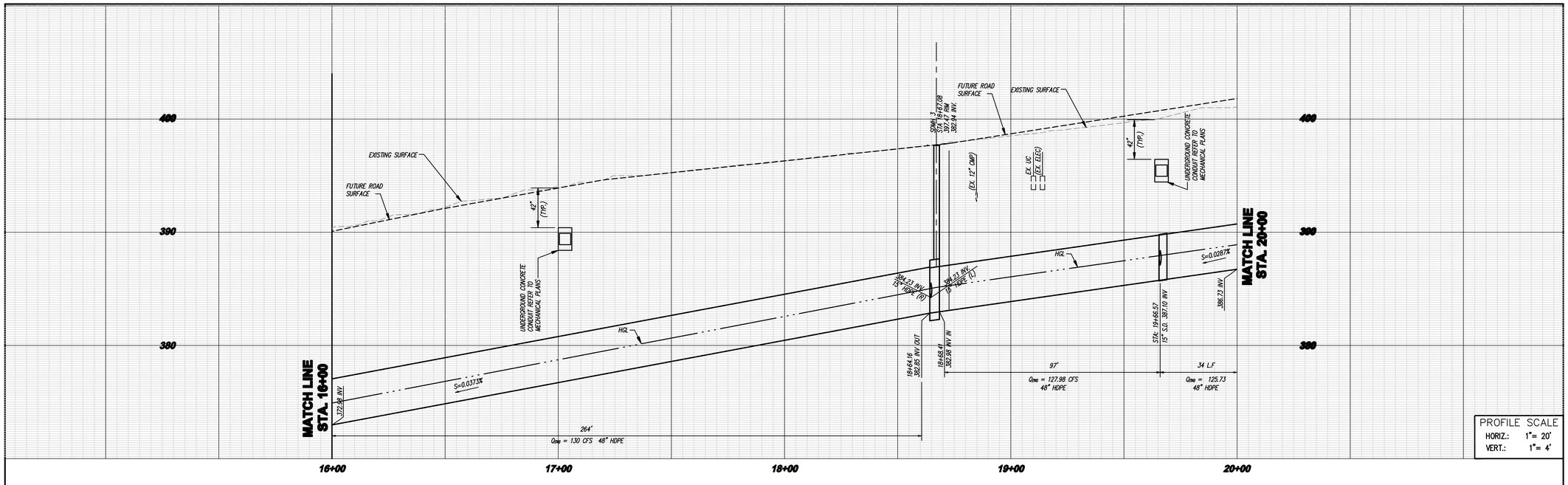
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Sheet Title: PLAN AND PROFILE

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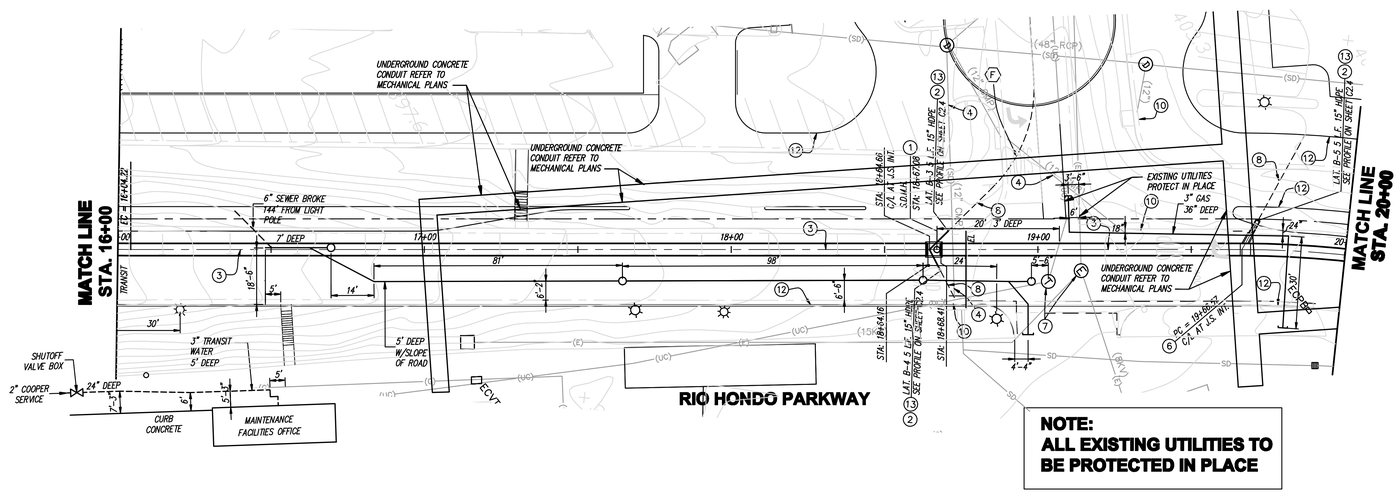
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Job No. 2005.061.00

Sheet No: C2.1



PROFILE SCALE
HORIZ.: 1"= 20'
VERT.: 1"= 4'

LINE B



NOTE:
ALL EXISTING UTILITIES TO BE PROTECTED IN PLACE

STORM DRAIN CONSTRUCTION NOTES

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13. CONSTRUCT PLUG WITH BRICK AND MORTAR

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

STORM DRAIN CURVE DATA

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3600 WORKMAN MILL ROAD DSA FILE NO.: 19-C12
WHITTIER, CA 90601-1699 DSA APPL. NO.: 110076

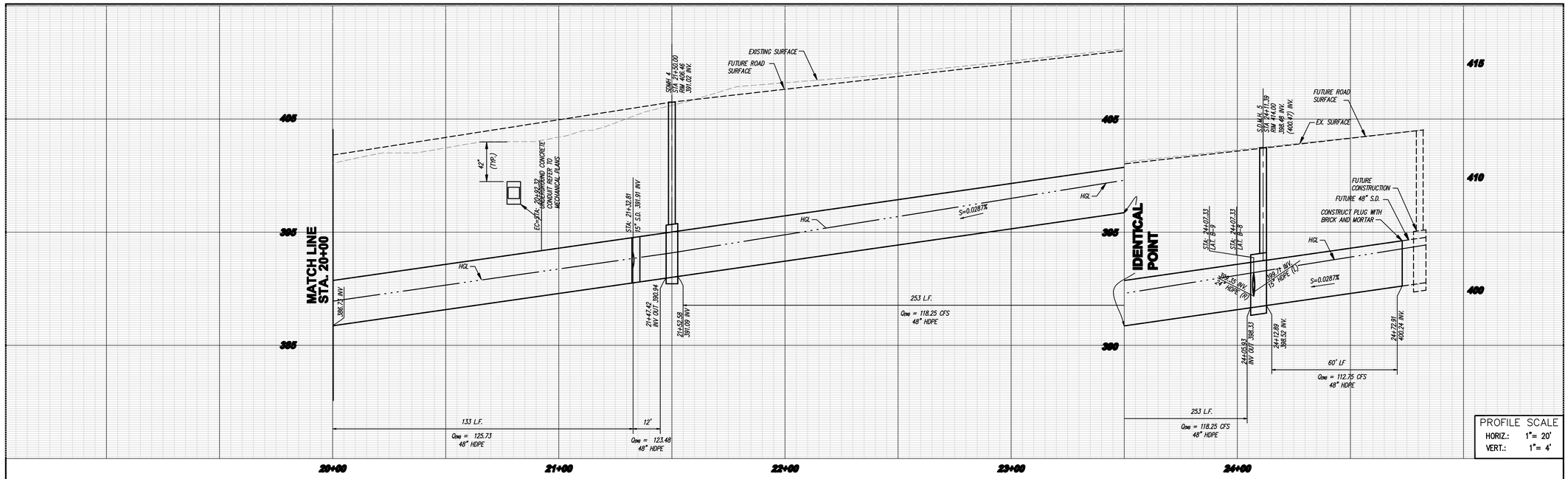
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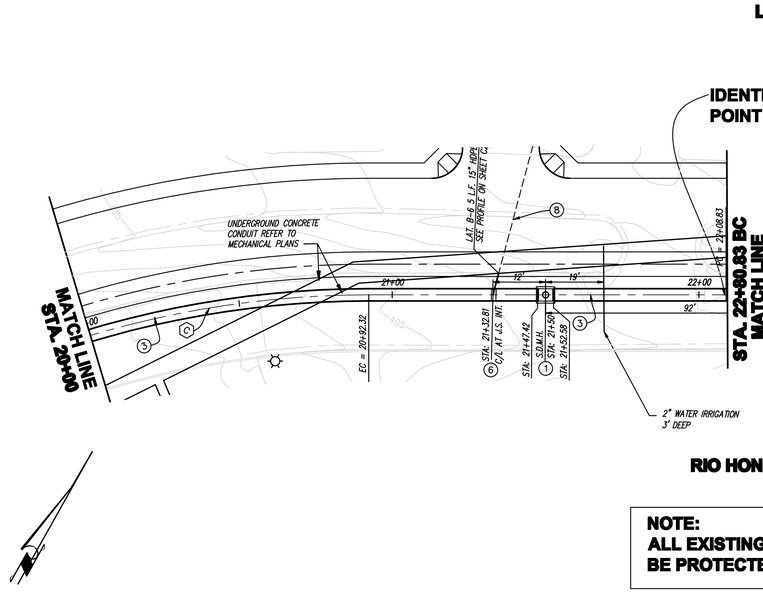
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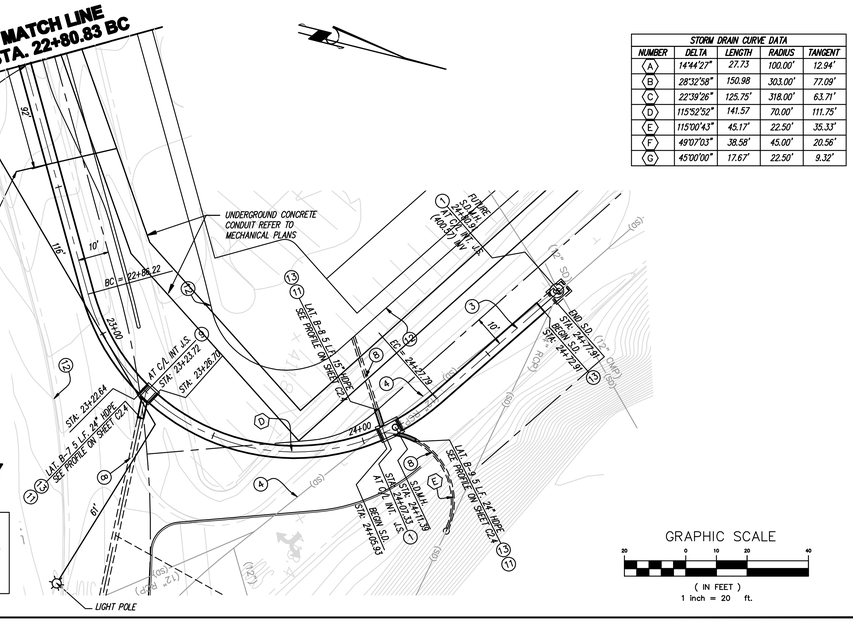
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PROFILE SCALE
HORIZ.: 1"= 20'
VERT.: 1"= 4'

LINE B





RIO HONDO PARKWAY

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

NOTE:
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STORM DRAIN CURVE DATA				
NUMBER	DELTA	LENGTH	RADIUS	TANGENT
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D	115°52'52"	141.57	70.00'	111.75'
E	115°00'43"	45.17'	22.50'	35.33'
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STORM DRAIN CONSTRUCTION NOTES

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

3600 WORKMAN MILL ROAD
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DSA FILE NO.: 19-C12
DSA APPL. NO.: 110076

RIO HONDO COLLEGE

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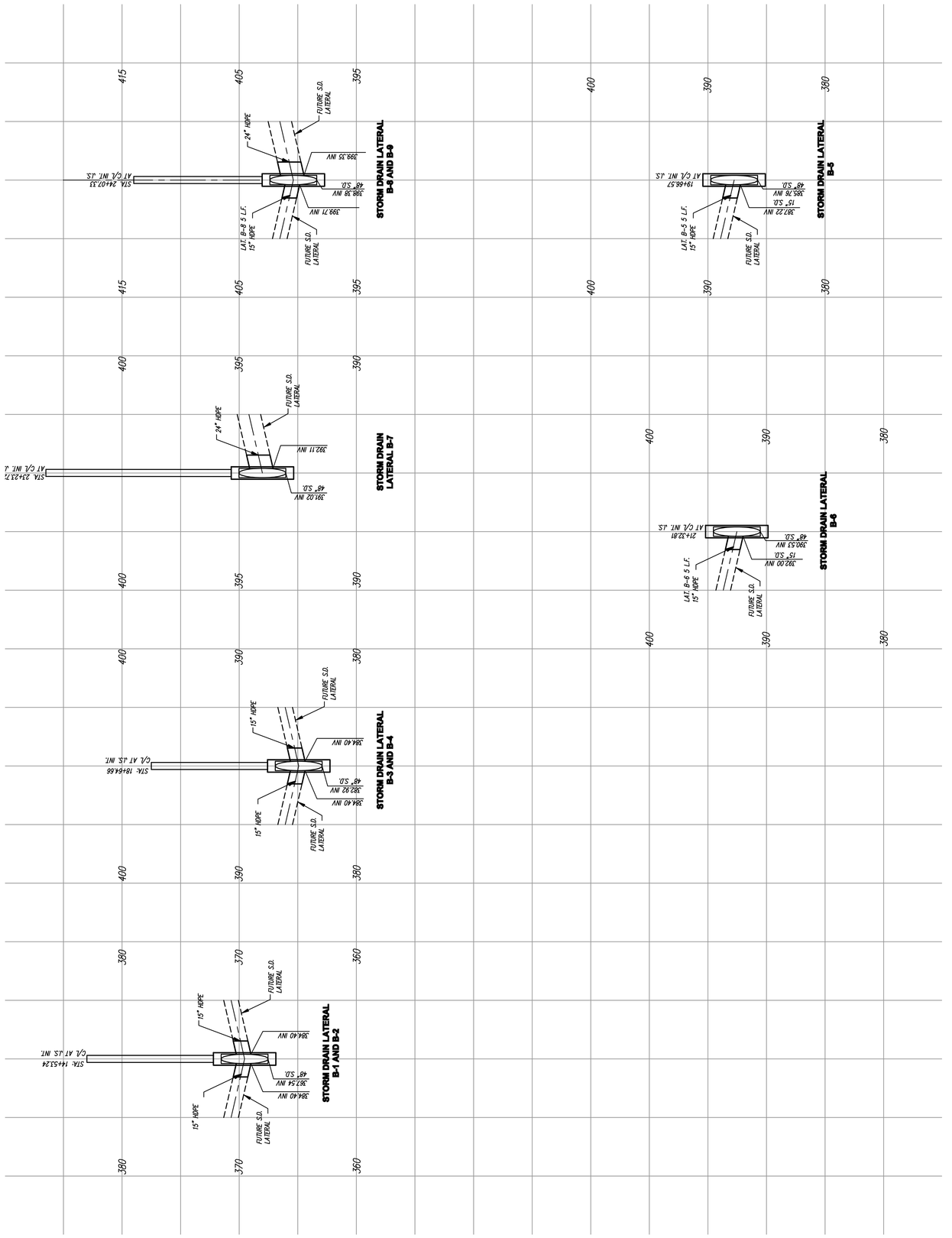
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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

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DSA FILE NO.: 19-C12
DSA APPL. NO.: 110076

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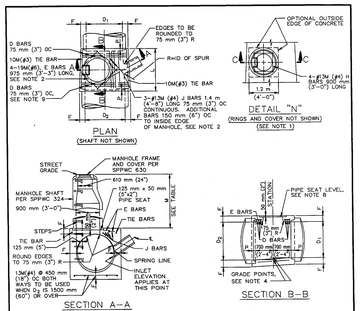
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STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC. GREENBOOK COMMITTEE 1994 REPRINTED 1999

MANHOLE PIPE TO PIPE
MAIN LINE ID=900 mm (36") OR LARGER

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC 320–1 SHEET 1 OF 4

TABLE OF VALUES FOR F	
D2	F
900 mm (36")	165 mm (6 1/2")
975 mm (38")	180 mm (7")
1050 mm (42")	190 mm (7 1/2")
1125 mm (44")	205 mm (8 1/4")
1200 mm (48")	220 mm (8 3/4")
1275 mm (51")	215 mm (8 1/2")
1350 mm (54")	230 mm (9")
1425 mm (56")	235 mm (9 1/4")
1500 mm (60")	240 mm (9 1/2")
1575 mm (62")	255 mm (10")
1650 mm (66")	260 mm (10 1/4")
1725 mm (68")	270 mm (10 3/4")
1800 mm (72")	280 mm (11")
1950 mm (78")	300 mm (11 3/4")
2100 mm (84")	320 mm (12 1/2")
2250 mm (90")	335 mm (13 1/4")
2400 mm (96")	350 mm (14")
2550 mm (102")	365 mm (14 1/2")
2700 mm (108")	385 mm (15 1/2")
2850 mm (114")	400 mm (16")
3000 mm (120")	420 mm (17")
3150 mm (126")	430 mm (17")
3300 mm (132")	445 mm (17 1/2")
3450 mm (138")	465 mm (17 1/2")
3600 mm (144")	485 mm (18")

TABLE OF VALUES FOR M (SEE NOTE 1)				
SECTION	PAVED STREET		UNPAVED STREET	
	MAX	MIN	MAX	MIN
A–A	1867 mm (2'-10 1/2")		1050 mm (3'-6")	
C–C	280 mm (1")	127 mm (5 1/2")	1410 mm (18")	380 mm (15")

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

STANDARD PLAN METRIC 320–1 SHEET 2 OF 4

NOTES

1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 867 mm (2'-10 1/2") FOR PAVED STREETS OR 1060 mm (3'-4") FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT PER SECTION C–C AND DETAIL "N". SHAFT FOR ANY DEPTH OF MANHOLE MAY BE CONSTRUCTED PER SECTION C–C. WHEN DIAMETER D_1 IS 1200 mm (48") OR LESS, CENTER OF SHAFT MAY BE LOCATED PER NOTE 2.
2. CENTER OF MANHOLE SHALL BE LOCATED OVER CENTER LINE OF STORM DRAIN WHEN DIAMETER D ≤IS 1200 mm (48") OR LESS, IN WHICH CASE PLACE E BARS SYMMETRICALLY AROUND SHAFT AT 45° WITH CENTERLINE AND OMIT J BARS.
3. L AND P SHALL HAVE THE FOLLOWING VALUES UNLESS OTHERWISE SHOWN ON THE PROJECT DRAWINGS:
   A. D_1=2400 mm (96") OR LESS, L=1.7 m (5'–6"), P=130 mm (5")
   B. D_2 OVER 2400 mm (96"), L=1.8 m (6'–0"), P=210 mm (8")
   L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS. WHEN L GREATER THAN THAT SHOWN ABOVE IS SPECIFIED, D BARS SHALL BE CONTINUED 150 mm (6") OC.
4. STATIONS OF MANHOLES SHOWN ON PLANS APPLY AT CENTERLINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTERLINE OF SHAFT AND REFER TO THE PROLONGED INVERT GRADE LINES.
5. REINFORCEMENT SHALL CONFORM TO ASTM A 615M, GRADE 300 (ASTM A 615, GRADE 40), AND SHALL TERMINATE 40 mm (1 1/2") CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
6. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRING LINE.
7. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT SPRING LINE.
8. THICKNESS OF THE DECK SHALL VARY WHEN NECESSARY TO PROVIDE A LEVEL SEAT BUT SHALL NOT BE LESS THAN THE TABULAR VALUES FOR F SHOWN ON SHEET 2.
9. D BARS SHALL BE #13M (#4) FOR D p=975 mm (39") OR LESS, #16M (#5) FOR D_2= 1050 mm (42") TO 2100 mm (84") INCLUSIVE AND #19M (#6) FOR D_2= 2250 mm (90") OR OVER.
10. CENTERLINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONE AT SPRING LINE UNLESS OTHERWISE SHOWN.
11. STEPS SHALL CONFORM TO SPPWC 635 OR 636, UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 350 mm (14") TO 375 mm (15") OC. THE LOWEST STEP SHALL NOT BE MORE THAN 600 mm (24") ABOVE THE INVERT.
12. THE FOLLOWING CRITERIA SHALL BE USED FOR THIS MANHOLE:
   A. MAIN LINE = 900 mm (36") INSIDE DIAMETER OR LARGER, EXCEPT IF THE MAIN LINE RCP DOWNSTREAM OF MANHOLE IS 900 mm (36") TO 1050 mm (42") INSIDE DIAMETER AND THE MAIN LINE RCP UPSTREAM IS 825 mm (33") OR LESS SPPWC 321 SHALL BE USED.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

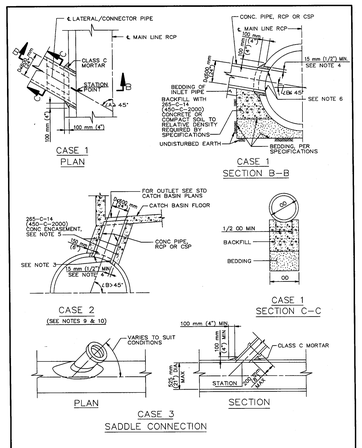
STANDARD PLAN METRIC 320–1 SHEET 3 OF 4

   B. THE OUTSIDE DIAMETER OF THE LATERAL MUST BE LESS THAN OR EQUAL TO 1/2 THE INSIDE DIAMETER OF THE MAIN LINE. IF THE UPSTREAM AND DOWNSTREAM DIAMETERS OF THE MANHOLE ARE NOT THE SAME, THE GOVERNING INSIDE DIAMETER OF THE MAIN LINE SHALL BE CONSIDERED TO BE THAT WHERE THE EXTENDED CENTERLINE OF THE LATERAL ENTERS THE MANHOLE.
   C. IN NO INSTANCE SHALL THE INSIDE DIAMETER OF THE LATERAL TO THE MANHOLE BE GREATER THAN 750 mm (30").
13. MANHOLE FRAME AND COVER SHALL CONFORM TO SPPWC 630 UNLESS OTHERWISE SHOWN.
14. MANHOLE SHAFT SHALL CONFORM TO SPPWC 324 UNLESS OTHERWISE SHOWN.
15. WHERE A MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 326.
16. WHERE A PRESSURE MANHOLE SHAFT – WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO SPPWC 328.
17. WHERE A PRESSURE MANHOLE SHAFT – 914 mm (36") WITHOUT REDUCER IS SPECIFIED REFER TO SPPWC 329.
18. THE FOLLOWING SPPWC ARE INCORPORATED HEREIN:
    324 MANHOLE SHAFT – WITH ECCENTRIC REDUCER
    326 MANHOLE SHAFT – 900 mm (36") WITHOUT REDUCER
    328 PRESSURE MANHOLE SHAFT – WITH ECCENTRIC
    329 PRESSURE MANHOLE SHAFT 914 mm (36") WITHOUT REDUCER
    630 610 mm (24") MANHOLE FRAME AND COVER
    633 914 mm (36") MANHOLE FRAME AND COVER
    635 STEEL STEP
    636 POLYPROPYLENE PLASTIC STEP

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MANHOLE PIPE TO PIPE
MAIN LINE ID = 900 mm (36") OR LARGER

STANDARD PLAN METRIC 320–1 SHEET 4 OF 4



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE PUBLIC WORKS STANDARDS, INC. GREENBOOK COMMITTEE 1994 REPRINTED 1999

JUNCTION STRUCTURE – PIPE TO PIPE
(ID ≤600 mm (24"))

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC 332–1 SHEET 1 OF 2

NOTES

CASE 1 AND CASE 2

1. IF ANGLE A IS LESS THAN 45° OR IF D IS LARGER THAN 600 mm (24"), THEN ANOTHER STANDARD STRUCTURE SHALL BE SPECIFIED.
2. THE OUTSIDE DIAMETER OF THE INLET PIPE SHALL NOT EXCEED ONE–HALF THE INSIDE DIAMETER OF THE MAIN LINE.
3. THE INLET PIPE SHALL ENTER THE MAIN LINE RADIALLY. IF THE INLET PIPE CANNOT ENTER RADIALLY, THEN ANOTHER STANDARD STRUCTURE SHALL BE SPECIFIED.
4. THE SIZE OF THE OPENING INTO THE MAIN LINE SHALL BE THE OUTSIDE DIAMETER OF THE INLET PIPE PLUS 30 mm (1") MINIMUM TO 75 mm (3") MAXIMUM.
5. ALL CONNECTOR PIPES FOR CASE 2 SHALL BE ENCASED IN CONCRETE IF LAID WITHIN THE MAIN LINE EXCAVATED TRENCH OR IF LAID ON FILL WHICH HAS NOT BEEN DENSIFIED.
6. BURN OR CHIP END OF CONNECTOR PIPE FLUSH WITH INNER SURFACE OF MAIN LINE. ROUND EDGE OF CONCRETE PIPE OR RCP.
7. ALL CSP AND FITTINGS SHALL BE GALVANIZED.
8. STATION SPECIFIED ON THE PLANS APPLIES AT THE INTERSECTION OF THE INSIDE WALL OF MAIN LINE AND THE CENTERLINE OF INLET PIPE.
9. CASE 2 SHALL NOT BE USED TO CONNECT TO THE FLOOR OF A GRATING CATCH BASIN WHERE THE GRATE WILL BE SUBJECT TO VEHICLE TRAFFIC.
10. FOR CASE 2, NOT MORE THAN 3.5 m (12') OF INLET PIPE SHALL BE LOCATED WITHIN THE MAIN LINE EXCAVATED TRENCH.

CASE 3

11. CONNECTIONS TO PIPES 525 mm (21") OR LESS IN DIAMETER WITHOUT JUNCTION STRUCTURES OR PRECAST Y BRANCHES SHALL BE MADE WITH SADDLES.
12. THE OUTSIDE DIAMETER OF THE INLET PIPE SHALL NOT EXCEED ONE–HALF THE INSIDE DIAMETER OF THE MAIN LINE.
13. TRIM OR CUT SADDLE TO FIT SNUGLY OVER THE OUTSIDE OF THE MAIN LINE SO ITS AXIS WILL BE ON THE LINE AND GRADE OF THE CONNECTOR PIPE.
14. THE OPENING INTO THE PIPE SHALL BE CUT AND TRIMMED TO FIT THE SADDLE SO THAT NO PART WILL PROJECT WITHIN THE BORE OF THE SADDLE PIPE.
15. THE CONNECTOR PIPE SHALL BE SUPPORTED AS SHOWN IN CASES 1 AND 2.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

JUNCTION STRUCTURE – PIPE TO PIPE
(ID ≤600 mm (24"))

STANDARD PLAN METRIC 332–1 SHEET 2 OF 2

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N:\60.CAD\TMAD Projects\2005\2005-061-00\Dwg\SITE INFRASTRUCTURE – Standard\Site Infastructure\C2-5-SD-PARTIAL.dwg Sep 08, 2009 - 9:35am

Revisions:

No:	Date:
1	ADDENDUM #1 MARCH 2, 2007

SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

RIO HONDO COLLEGE
3600 WORKMAN MILL ROAD
WHITTIER, CA 90601–1699

DSA FILE NO.: 19–C12
DSA APPL. NO.: 110076

RIO HONDO COLLEGE

Seal: Professional Engineer – Richard R. MAITLAND – No. C33292 – Exp. 06/30/08 – CIVIL – State of California

Sheet Title:

T M A D TAYLOR &GAINES
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Drawn By:
Checked By:
Date: August 24, 2009
Scale:
Job No. 2005.061.00

Sheet No:
C2.5

GENERAL NOTES

GENERAL

1. All work shall comply with 2001 California Building Code Volume 2 and all other local or state agencies having jurisdiction over this project.
2. All drawings are considered to be a part of the Contract Documents. The Contractor shall be responsible for the review and coordination of all drawings prior to the start of construction. Any discrepancies that occur shall be brought to the attention of the Architect prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the Contract Documents or any code requirements shall be corrected by the Contractor at his own expense and at no expense to the Owner or Architect.
3. All symbols and abbreviations used on the drawings are considered to be construction standards. If clarification is required, the Contractor shall notify the Architect prior to proceeding with the work.
4. All dimensions and the site conditions shall be verified by the Contractor at the job site prior to bid submittal, start of shop drawings, start of construction, and/or fabrication of materials. If discrepancies are encountered, or conditions develop not covered by the Contract Documents, the Architect shall be notified for clarification. Contractor shall provide and be responsible for the protection and repair of adjacent existing surfaces and areas which may be damaged as a result of new work.
5. Do not scale drawings. Printed dimensions have precedence over scaled drawings and large scale over small.
6. Typical details shall apply in general construction unless specifically detailed. Where no details are given, construction shall be as shown for similar work.
7. The Contract Documents represent the finished structure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the structure and safety of workmen during construction. Such measures shall include but not be limited to, bracing, shoring for loads due to construction equipment, etc. Observation visits to the site by the Architect or Structural Engineer shall not include inspection of the above items and does not in any way relieve the Contractor of his responsibilities for the above.
8. For trenches or excavations (5) five feet or more in depth into which a person is required to descend, the Contractor is to obtain the necessary permit from the State of California, Division of Industrial Safety, prior to the issuance of a building permit.
9. Refer to the architectural, electrical and mechanical drawings for details, conditions, pits, trenches, depressions, roof openings, sleeves, items to be embedded or attached to structural elements, etc., not shown on the structural drawings.
10. No holes, notches, blockouts, etc. are allowed in structural elements unless detailed on the structural drawings or approved by the Structural Engineer.
11. All information shown on the drawings relative to existing conditions is given as the best present knowledge from plans supplied by the Owner, but without guarantee of accuracy. Where actual conditions conflict with the drawings, they shall be reported to the Architect or Engineer so that proper clarification may be made. Modification of details of construction shall not be made without written approval of the Architect or Structural Engineer.

EARTHWORK

1. Geotechnical Investigation Report, by Mactec project 4953-06-2411 dated December 14, 2006 and Recommendations dated January 26, 2007.
2. Ground water was not encountered in the borings at/to a depth of 50 feet. If ground water should occur during excavation, special procedures shall be implemented as recommended by the Geotechnical Engineer.
3. Any existing fill or unsuitable Geotechnical, as determined by the Geotechnical Engineer, shall be excavated and replaced as properly compacted fill.
4. Extreme care shall be exercised when excavating or grading adjacent to existing structures or improvements so as not to damage or undermine foundations, walls, slabs, utilities, etc.
5. Any import fill soil that may be required shall have a low potential for expansion and shall be approved by the Geotechnical Engineer prior to importing.
6. All required backfill shall be mechanically compacted in 8" maximum thick layers. Flooding is not permitted. Backfill shall be compacted to 90% of the maximum dry density obtainable by the ASTM D1557-91 method of compaction.
7. The proposed building site should be prepared according to the above mentioned geotechnical engineer report as follows, see section.

   A. The areas of the proposed development should be prepared to receive compacted fill by removing all vegetation, debris, and existing fill. The exposed excavated area should be observed by the Geotechnical engineer prior to placing compacted fill. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted to 90 percent of the maximum density.

   B. Fill, consisting of soil approved by the geotechnical engineer, shall be placed in horizontal lifts and compacted in eight inch maxiumum thick layers with suitable compaction equipment. The excavated onsite materials are considered satisfactory for reuse in the controlled fills. Any imported fill shall be observed by the Geotechnical Engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.

   C. The existing fill and native materials shall be overexcavated to at least 3 feet below the bottom of all foundations and floor slabs, and 3 to 5 feet laterally beyond the outer edge of the perimeter of the footings, and be recompacted as engineered fill per soils report. The fill shall be compacted to at least 90 percent of the maximum laboratory density for the material used. The maximum density shall be determined by ASTM D 1557-91 or equivalent.

   D. Field observation and testing shall be performed by the geotechnical engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until 90 percent compaction is obtained. One compaction test is required for each cubic yards or two vertical feet of fill placed.

8. The allowable soil bearing pressure for footings is 3000 psf, with an allowable passive pressure of 300 psf/ft. of depth and a coefficient of friction of 0.5.
9. All earthwork and site preparation shall be performed in accordance with the above mentioned report which is on file with the Architect. All foundation excavations shall be observed and approved by the Geotechnical Engineer.
10. Where deep excavation is required, and the necessary space is available, temporary unsurcharged excavations may be sloped back in lieu of shoring. Excavations shall be done as recommended by, and under the observations of, the Geotechnical Engineer. The top of excavations shall be protected by barricades, etc., to prevent surcharging and bermed to prevent water run-off from entering and eroding the excavation. Adjacent to existing buildings or improvements, the excavation shall be restricted to 1 1/2:1 (horizontal to vertical) downward from the toe of the existing footing, etc. unless special procedures are implemented as recommended by the Geotechnical Engineer. All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1970, and the Construction Safety Act shall be met. If ample space is not available for the required excavation slope, or as a construction option, shoring may be a possible alternate. The Contractor shall follow shoring recommendations by the Geotechnical Engineer and conform to General Note No.8 concerning construction measures.
11. Do not backfill against walls which are supported top and bottom by slabs until the slabs, top and bottom, have been placed and cured significantly (7 days min.) or provide sufficient temporary bracing per General Note No. 8.

CAST-IN-PLACE CONCRETE

1. All cement shall conform at ASTM C-150, Type I or II.
2. Fine and coarse aggregate shall conform to ASTM C-33.
3. Lightweight aggregate to be expanded clay or shale conforming to ASTM C-330. Air-dry unit weight shall not exceed 115 pcf.
4. Concrete shall have the following minimum 28 day strength:
   All concrete U.N.O. – 3000 psi Stone.
   Floor slabs and equipment pads on Steel Deck Form – 3000 psi Lt.Wt.
   Exterior Concrete Walks, Curbs, etc. and Misc. Concrete – 2000 psi Stone.
5. Concrete design mixes and aggregates sizes shall be approved by the structural engineer and comply with the following:

Material	Aggregate Max. Size	Minimum Compressive Strength (PSI) 7 Day	28 Day
Concrete/Foundation	1 1/2"	1800	3000
Concrete/Other Places	1"	1800	3000
Structural Normal Weight Concrete	3/4"	–	3000
Grout	3/8"	1200	2000
Mortar	–	1080	1800

6. Placing of all concrete shall be inspected by the job inspector. Inspector to verify that reinforcing steel is securely supported in place during the pour.
7. Location of construction joints or pour joints shall be as shown on plans or as approved by the Engineer or Architect prior to pouring concrete and conform to Title 24, 1906A.4
8. Anchor bolts, dowels, reinforcing steel, inserts, etc., shall be securely tied in place prior to pouring concrete. Concrete blocks only shall be used to support reinforcing off grade.
9. Concrete slabs shall be cured by keeping continuously wet for 7 days. Forms for concrete walls shall be left in place for 7 days or they may be stripped after 3 days and then covered with burlap which shall be kept wet for an additional 7 days. No curing compounds shall be used unless approved by the Structural Engineer.
10. Notify the Structural Engineer 48 hours minimum prior to all pours.
11. Provide 3/4" chamfer on all exposed concrete corners.
12. All concrete shall be vibrated in place during placing of concrete.
13. The structural steel and steel form will deflect while concrete is being placed on it. This will result in the need to adjust the screeds after the concrete has been placed to produce a level concrete surface. Also, there will be additional concrete required, which is to be anticipated, and no request for extra cost will be considered.
14. No stakes, steel or wood, shall be permitted in any concrete pour. Suspend forms from above grade.
15. Drypack shall be 1:3-1/2 Portland cement to sand with a minimum 28 day strength of 3000 psi.
16. Grout shall be 1:3:2 Portland cement to sand to pea gravel with a minimum 28 day strength of 3000 psi.
17. Light Weight Insulation Concrete, floor fill consisting of a mixture of Portland Concrete, aggregate (Sand), water and air entraining agent, containing not less than one part cement to three parts aggregate. Acceptable systems shall be "Elastizell", "Gyp-Crete", "Lite-Crete" or pre-approved equal. All aggregate shall be for Light Weight Concrete conforming to ASTM C-330. All concrete fill shall weight 100-110 pcf. Use 15 lbs. felt or 20.20 WT. Water proof paper under lay per MFG'S Co. The Light Weight insulation concrete slump should not exceed 8".

MASONRY

1. Concrete blocks shall be of sizes shown on the drawings, type and color as selected by the Architect and conform to ASTM C-90, Grade N-1. Block shall be medium weight units, f'm 1900 psi.
2. Grout mix shall be 1:3:2 Portland cement to sand to pea gravel with 1/10 part lime putty or hydrated lime, 2000 psi.
3. Mortar mix shall be 1:3 Portland cement to sand with not more than one-half nor less than one-quarter part lime putty with Suconem Red Label added, Type S, 1800 psi.
4. All reinforcing shall have a minimum coverage of one bar diameter (1/2" min.) of grout and vertical bars shall be placed in the center of the wall unless shown otherwise.
5. Grout cells solid in all walls, Reinforcing shall be securely held in place. Grout in 4'-0" maximum lifts.
6. No pipes or ducts shall be placed in masonry unless noted or detailed specifically.
7. Continuous inspection of block is required.
8. Bolts shall be grouted solid with 1" min. grout between bolt and masonry at block face.
9. All concrete to receive masonry shall be sandblasted.
10. All the concrete blocks bonds shall be running bond u.n.o.

REINFORCING

1. All reinforcing shall conform to ASTM A-615 specifications, Grade 60. Welded bars shall be ASTM A-706.
2. Reinforcing bars shall be spliced and bent in strict accordance with the drawings and details and C.R.S.I. publications. No kinks allowed. All bars shall be clean prior to concrete placement.
3. Provide dowels of same size and number from adjacent pour, both vertically and horizontally to match typical reinforcing shown. Laps to be in accordance with the drawings and details. Dowels shall be cleaned after pour.
4. Use low hydrogen electrodes, Grade E-90, for welding of reinforcing bars.
5. Shop drawings for reinforcing steel shall be submitted to the structural engineer for approval prior to fabrication.
6. Field welding or bending of reinforcing is not permitted except as indicated on the drawings or as approved by the Structural Engineer.
7. Reinforcing steel shall be securely tied in place prior to inspection and placing of concrete. Do not place reinforcing in wet concrete.
8. The contractor shall furnised (as installed) 2000 lbs. each of #4 and #5 bars in addition to that required by the drawings to be used at the discretion of the Structural Engineer.

   Connection plates, angles, channels and miscl. A-36

STRUCTURAL STEEL

1. Structural steel shall conform to ASTM Specifications as noted below and to the AISC Specifications for fabrication and erection:
   – All Structural steel W10x and larger U.N.O. A-992 or A-572
   – Connection plates, angles, channels and miscl. A-36
   – Pipe Sections: A-53, Grade B.
   – Tube Sections: A-500, Grade B.
2. All welding shall conform to the specifications of the American Welding Society and shall be performed by certified welders using E70XX electrodes (U.N.O.) and the shielded metal electric arc process.
3. Weld lengths called for on the plans are the net effective length required. Where fillet weld symbol is given without indication of size, use minimum size welds as specified in AISC Manual of Steel Construction, 9th Edition, Section J2.4, Chapter 22A of the C.B.C.
4. All steel exposed to weather shall be hot-dipped galvanized after fabrication. Abraded areas to be touched up with galvaloy. All tubes and/or pipes shall have welded cap plates to seal exposed ends.
5. Bolts shall conform to ASTM A-307 specifications typically U.N.O. as A325 high strength bolt. Maximum bolt hole shall be 1/16" larger than bolt diameter.
6. All structural steel shall be fabricated in the shop of a fabricator licensed by the local building department and shop drawings shall be submitted to the Architect for approval prior to fabrication.
7. All field welding, except tack welding, shall be continuously inspected by an approved welding inspector.
8. Provide one shop coat of paint on all structural steel not covered with concrete, fireproofing, masonry or at contact surfaces at high strength bolts.
9. All complete penetration groove welds contained in joints and splices shall be tested for ultrasonic testing of complete penetration groove welds and by tension test Section 6.2.5 AWS.

EXPANSION ANCHOR BOLTS

1. All field installed concrete expansion anchors shall be approved for the type and installation, for its application, and materials. All bolts shall have an approved ICBO research report number.
2. All anchors shall be tested as follows: (Hardrock or Lightweight Concrete).

ANCHOR DIA. (in.)	WEDGE LOAD (LBS)	WEDGE TORQUE (FT-LBS)	SLEEVE LOAD (LBS)	SLEEVE TORQUE (FT-LBS)	SHELL LOAD (LBS)	SHELL TORQUE (FT-LBS)
1/4	800	10	400	4	1000	N/A
3/8	1100	25	700	10	1800	N/A
1/2	2000	50	900	20	2700	N/A
5/8	2300	80	1100	45	3700	N/A
3/4	3700	150	1400	90	5400	N/A
1	5800	250	N/A	N/A	N/A	N/A

Minimum anchor embedment and edge distance are as follows:

Bolt Diameter (d)	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Min. Embedment (6xd)	1-1/2"	2-1/4"	3"	3-3/4"	4-1/2"	6"
Min. Edge Distance (10xd)	2-1/2"	3-3/4"	5"	6-1/4"	7-1/2"	10"

A. Anchor diameter refers to the thread size for a WEDGE and SHELL categories and to the anchor outside diameter for the SLEEVE category.
B. Apply proof test loads to WEDGE and SLEEVE anchors without removing the nut if possible. If not, remove the nut and install a threaded coupler nut to the same tightness of the original nut using a torque wrench and apply load.
C. For SLEEVE/SHELL internally threaded categories, verify that the anchor is not prevented from withdrawing by a baseplate or other fixtures. If restraint is found, loosen and shim or remove fixture(s) prior to testing.
D. Reaction loads from test fixtures may be applied close to the anchor being tested. Provided the anchor is not restrained from withdrawing by the fixture(s).
E. SHELL type anchors should be tested as follows: Visually inspect 25% for full expansion as evidenced by the location of the expansion plug in the anchor body. Plug location of a fully expanded anchor should be as recommended by the manufacturer, or in the absence of such recommendation, as determined on the jobsite following the manufacturer's installation instructions, and; proof load 5% as indicated in the table above, but not less than three anchors per day for each different person or crew installing anchors, or; Test 50% of the anchor per J.
F. Test equipment shall be calibrated by an approved testing laboratory in accordance with standard recognized procedures.
G. Torque tests for SHELL type anchors are omitted due to lack of data. Torque testing can occur on an individual basis when test procedures are submitted and approved by the enforcement agency. Tabulated values may be forth coming once the enforcement agency has more data to evaluate the feasibility of standard torque values.
H. The following criteria apply for the acceptance of installed anchors:
   HYDRAULIC RAM METHOD: The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
   TORQUE WRENCH METHOD: The applicable test torque must be reached within the following limits:
   WEDGE or SLEEVE type: One-half (1/2) turn of the nut. One-quarter (1/4) turn of the nut for the 3/8 in. sleeve anchor only.

EXPANSION ANCHOR BOLTS CONT.

I. Testing should occur 24 hours minimum after installation of the subject anchors.
J. For WEDGE and SLEEVE type anchors, test 50% of the anchors (alternate anchors in any group arrangement). If any failures occur, the immediate adjacent anchor must then be tested.
3. When installing drilled-in anchors in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging the existing reinforcing bars. When installing them into existing prestressed concrete (pre- or post-tensioned), locate the prestressed tendons by using a non-destructive method prior to installation. Exercise extreme care and caution to avoid cutting or damaging the tendons during installation. Maintain a minimum clearance of one inch between the reinforcement and the drilled-in anchor.

POWDER ACTUATED FASTENERS

1. All powder actuated fasteners shall be approved for type, application and installation and shall have an approved ICBO research report number.
2. The use of powder driven fasteners, in tension, is limited to support of minor loads such as drywall or acoustical ceilings, duct work, conduit, etc. In general, load should be limited to less than 100 pounds unless approved by the Structural Engineer.
3. Fasteners shall not be installed until the concrete has reached its designated strength.
4. Fasteners shall not be installed in concrete whose thickness is less than three times the penetration required, except 1-1/8" penetration in 3-1/4" thick floor slab is acceptable.
5. The minimum distance from the edge of concrete to center of anchor is 3 inches.
6. Fasteners in the underside of concrete slabs on metal decking shall be placed in the thick portion of the slab.
7. Fasteners shall be installed, by a pre-qualified operator, according to the ICBO research report and tested as follows: Inspector shall observe the testing of the first 10 fastener installations. A test "pull-out" load of not less than twice the design load, or 200 pounds, whichever is greater, shall be applied to the pin in such a manner as not to resist the spalling tendency of the concrete surrounding the pin. Random tests under the project inspector's supervision shall be made of approximately 1 in 10 pins, except when the design load is 100 pounds, one half of the pins shall be tested. Should failure occur on any pin tested, all of the next 20 installations must be tested and unfair pins replaced.
8. When installing powder driven pins in existing non-prestressed reinforced concrete, use care and caution to avoid cutting or damaging the existing reinforcing bars. When installing them into existing prestressed concrete (pre- or post-tensioned), locate the prestressed tendons by using a non-destructive method prior to installation. Exercise extreme care and caution to avoid cutting or damaging the tendons during installation. Maintain a minimum clearance of one inch between the reinforcement and the pin.

DESIGN LOADS

1. Structure has been designed in compliance with the California Building Code, 2001 Edition. Base Shear "V" per 2001 Edition.
2. Seismic Zone 4. I = 1.15, Na=1.12, Nv=1.36, Soil Typ Sd, Fault Type 'A'.
3. Live Loads:

Typical Roof	20 psf (reduced)
Mechanical Equip.	as shown on plans
Partitiion	20 psf

4. Wind – 70 mph, Exposure "C", I = 1.15

QUALITY CONTROL

1. Unless noted otherwise, materials shall conform and tests and inspections shall be performed by the approved testing agency and/or the job inspector who is approved by DSA, the Architect and the Structural Engineer and conform to the provisions of the 2001 California Building Code, Title 24, Part 2A, CCR, as noted herein.

I. MASONRY – STATE CHAPTER 21A
   A. MATERIALS
      1. Masonry Units – 2102A.2.4, 5, 2105A.3.4.1
      2. Portland Cement – 2102A.2.2.2.2
      3. Mortar – 2102A.2.8, 2103A.3
      4. Grout – 2102A.2.9, 2103A.4
      5. Aggregates – 2102A.2.1, 2103A.4.3
      6. Reinforcing Bars – 2102A.2.10
   B. MASONRY QUALITY
      1. Portland Cement Tests – 1903A.2, 1929A.1
      2. Mortar & Grout Tests – 2105A.3.4 2
      3. Masonry Prism Tests – 2105A.3.2, 2105A.3.3 2105A.3.4, 2105A.3.5
      4. Masonry Core Tests – 2105A.3.1
      5. Reinforcing Bar Tests – 1929A.2
   C. MASONRY INSPECTION
      1. Reinforced Masonry – 2105A.7, 1701A.5.7
      2. Reinforcing Bar Welding – 1929A.12

II. CONCRETE – STATE CHAPTER 19A
   A. MATERIALS
      1. Portland Cement – 1903A.2
      2. Concrete Aggregates – 1903A.3
      3 Reinforcing Bars – 1903A.5
      4. Admixtures – 1903A.6
      5. Water – 1903A.4
   B. CONCRETE QUALITY
      1. Proportions of Concrete – 1905A.1, 1905A.2, 1905A.3, 1905A.4, 1905A.5
      2. Strength Tests of Concrete – 1905A.6
      3. Tests of Reinforcing Bars – 1929A.2
      4. Waiver of Material Testing – 1929A.6
      5. Existing Concrete Structures – 1930A
      6. Concrete Testing – 1903A.8
   C. CONCRETE INSPECTION
      1. Job Site Inspection – 1701A.5.1, 1701A.5.2, 1701A.5.3, 1701A.5.4
      2. Batch Plant or Weighmaster Inspection – 1929A.4
      3. Reinforcing Bar Welding Inspection – 1929A.12
      4. Waiver of Batch Plant Inspection – 1929A.5

III. STEEL – STATE CHAPTER 22A
   A. MATERIALS
      1. Structural Steel, Cold Formed Steel – 2202A.1, 2203A
      2. Material Identification – 2203A
      3. Steel Deck Diaphragms – 2205A.4.1
   B. INSPECTION AND TESTS OF STRUCTURAL STEEL
      1. Tests of Structural & Cold Formed Steel – 2231A.1
      2. Tests of High Strength Bolts, Nuts, Washers – 2231A.2
      3. Tests of End Welded Studs – 2231A.3, 2231A.5
      4. Shop Fabrication Inspection – 2231A.4
      5. Welding Inspection – 2231A.5, 1701A.5.5
      6. High Strength Bolt Inspection – 2231A.6, 1701A.5.6

IV. EXCAVATIONS, FOUNDATIONS & RETAINING WALLS – STATE CHAPTER 18A
   A. EARTH FILL COMPACTION – 1801A.1, 1801A.2, 1802A

NOTES

ABBREVIATIONS

ø	Diameter
#	Number or pounds
@	At
CL	Center line
–3"	Slab depression
A.B.	Anchor Bolt
Anch.	Anchor
B. O. F.	Bottom of Footing
Bm.	Beam
Bott.	Bottom
Btwn.	Between
Clr.	Clear
Col.	Column
Conc.	Concrete
Cont.	Continuous
Det.	Detail
Dim.	Dimension
Dwg.	Drawing
Dwl.	Dowel
E. F.	Each Face
E. W.	Each Way
Ea.	Each
El.	Elevation
Electl.	Electrical
Elev.	Elevator or Elevation
Exist.	Existing
Exp.	Expansion
Extr.	Exterior
F. O. C.	Face of Concrete
F. O. S.	Face of Stud
F. O. W.	Face of Wall
Fdn.	Foundation
Fin.	Finish
Flr.	Floor
Frmg.	Framing
Ftg.	Footing
Ga.	Gauge
Galv.	Galvanized
Gr. Bm.	Grade Beam
H. S. B.	High Strength Bolt
Horiz.	Horizontal
Intr.	Interior
Jt.	Joint
Lt. Wt.	Lightweight
M. B.	Machine Bolt
Max.	Maximum
Mechl.	Mechanical
Mfr.	Manufacturer
Min.	Minimum
Mtl.	Metal
N. I. C.	Not in Contract
N. T. S.	Not to Scale
No.	Number
o. c.	On Center
Pl.	Plate
Plcs.	Places
Reinf.	Reinforcing
S.	Footing Step
Sched.	Schedule
Sect.	Section
Sepn.	Separation
Sim.	Similar
Spec.	Specification
Sq.	Square
Stagg.	Staggered
Std.	Standard
Stiff.	Stiffener
Stl.	Steel
Suppt.	Support
Sym.	Symmetrical
T. O.	Top of
T. O. S.	Top of Steel
T. O. W.	Top of Wall
Thk.	Thick
T. W. S.	Threaded Weld Stud
Typ.	Typical
U. N. O.	Unless Noted Otherwise
V. O. J.	Verify on Job
V. O. S.	Verify on Site
Vert.	Vertical
w/	With
Wt.	Weight

LEGEND

MATERIALS

Earth
Concrete – Poured in Place
Steel
Gravel
Grout or Drypack
Masonry
Wood in Section Continuous
Wood in Section Blocking

STRUCTURAL DRAWING LIST	
S0.1	GENERAL NOTES
S1.1	TYPICAL DETAILS
S1.2	TYPICAL DETAILS
S2.1	FOUNDATION PLAN/ROOF FRAMING PLAN
S3.1	SECTIONS & DETAILS
	TOTAL SHEETS: 5

Revisions:

No:	Date:

RIO HONDO COLLEGE
SITE INFRASTRUCTURE - AS-BUILT DRAWINGS
3600 WORKMAN MILL ROAD
WHITTIER, CA 90601-1699
DSA FILE NO.: 19-C12
DSA APPL. NO.: 110077

RIO HONDO COLLEGE

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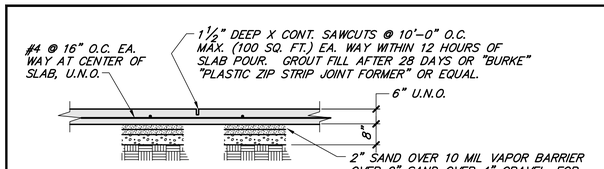
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Sheet Title: **GENERAL NOTES**

Drawn By: VR
Checked By: EH
Date: August 24, 2009
Scale: AS NOTED
Job No. 4205.056.02

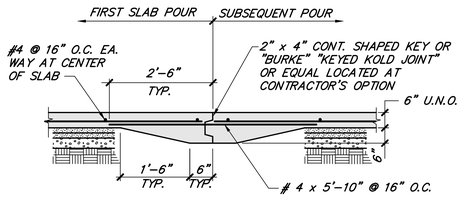
Sheet No: **S0.1**

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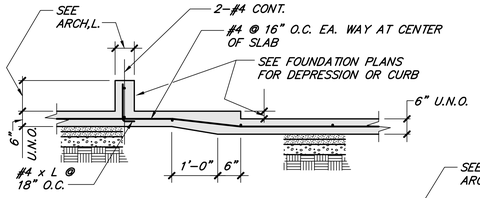


A–TYPICAL CONTROL JOINT

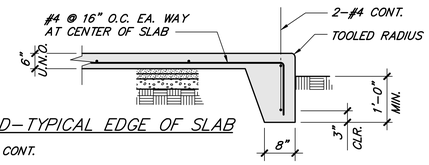
(WHERE CONTINUOUS POUR IS USED)



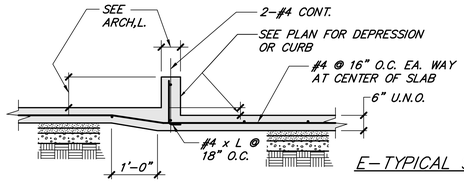
B–TYPICAL CONSTRUCTION JOINT



C–TYPICAL SLAB DEPRESSION/CURB



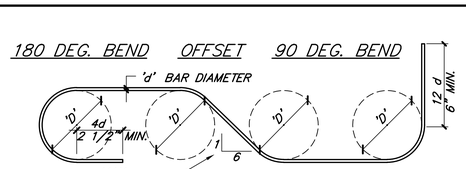
D–TYPICAL EDGE OF SLAB



E–TYPICAL SLAB DEPRESSION/CURB

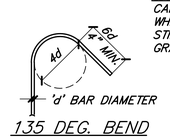
TYPICAL SLAB ON GRADE DETAILS

NONE | 1

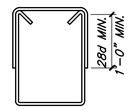


'D' = BAR BEND DIAMETER
6d FOR #3 THRU #8
8d FOR #9, #10, AND #11

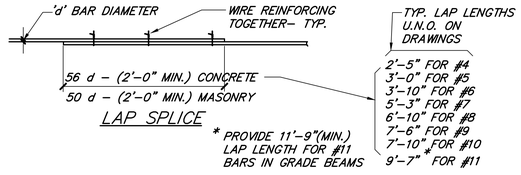
NOTE:
CAP STIRRUPS MAY BE USED WHEREVER 135 deg. CLOSED STIRRUPS ARE SHOWN IN GRADE BEAM ONLY.



135 DEG. BEND



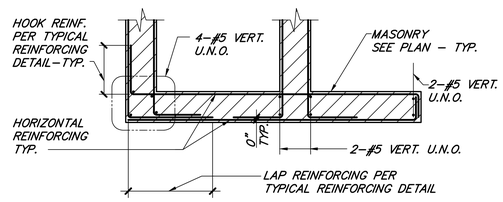
CAP STIRRUP



LAP SPLICE

TYPICAL REINFORCING DETAILS

NONE | 2

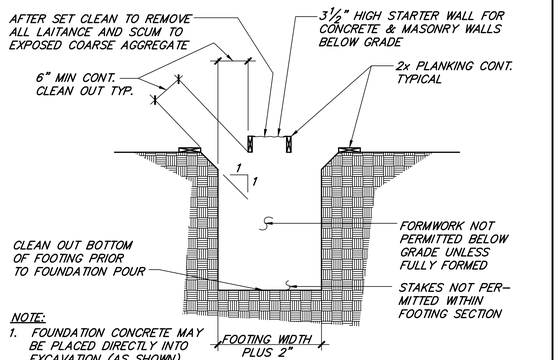


DOUBLE CURTAIN REINFORCING

CORNER INTERSECTION JAMB

TYP. REINFORCING AT INTERSECTION

NONE | 3

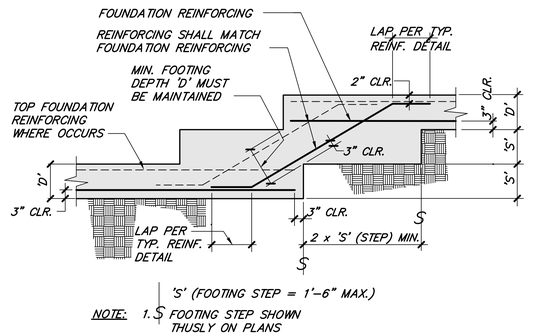


NOTE:

1. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO EXCAVATION (AS SHOWN) PROVIDED THE TRENCH WALLS ARE STABLE AS DETERMINED BY THE SOIL ENGINEER.
2. FOUNDATIONS SHALL BEAR ON ACCEPTABLE SOIL, PER THE SOIL REPORT, AS DETERMINED BY THE SOIL ENGINEER.

TYP. FOOTING FORMING DETAIL

NONE | 5

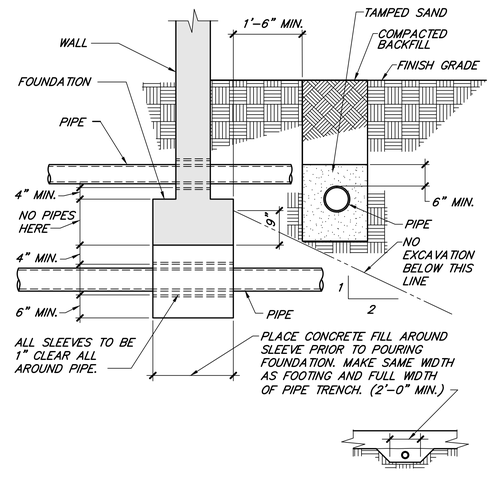


NOTE:

1. S FOOTING STEP SHOWN THUSLY ON PLANS
2. STEP FOOTING WHERE SHOWN ON PLANS, AND AS REQUIRED TO MAINTAIN MINIMUM FOOTING DEPTH BELOW GRADE, AND AS REQUIRED TO ACCOMODATE PIPES PER TYPICAL PIPE TRENCH DETAIL.

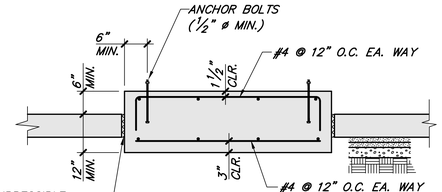
TYPICAL STEP FOOTING DETAIL

NONE | 7



TYPICAL PIPE TRENCH DETAIL

NONE | 8



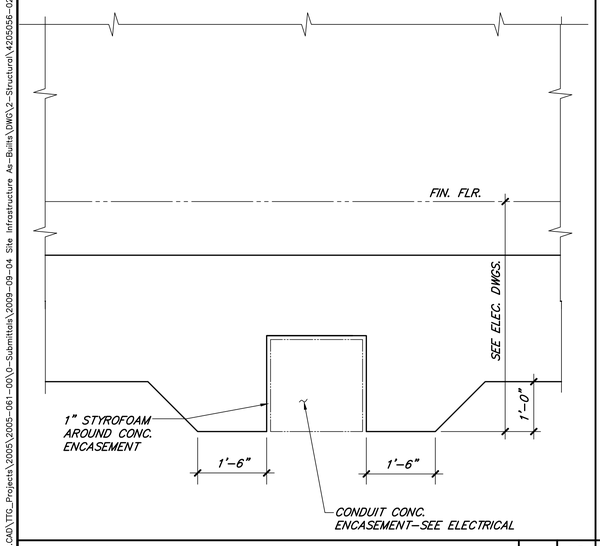
NOTES: SEE MECHANICAL AND ELECTRICAL DWGS. FOR THE FOLLOWING:

1. LOCATION AND DIMENSIONS OF PADS.
2. LOCATION AND SIZE OF ANCHOR BOLTS
3. DETAILS OF SUPPORTS, ISOLATORS OR OTHERS.

ISOLATION PAD

TYPICAL CONCRETE PAD DETAIL

NONE | 9



UNDERGROUND ELEC. MULTI-CONDUIT PLACEMENT DETAIL

NONE | 10

Revisions:

No:	Date:

RIO HONDO COLLEGE

SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

DSA FILE NO.: 19-C12
DSA APPL. NO.: 110077

3600 WORKMAN MILL ROAD
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Seal: REGISTERED PROFESSIONAL ENGINEER – EDMOND T. GHALBAN – No. 29421 – Exp. 06/30/10 – STATE OF CALIFORNIA – STRUCTURAL

Sheet Title: **TYPICAL DETAILS**

T M A D
TAYLOR &GAINES

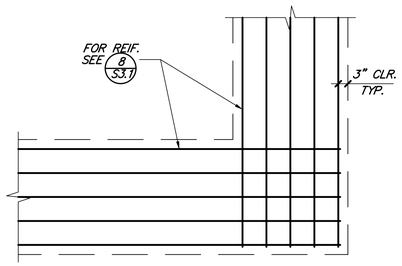
320 North Halstead Street, Suite 200
Pasadena, California 91107
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Project No. 4205.056.02

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- MECHANICAL
- ELECTRICAL
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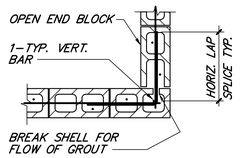
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Checked By:	E.H
Date:	August 24, 2009
Scale:	AS NOTED
Job No.	4205.056.02

Sheet No: **S1.1**

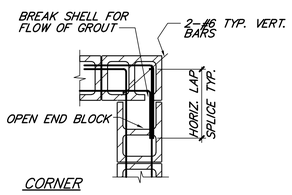
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AT FOOTING

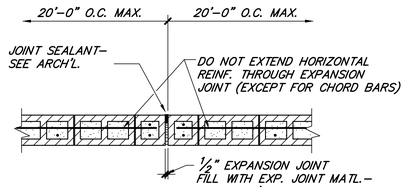


AT CMU

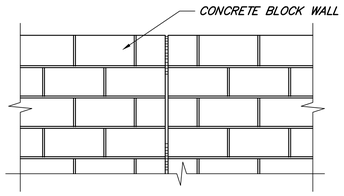


CORNER

CMU WALL & FOOTING CORNER | 3/4" | 1

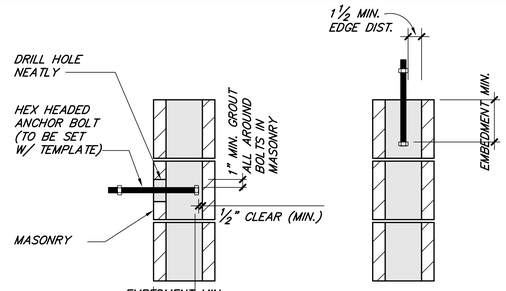


PLAN



ELEVATION

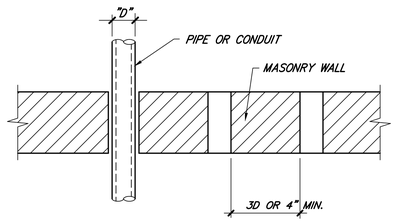
TYPICAL CMU CONTROL JOINT WALL | NONE | 2



BOLT EMBEDMENT SCHEDULE							
BOLT SIZE	BOLT EMBEDMENT HORIZ. WALL THK. 10"	BOLT EMBEDMENT HORIZ. WALL THK. 8"	BOLT EMBEDMENT VERT.	BOLT SIZE	BOLT EMBEDMENT HORIZ. WALL THK. 10"	BOLT EMBEDMENT HORIZ. WALL THK.	BOLT EMBEDMENT VERT.
½"	7"	5¼"	8"	⅞"	7"		11"
⅝"	7"	5¼"	9"	1"	7"		12"
¾"	7"	–	10"				

NOTE: BOLT EMBEDMENT SHALL BE 8 BOLT DIAMETER. ALL EMBEDED ITEM & BOLT SHALL BE WET SET.

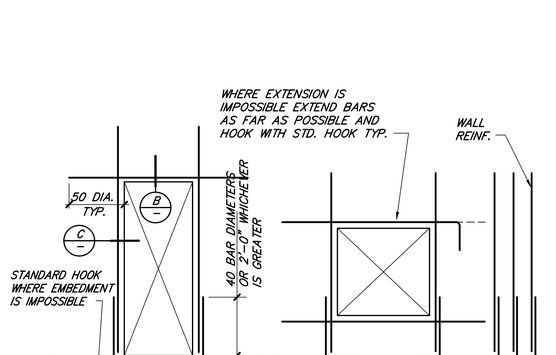
TYPICAL BOLT EMBEDMENT SCHEDULE | NONE | 5



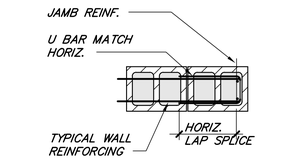
NOTE: NO PIPING OR CONDUIT PERMITTED WITHIN CONCRETE SLABS ON METAL DECK

WHERE CLEAR DISTANCE BETWEEN SLEEVES IS IMPOSSIBLE, THIS AREA SHALL BE TREATED AS A WALL OPENING PER TYPICAL DETAILS.

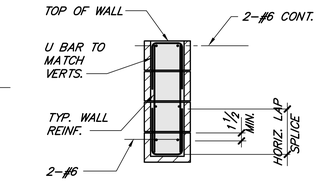
PIPES/CONDUIT THROUGH WALLS | NONE | 6



A ELEVATION



C JAMB OR END OF WALL SECTION



B LINTEL AND TOP OF WALL SECTION

CONCRETE BLOCK REINFORCING AT WALL OPENING | NONE | 4

SCHEDULE I										
LOCATION IN STRUCTURE	CONC. f'c PSI	STEEL GRADE KSI	BAR SIZE							
			3	4	5	6	7	8	9	10	11
			L = LAP SPLICE IN INCHES								
BOTTOM BARS OF BEAMS, JOISTS, SLAB BARS, AND SPANDRELS	3000	60	16	22	27	32	38	45	57	72	89

SCHEDULE II										
LOCATION IN STRUCTURE	CONC. f'c PSI	STEEL GRADE KSI	BAR SIZE							
			3	4	5	6	7	8	9	10	11
			L = LAP SPLICE IN INCHES								
TOP BARS OF BEAMS, JOISTS & SPANDRELS, AND SLAB TOP BARS	3000	60	21	28	35	42	49	56	63	76	83
WALL STEEL HORIZ., VERT., AND DOWELS	3000	60	29	39	48	58	68	77	87	96	110
WALL STEEL HORIZ., VERT., AND DOWELS AT MASONRY	$f'm$ = 1500	60	40 DIA., TYP. 60 DIA. AT JAMBS ENDS, CORNERS AND CHORD 24" MIN.							WELD SPLICE	

NOTES:

1. THE SCHEDULE SHOWN ON THIS DETAIL APPLIES TO REGULAR WEIGHT CONCRETE AT 145 TO 150 PCF.
2. THE SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZE BARS.
3. LAP LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF THE LAP LENGTHS PER SCHEDULE.
4. AT CONTRACTORS OPTION, MAY USE A BUTT WELD SPLICE IN LIEU OF THE LAP SPLICE.
5. * TOP BARS ARE HORIZONTAL BARS PLACED SO THAT 12" OR MORE OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. USE SCHEDULE II FOR LAP LENGTHS FOR TOP BARS IN SLABS WHERE MORE THAN 12" OF CONCRETE IS CAST BELOW THEM.
6. ALL DETAILING AND PLACING OF REINFORCING SHALL COMPLY WITH THE LAP SPLICE SCHEDULES AND DETAILS, UNLESS SPECIFICALLY DETAILED OTHERWISE ON THE DRAWINGS.
7. BUNDLED BAR SPLICES:
   A) INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL NOT OVER LAP EACH OTHER.
   B) INCREASE LAP LENGTH 20% AT THREE BAR BUNDLES.
   C) INCREASE LAP LENGTH 33% AT FOUR BAR BUNDLES.
8. ALL WALL BAR SPLICES SHALL BE STAGGERED SPLICE IN TWO CURTAINS SHALL NOT OCCUR IN THE SAME LOCATION.
9. CHORD AND DRAG BARS SHALL BE LAPPED AS WALL STEEL WITH BOTTOM AND TOP BARS CORRESPONDING TO VERTICAL AND HORIZONTAL BARS RESPECTIVELY.
10. STANDARD HOOKS IN LIGHTWEIGHT CONCRETE SHALL HAVE TAILS 25% LONGER THAN SCHEDULE.
11. DOWELS SHALL BE SAME GRADE, SIZE, SPACING, AS VERTICAL REINFORCING, UNLESS NOTED OTHERWISE.

REINFORCEMENT LAP SPLICES SCHEDULE | NONE | 10

FOOTINGS POURED AGAINST EARTH .....3"

FORMED SURFACES BELOW GRADE .....2"

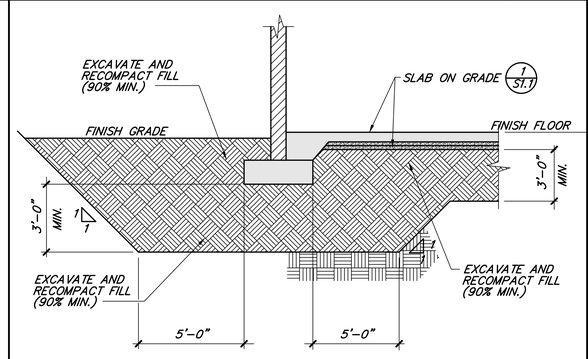
WALLS: EXTERIOR SURFACES ABOVE GRADE .....2"

INTERIOR SURFACES .....1"

COLUMNS AND BEAMS TO MAIN REINFORCING .....2"

JOIST TO MAIN REINFORCING .....1"

CONC. PROTECTION FOR REINF. STEEL | NONE | 7



1. THE BOTTOM OF EXCAVATION SHOULD THEN BE SCARIFIED TO A DEPTH OF AT LEAST 6 INCHES, BOUGHT TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 90% RELATIVE COMPACTION PRIOR TO REFILLING THE EXCAVATION TO GRADE AS PROPERLY COMPACTED FILL. (SEE SOIL REPORT & OVEREXCAVATION PLAN)
2. BRING FILL TO PROPER SUBGRADE IN 6" MAX. LIFTS, BRING TO OPTIMUM MOISTURE CONTENT & COMPACT TO SPECIFIED PERCENT
3. SITE PREPARATION SHALL EXTEND MINIMUM 5'-0" BEYOND THE PERIMETER OF THE BUILDING FOOT PRINT

TYP. SOIL PREPARATION DETAIL | NONE | 8

Revisions:

No:	Date:

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

DSA FILE NO.: 19-C12

DSA APPL. NO.: 110077

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Sheet Title: **TYPICAL DETAILS**

T M A D
TAYLOR & GAINES

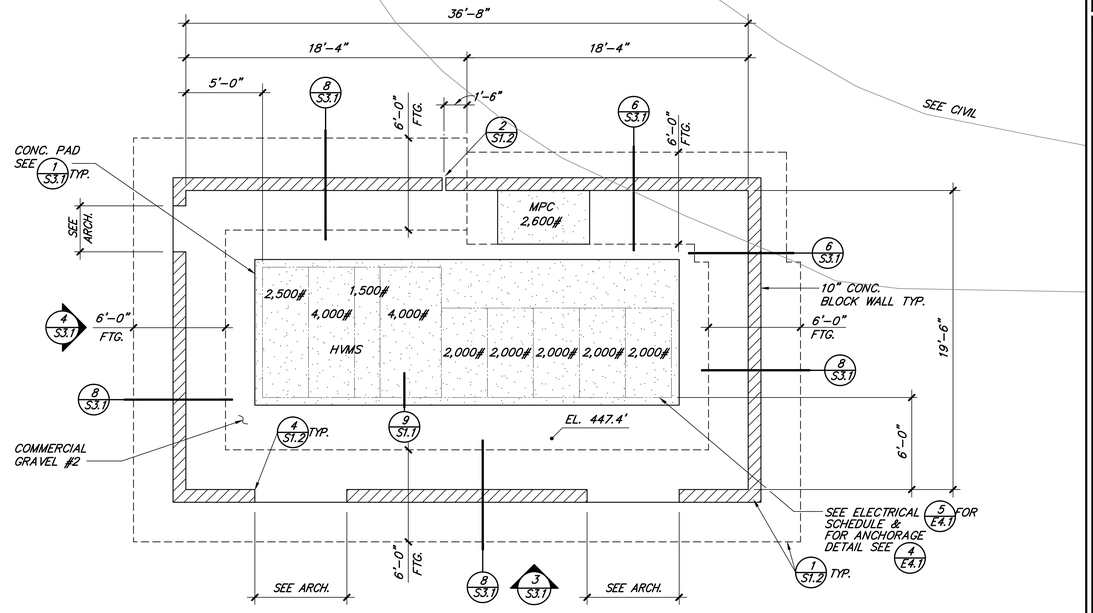
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- ELECTRICAL
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Phone: 626.351.8881 Fax: 626.351.5319
Project No. 4205.056.02

Drawn By:	VR
Checked By:	EH
Date:	August 24, 2009
Scale:	AS NOTED
Job No.	4205.056.02

Sheet No: **S1.2**

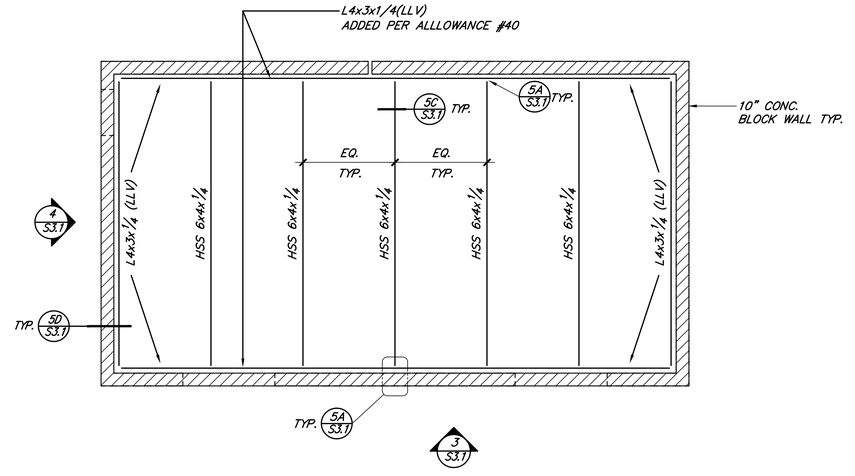
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NOTES:

1. FOR LOCATION OF ELECTRICAL SUBSTATION ENCLOSURE, SEE E3.0
2. FOR LOCATION OF CONCRETE PADS FOR EQUIPMENTS, SEE E3.0
3. FOR PIPE TRENCH DETAIL SEE 8 S1.1

ELECTRICAL SUBSTATION FOUNDATION PLAN — 1/4" — 1



ROOF FRAMING PLAN — 1/4" — 1

Revisions:

No:	Date:

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Sheet Title:
FOUNDATION PLAN / ROOF FRAMING PLAN

T M A D
TAYLOR
&GAINES

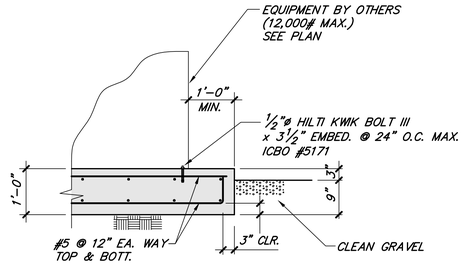
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Date:	August 24, 2009
Scale:	AS NOTED
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Sheet No:
S2.1

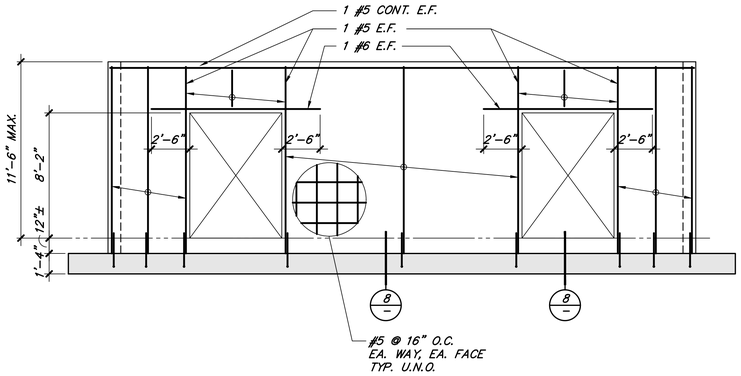
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NOTE:

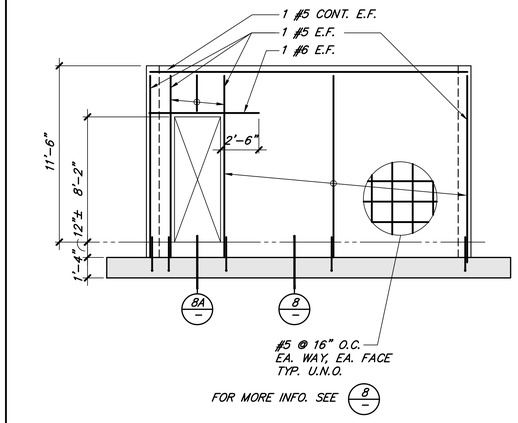
1. SEE E-3 DRAWINGS FOR LOCATION AND DIMENSIONS OF PAD.

PAD FOOTING — ¾" — 1



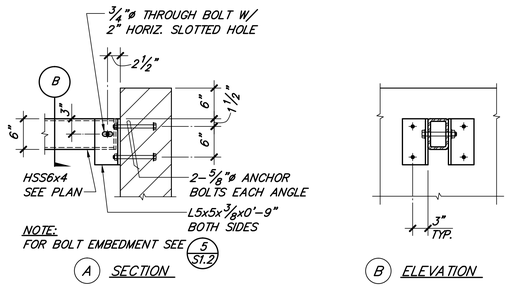
FOR MORE INFO. SEE (8/—)

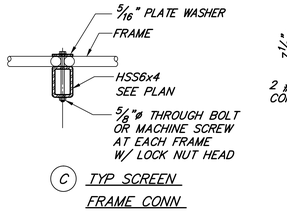
10" CMU WALL ELEVATION — ¼" — 3

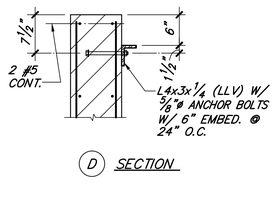


FOR MORE INFO. SEE (8/—)

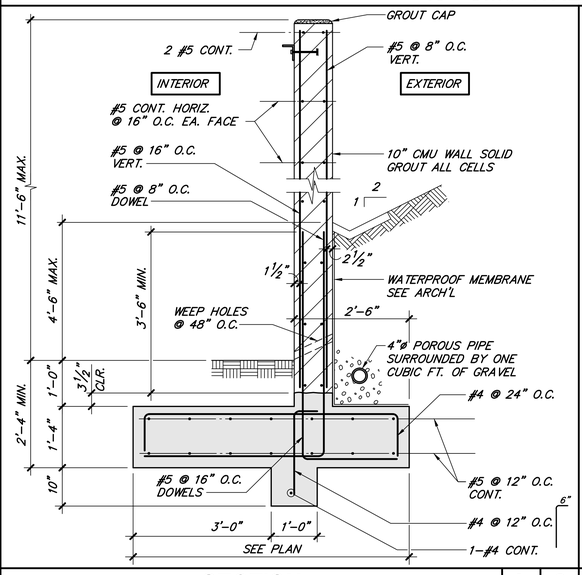
10" CMU WALL ELEVATION — ¼" — 4



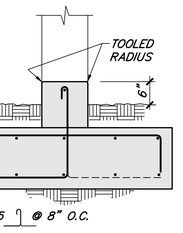




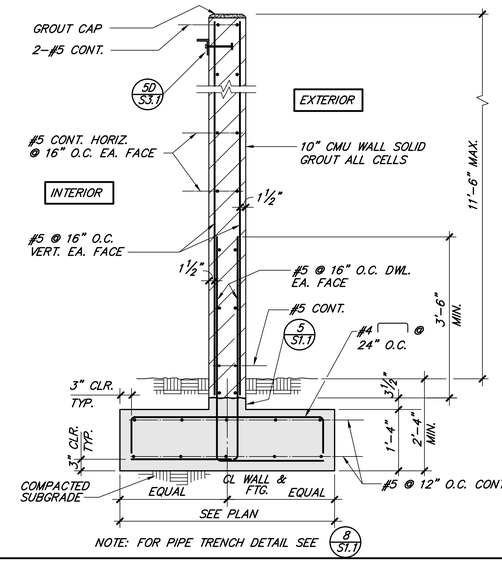
STEEL FRAMING FOR CHAINLINK TOP — NONE — 5



SECTION — ¾" — 6



A FOUNDATION DETAIL AT WALL OPENING
(SAME AS AT WALL U.N.O.)



ENCLOSURE WALL DETAIL — ¾" — 8

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

DSA FILE NO.: 19-C12
DSA APPL. NO.: 110077

3600 WORKMAN MILL ROAD
WHITTIER, CA 90601-1699

RIO HONDO COLLEGE

Seal: PROFESSIONAL ENGINEER ★ CONDO T. GRAHAMS No. 29942 ★ STRUCTURAL ★ STATE OF CALIFORNIA

Sheet Title: **SECTIONS & DETAILS**

T M A D
TAYLOR
&GAINES

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Project No. 4205.056.02

▪ STRUCTURAL
▪ MECHANICAL
▪ ELECTRICAL
▪ CIVIL

Drawn By: VR
Checked By: EH
Date: August 24, 2009
Scale: AS NOTED
Job No. 4205.056.02

Sheet No: **S3.1**

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GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE ANY DISCREPANCIES OR CONDITIONS NOT SHOWN ON THE DRAWINGS THAT MAY EFFECT HIS BID.
2. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF REGARDING ANY AND ALL PECULIARITIES AND LIMITATIONS OF THE SPACE AVAILABLE FOR THE INSTALLATION OF ALL WORK AND MATERIALS HEREINAFTER SPECIFIED.
3. THE CONTRACTOR SHALL NOT FABRICATE ANY DUCTWORK & PIPING UNTIL HE HAS VERIFIED IN THE FIELD THAT THE SHOWN DUCTWORK CAN BE INSTALLED IN ALLOCATED SPACE.
4. CONTRACTOR SHALL COORDINATE ALL DUCT & PIPING LOCATIONS WITH ELECTRICAL, STRUCTURAL, AND OTHER TRADES.
5. MAINTENANCE LABEL SHALL BE AFFIXED TO THE MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S REFERENCE.
6. ANCHORAGE OF PIPING, DUCTWORK AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS", SECOND EDITION–FEBRUARY, 1998 PUBLISHED BY SMACNA, "B–LINE SEISMIC RESTRAINT MANUAL", OSHPD PRE–APPROVAL NO. 0114 OR ANY DSA PRE–APPROVED SYSTEM.
7. DUCT AND PIPING INSULATION SHALL HAVE A FLAME–SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
8. FLEXIBLE DUCT/INSULATION ASSEMBLY SHALL MEET THE STATE FIRE MARSHAL REQUIREMENTS FOR FLAME SPREAD AND SMOKE DEVELOPED RATING.
9. CONTRACTOR SHALL COORDINATE ALL FLOOR AND SHAFT OPENINGS. HOUSEKEEPING PAD SIZING REQUIREMENTS AS PER MECHANICAL DRAWINGS OR AS REQUIRED PRIOR TO CONSTRUCTION. FAILURE TO DO THIS WILL BE HIS RESPONSIBILITY IF THE DUCTWORK OR EQUIPMENT DOES NOT FIT.
10. PROVIDE VOLUME DAMPER ON ALL SUPPLY AND EXHAUST BRANCH DUCTWORK.
11. COORDINATE ALL THERMOSTAT LOCATIONS WITH WORK OF OTHER TRADES AND CLEAR ALL OBSTRUCTION TO THERMOSTAT. THERMOSTATS SHALL BE LOCATED MINIMUM 44" A.F.F. IN ACCORDANCE WITH ADA REQUIREMENTS.
12. ALL MECHANICAL EQUIPMENT LOCATIONS, DUCT DROPS, ETC., SHALL BE AS PER MECHANICAL DRAWINGS. COORDINATE WITH OTHER CONTRACTORS FOR LOCATING PADS, OPENINGS, ETC.
13. PENETRATIONS OF PIPES, CONDUITS, ETC., IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRESTOP MATERIAL SHALL BE A TESTED ASSEMBLY, APPROVED BY THE STATE FIRE MARSHAL.
14. MANUFACTURERS AND MODEL NUMBERS SHOWN ON EQUIPMENT SCHEDULES ARE THE BASIS OF DESIGN. REFER TO THE SPECIFICATIONS FOR EQUIVALENT PRODUCT SUBSTITUTES.
15. ALL HARDSCAPE AND LANDSCAPE AREAS SHALL BE RESTORED TO ORIGINAL CONDITION AFTER INSTALLATION OF UNDERGROUND WORK.
16. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES AS APPROVED BY DSA/ORS.
17. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND DSA FIELD ENGINEER.
18. A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
19. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAIL IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT WITH THE APPROVAL OF DSA REPRESENTATIVE.

EQUIPMENT ANCHORAGE NOTES

IN ACCORDANCE WITH TITLE 24, 2001 CBC SECTION 1632A AND TABLE No. 16A–O, ELEMENTS OF STRUCTURES AND THEIR ATTACHMENTS, PERMANENT NON–STRUCTURAL COMPONENTS AND THEIR ATTACHMENTS, AND THE ATTACHMENTS FOR PERMANENT EQUIPMENT SUPPORTED BY A STRUCTURE SHALL BE DESIGNED TO RESIST THE TOTAL DESIGN SEISMIC FORCES PRESCRIBED IN SECTION 1632A.2.

THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2001 CBC SECTION 1632A AND TABLE 16A–O. ANCHORAGE DETAILS FOR ROOF/FLOOR MOUNTED EQUIPMENT SHALL BE SHOWN ON PLANS.

LEGEND

SYMBOL	ABBREV.	DESCRIPTION
		BALL VALVE
		GLOBE VALVE
		BALANCING COCK
		CHECK VALVE
PRV–X		PRESSURE REDUCING VALVE
		GATE VALVE
		BUTTERFLY VALVE
		SOLENOID VALVE
		VIBRATION ABSORBER
		UNDERGROUND PIPING TRENCH
		WYE STRAINER WITH DRAIN VALVE
		THERMOMETER WELL
		PUMP
		THERMOMETER
	PRV	PRESSURE RELIEF VALVE WITH DISCHARGE TO FLOOR SINK
EJ–X		PIPING EXPANSION JOINT
		PRESSURE GAUGE WITH GAUGE COCK
		ALIGNMENT GUIDE
		ANCHOR
MV	MV	MANUAL AIR VENT
		PLUG COCK/VALVE
		PIPING FLEXIBLE CONNECTION
TH		THERMOMETER WELL
		PETE'S PLUG
	AAV	AUTOMATIC AIR VENT WITH DISCHARGE TO FLOOR SINK
	TEMP.	TEMPERATURE
	TYP.	TYPICAL
	AFF	ABOVE FINISHED FLOOR
	POR	POINT OF REMOVAL
	POC	POINT OF CONNECTION
	A.D.	ACCESS DOOR
	UTR	UP THROUGH ROOF
	DTR	DOWN THROUGH ROOF
	UTF	UP THROUGH FLOOR
XX / X		EQUIPMENT NUMBER
		GAGE
		EXISTING PIPING/COMPONENT TO BE REMOVED OR ABANDONED
CHS	CHS	CHILLED WATER SUPPLY
CHR	CHR	CHILLED WATER RETURN
HWS	HWS	HEATING HOT WATER SUPPLY
HWR	HWR	HEATING HOT WATER RETURN
MU	MU	MAKE–UP WATER
D	D	DRAIN
ATV		ATMOSPHERIC VENT
CWS	CWS	CONDENSER WATER SUPPLY
CWR	CWR	CONDENSER WATER RETURN
R		PITCH OF PIPE, RISE(R); DROP(D)
		UNDERGROUND PIPING VALVE VAULT
FCV		FLOW CONTROL VALVE
FM		FLOW METER
		DUCT OR PIPE UP OR DOWN
		PIPE REDUCER
		RADIUS ELBOW
	GALV.	GALVANIZED
	S.P.	STATIC PRSSURE
	DIA.	ROUND(DIAMETER)
	B.O.P	BOTTOM OF PIPE
	R OR RET.	RETURN
	S OR SUPP.	SUPPLY
	TH.	THROAT
	FM	FLOW METER
	TCV	TEMPERATURE CONTROL VALVE (2 OR 3 WAY)

CODE ANALYSIS

CONFORM WITH REQUIREMENTS OF ALL APPLICABLE BUILDING CODES AND AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER MECHANICAL INSTALLATION.

+ 2001 CALIFORNIA BUILDING CODE, VOLUMES 1 AND 2 (PART 2, TITLE 24, CCR) (1997 EDITION UNIFORM BUILDING CODE WITH 2001 CALIFORNIA AMENDMENTS)
+ 2001 CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24, CCR) (1997 EDITION UNIFORM MECHANICAL CODE WITH 2001 CALIFORNIA AMENDMENTS)
+ 2001 CALIFORNIA FIRE CODE (PART 9, TITLE 24, CCR)
+ 2001 CALIFORNIA PLUMBING CODE (PART 5, TITLE 24, CCR) (1997 EDITION UNIFORM PLUMBING CODE WITH 2001 CALIFORNIA AMENDMENTS)
+ NATIONAL FIRE PROTECTION ASSOCIATION'S – NATIONAL FIRE CODE
+ 2004 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR)

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

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Sheet Title:
LEGEND, GENERAL NOTES AND CODE ANALYSIS

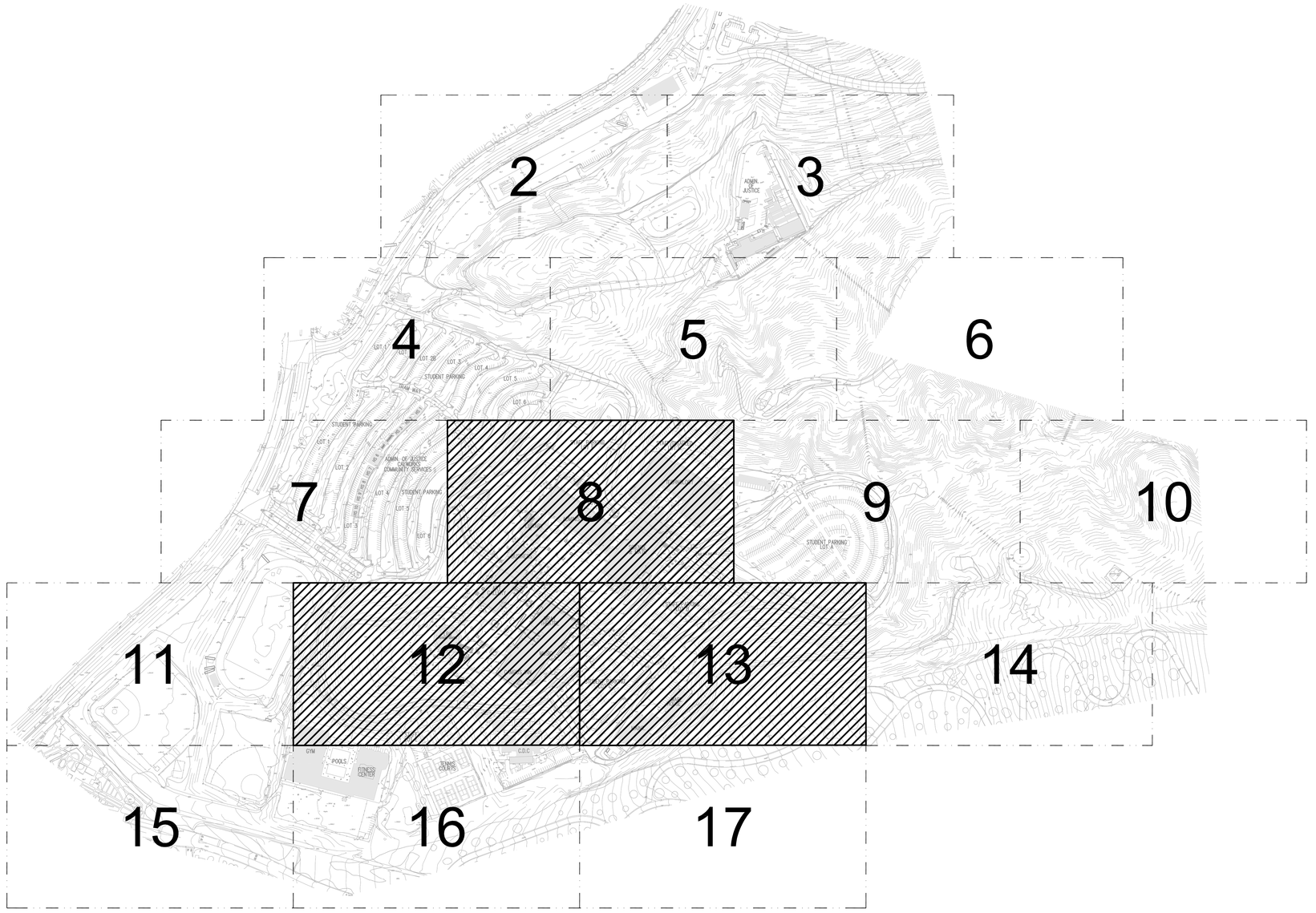
TMAD TAYLOR & GAINES
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▪ MECHANICAL
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Sheet Title:
EXISTING SITE KEY PLAN

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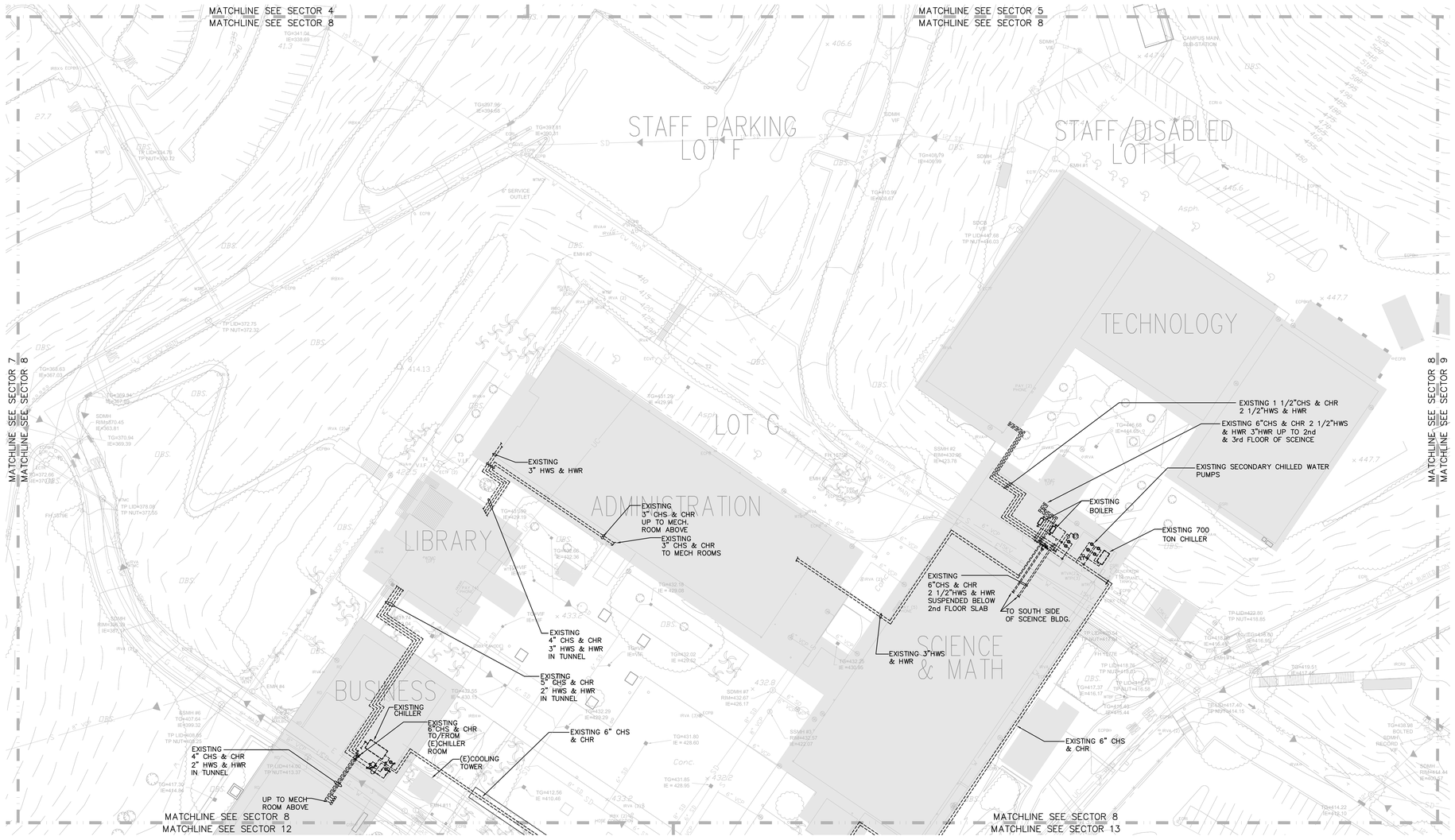
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EXISTING SITE KEY PLAN 1"=200'-0" 1

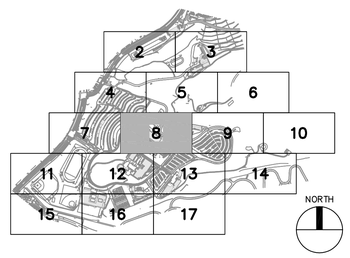
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KEY NOTES

NORTH

PARTIAL SITE EXISTING PLAN - SECTOR 8 | 1"=40'-0" | 1



KEY PLAN

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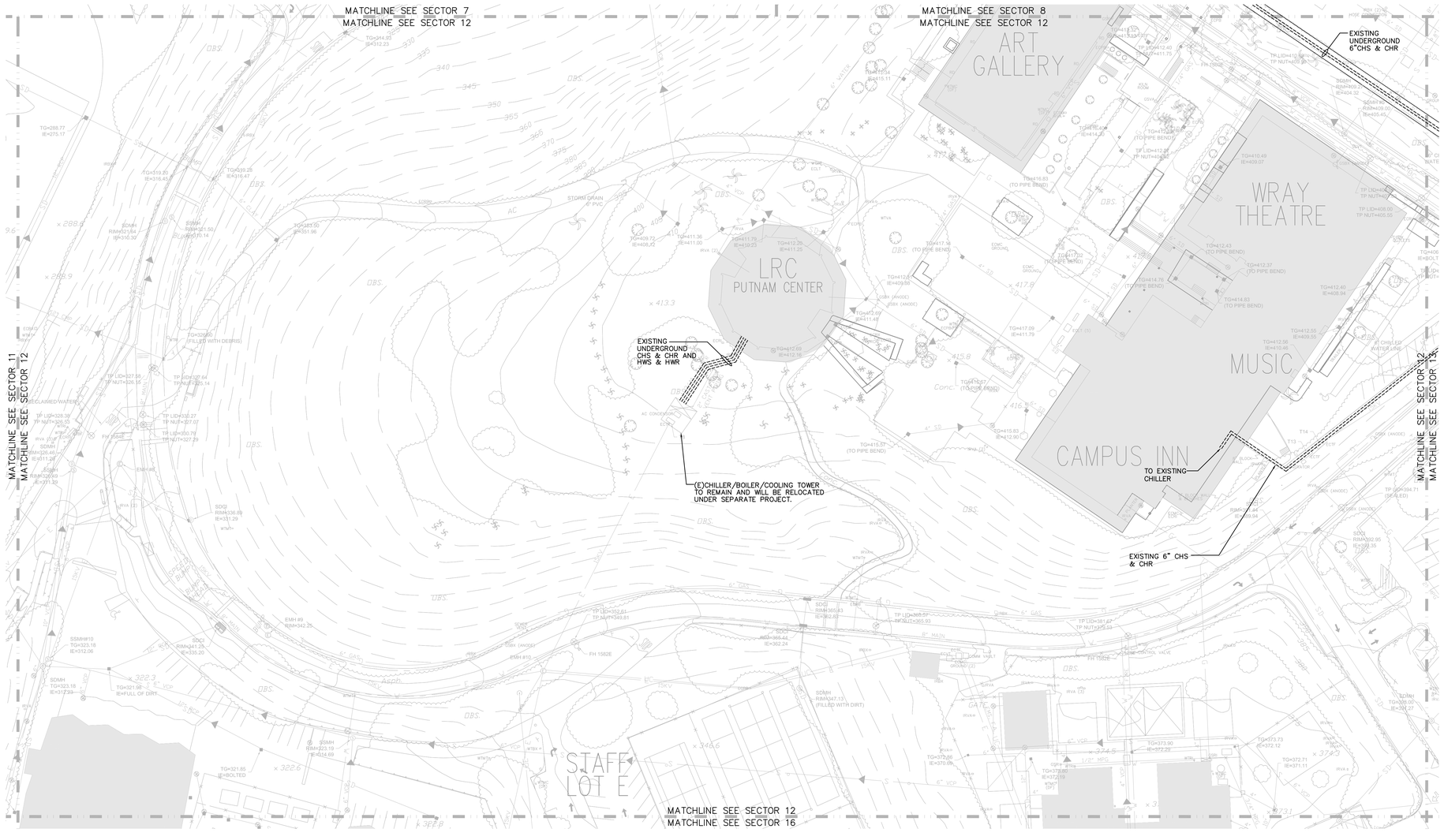
TMAD TAYLOR &GAINES
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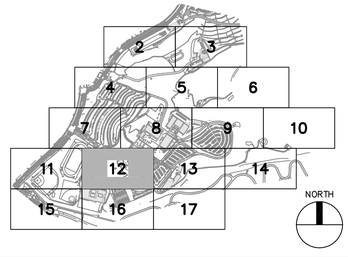
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TMAD TAYLOR &GAINES
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KEY PLAN

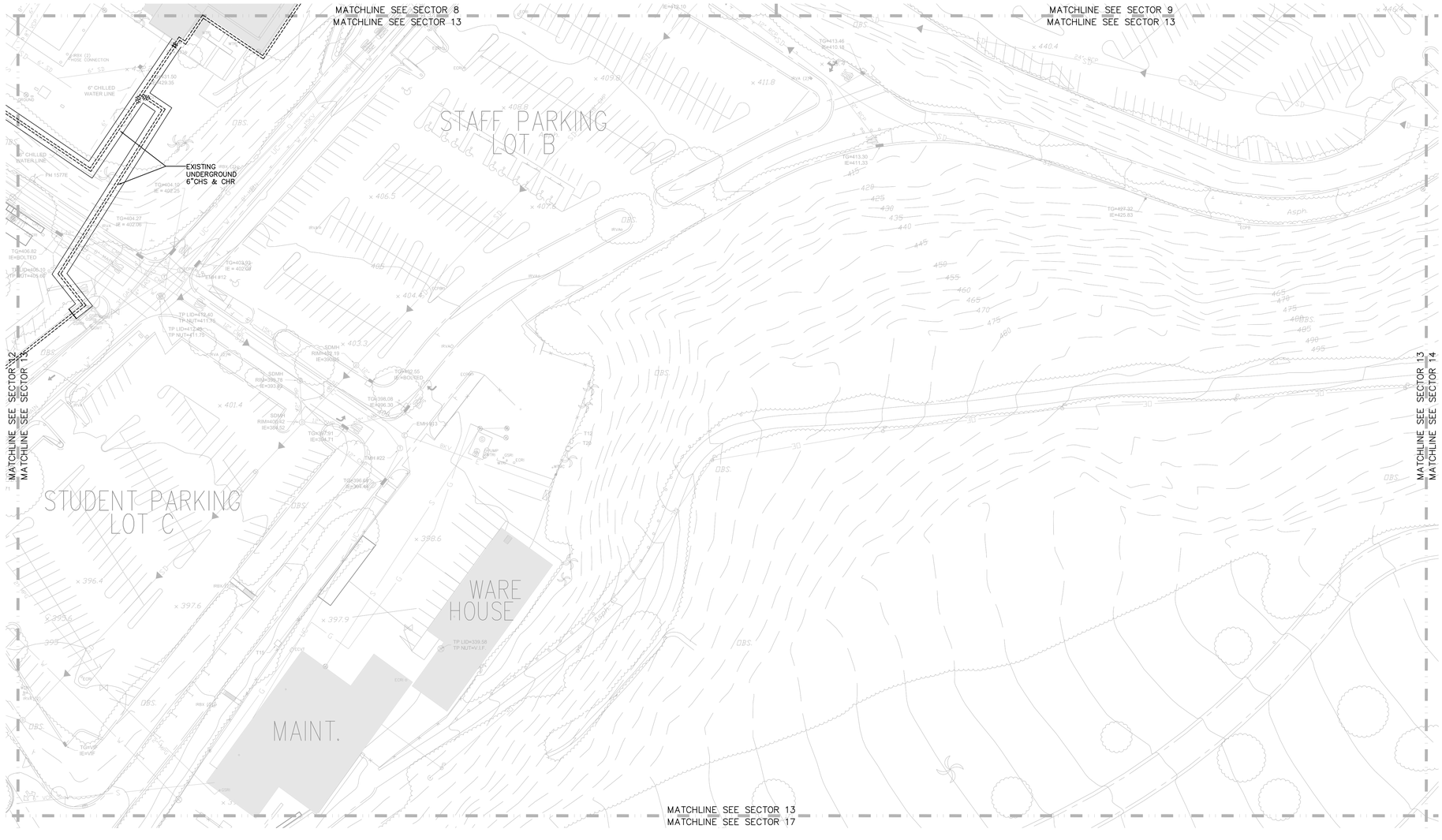
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PARTIAL SITE EXISTING PLAN - SECTOR 12

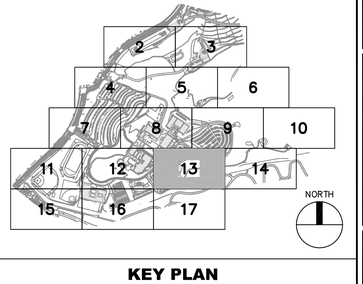
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KEY NOTES



KEY PLAN

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PARTIAL SITE EXISTING PLAN - SECTOR 13 | 1"=40'-0" | 1

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PARTIAL SITE EXISTING PLAN - SECTOR 13

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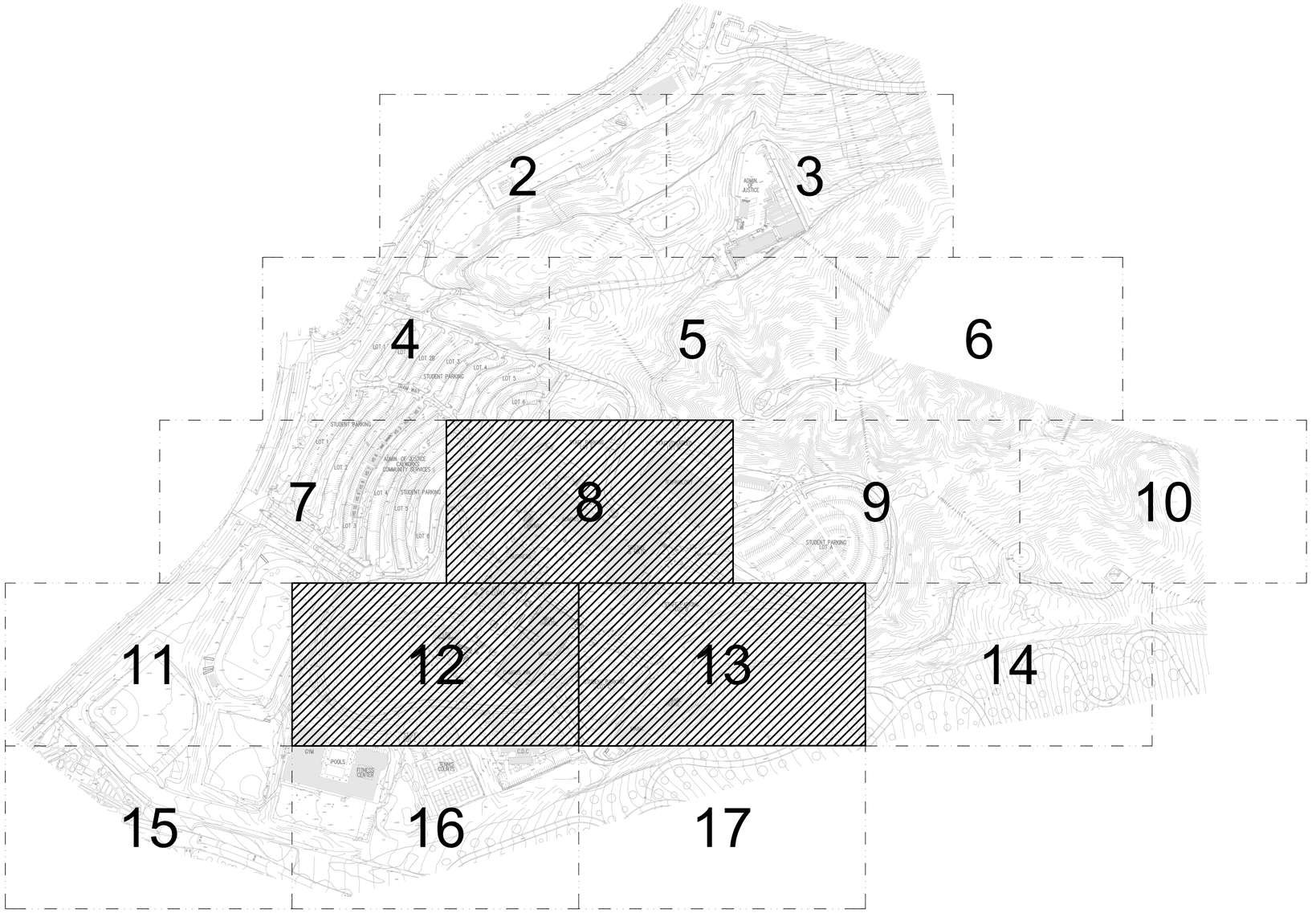
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KEY NOTES



NORTH

REMODEL SITE KEY PLAN | 1"=200'-0" | 1

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Sheet Title: **REMODEL SITE KEY PLAN**

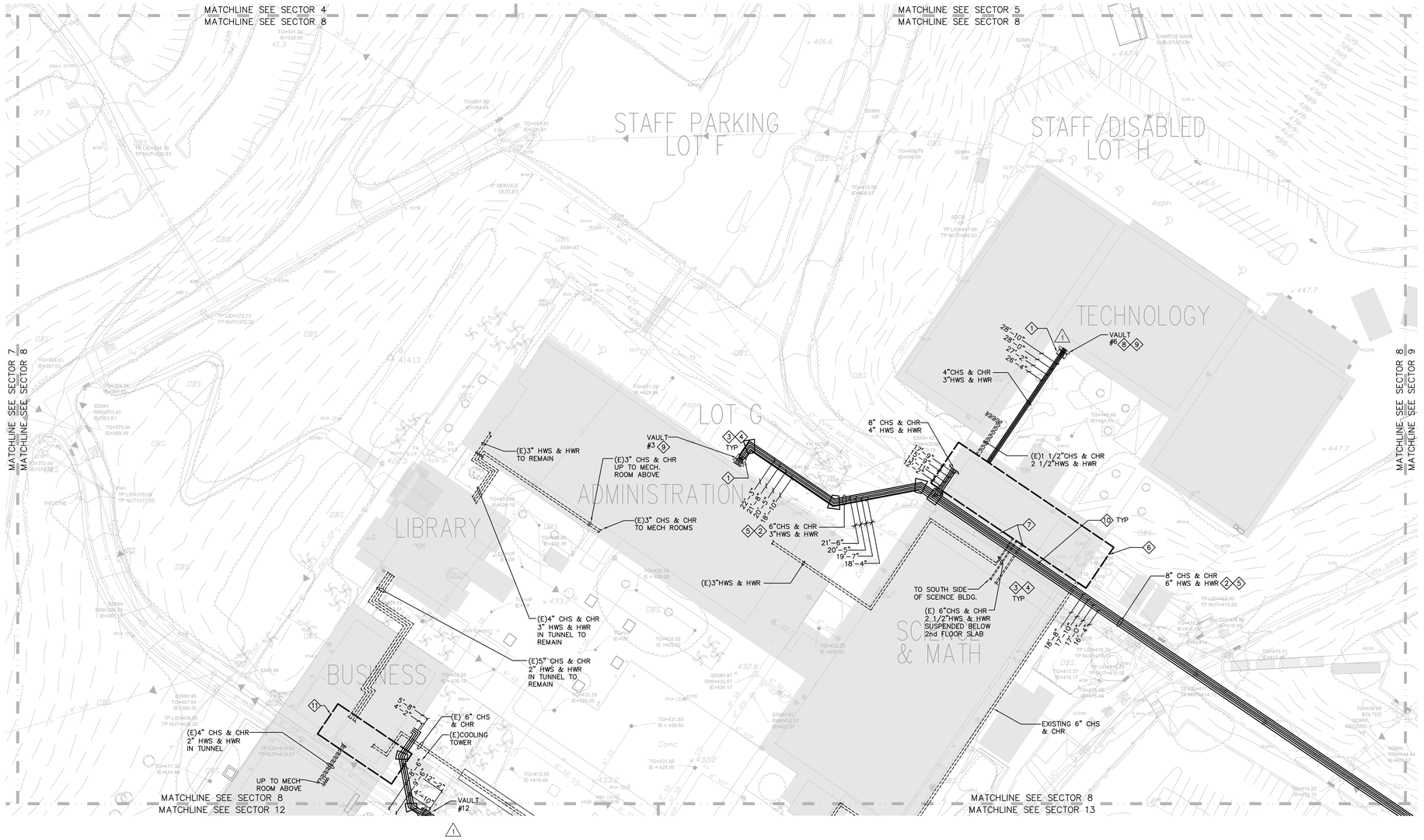
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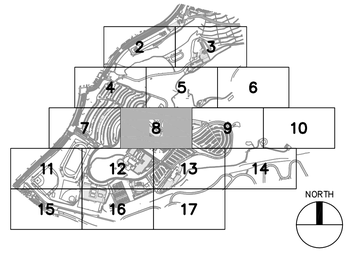
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KEY NOTES

1. VALVE VAULT– SEE DETAIL 1 ON SHEET M3.1
2. UNDERGROUND PIPING, SEE DETAIL 2 ON SHEET M3.1 TYP
3. INSTALL THRUST BLOCKS WHERE THE PIPE CHANGES DIRECTION SUCH AS AT ELLS & TEES, OR CHANGES SIZE, OR AT VALVES. THE DRAWING SHOWS THRUST BLOCK DIAGRAMMATICALLY
4. FOR THRUST BLOCK SIZES, SEE DETAIL 9 ON SHEET M3.1
5. NORTH DRIVE IS EXTREMELY CONGESTED WITH EXISTING UTILITIES. EXTREME CARE SHALL BE TAKEN DURING EXCAVATION. BASED ON POT HOLING INFORMATION, NEW PIPING AND CONDUITS ARE EXPECTED TO BE ROUTED FROM 6'–0" TO 10'–0" BELOW EXISTING GRADE AND BELOW MOST EXISTING UTILITIES. SUPPORT EXISTING UTILITIES AS NECESSARY DURING EXCAVATION
6. FOR WORK IN THIS AREA SEE ENLARGED PLAN 1 ON SHEET M3.3
7. REMOVE EXISTING CONCRETE BLOCK AND SOLID ROCK TO CLEAR NEW PIPING AND CONDUIT TRENCHES
8. VERIFY THE WATER FLOW DIRECTION PRIOR TO MAKING A CONNECTION
9. INSTALL A DIFFERENTIAL PRESSURE SENSOR PER DETAIL 4 ON SHEET M3.1, CONTROL CONTRACTOR (CLIMATEC) SHALL FURNISH AND INSTALL THE CONTROL WIRING FROM VAULT #3, TO COMM. MANHOLE #2, AND TO BE ROUTED BACK TO THE NEW CENTRAL PLANT. REFER TO SHEET E2.5 FOR THE UNDERGROUND CONDUIT ROUTING TO COMM. MANHOLE #2.
   TYPICAL FOR VAULT #9: CONTROL CONTRACTOR, CLIMATEC SHALL FURNISH AND INSTALL THE CONTROL CONDUIT FROM COMM. MANHOLE #16, ROUTED BACK TO THE NEW CENTRAL PLANT.
10. DEMO EXISTING WALKWAY, CURB, ROAD, ETC. AND REBUILD TO MATCH EXISTING CONDITION
11. FOR WORK IN THIS AREA SEE ENLARGED PLAN 2 ON SHEET M3.3

PARTIAL SITE REMODEL PLAN - SECTOR 8 | 1"=40'-0" | 1



KEY PLAN

NORTH

Revisions:	
No:	Date:
1	IB #1 8–6–07
6	CD #6 3–16–09

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Sheet Title: **PARTIAL SITE REMODEL PLAN - SECTOR 8**

T M A D
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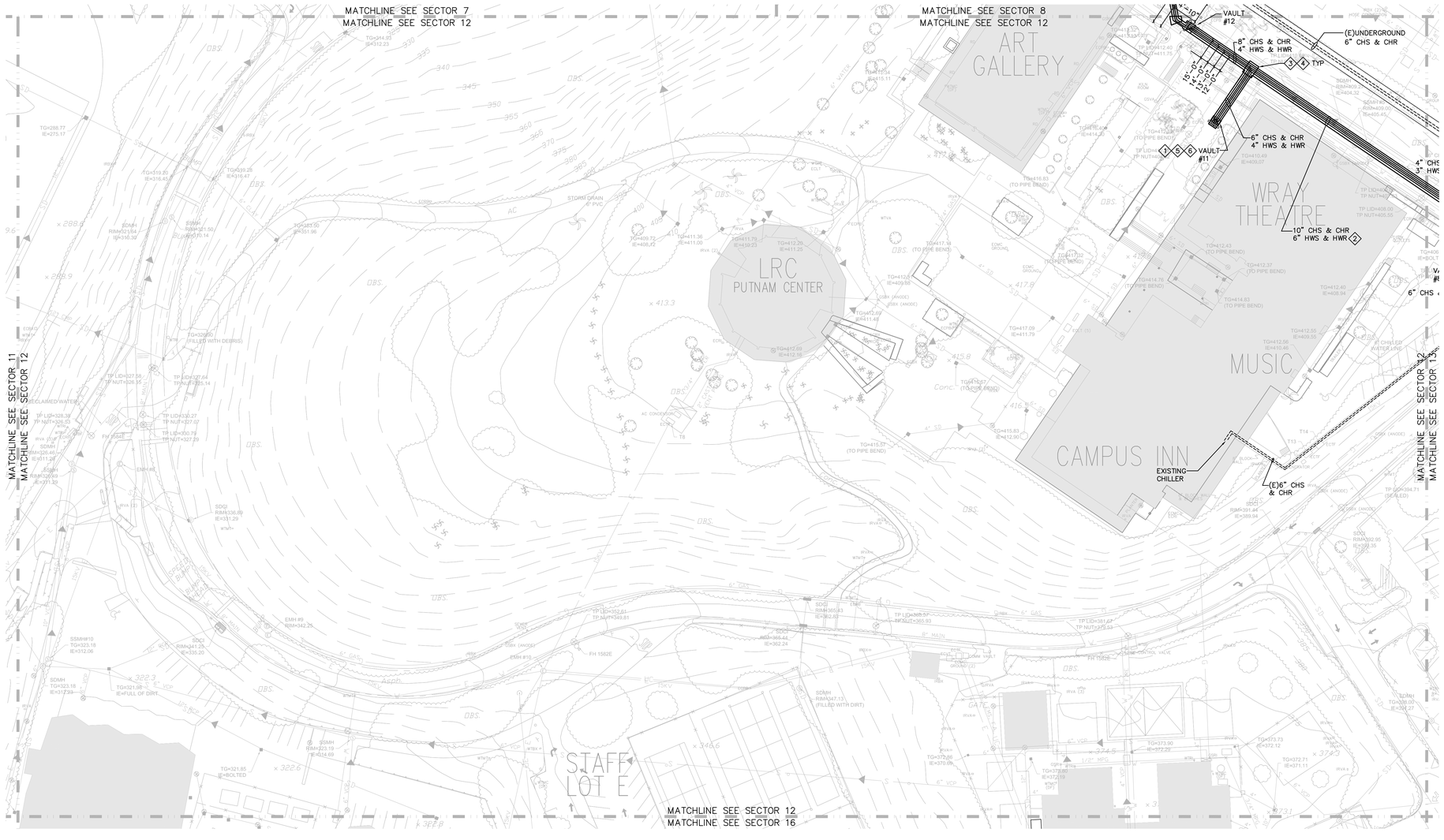
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Date:	August 24, 2009
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Sheet No: **M2.1**

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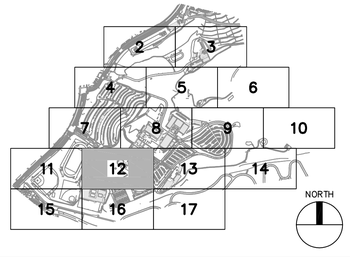


KEY NOTES

1. VALVE VAULT– SEE DETAIL 1 ON SHEET M3.1, TYP
2. UNDERGROUND PIPING, SEE DETAIL 2 ON SHEET M3.1 TYP.
3. INSTALL THRUST BLOCKS WHERE THE PIPE CHANGES DIRECTION SUCH AS AT ELLS & TEES, OR CHANGES SIZE, OR AT VALVES. THE DRAWING SHOWS THRUST BLOCK DIAGRAMMATICALLY.
4. FOR THRUST BLOCK SIZES, SEE DETAIL 9 ON SHEET M3.1
5. FOR VALVE VAULT PIPING, SEE DETAIL 7 ON SHEET M3.1
6. VERIFY THE WATER FLOW DIRECTION PRIOR TO MAKING A CONNECTION.
7. INSTALL A DIFFERENTIAL PRESSURE SENSOR PER DETAIL 4 ON SHEET M3.1

NORTH

PARTIAL SITE REMODEL PLAN - SECTOR 12 | 1"=40'-0" | 1



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1 IB #1	8-6-07

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Sheet Title: **PARTIAL SITE REMODEL PLAN - SECTOR 12**

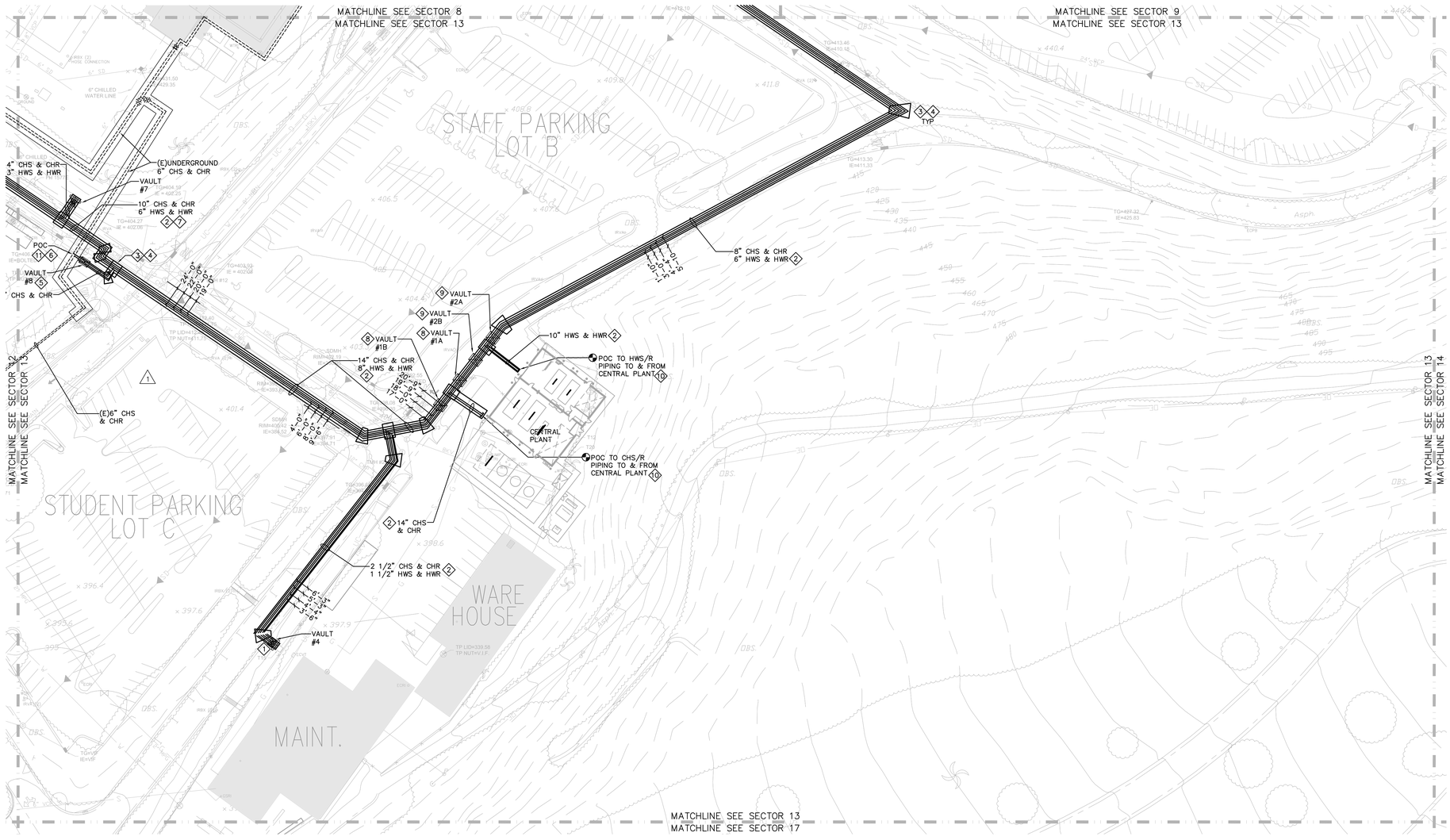
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Checked By:	C.R.
Date:	August 24, 2009
Scale:	AS NOTED
Job No.	2005.061.00

Sheet No: **M2.2**

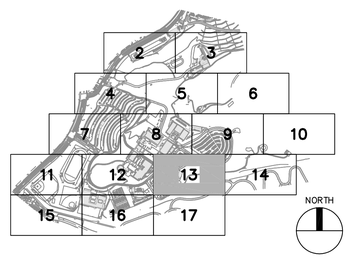
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KEY NOTES

1. VALVE VAULT– SEE DETAIL 1 ON SHEET M3.1, TYP
2. UNDERGROUND PIPING, SEE DETAIL 2 ON SHEET M3.1 TYP
3. INSTALL THRUST BLOCKS WHERE THE PIPE CHANGES DIRECTION SUCH AS AT ELLS & TEES, OR CHANGES SIZE, OR AT VALVES. THE DRAWING SHOWS THRUST BLOCK DIAGRAMMATICALLY
4. FOR THRUST BLOCK SIZES, SEE DETAIL 9ON M3.1
5. FOR VALVE VAULT PIPING, SEE DETAIL 8 ON SHEET M3.1
6. SEE DETAIL 4 ON SHEET M3.2 FOR NEW PIPING CONNECTION AT THIS LOCATION
7. EXTENSIVE SHORING REQUIRED FOR PIPE AND CONDUIT INSTALLATION ABOVE CENTRAL DRIVE
8. VALVE VAULT WITH BALLCENTRIC PLUG VALVE IN CHILLED WATER LINES SEE DETAIL 5 ON SHEET M3.1
9. VALVE VAULT WITH BALLCENTRIC PLUG VALVE IN HOT WATER LINES SEE DETAIL 6/M3.1
10. FOR CONTINUATION, SEE SHEET M2.1 CENTRAL PLANT
11. VERIFY THE WATER FLOW DIRECTION PRIOR TO MAKING A CONNECTION

NORTH



KEY PLAN

PARTIAL SITE REMODEL PLAN - SECTOR 13 | 1"=40'-0" | 1

Revisions:	
No:	Date:
1	IB #1 8-6-07

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

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Sheet Title:
PARTIAL SITE REMODEL PLAN - SECTOR 13

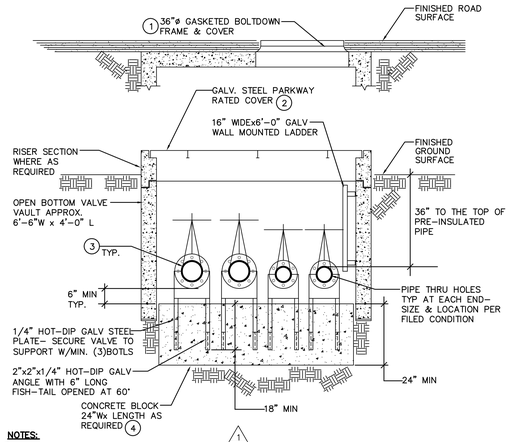
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Sheet No:
M2.3

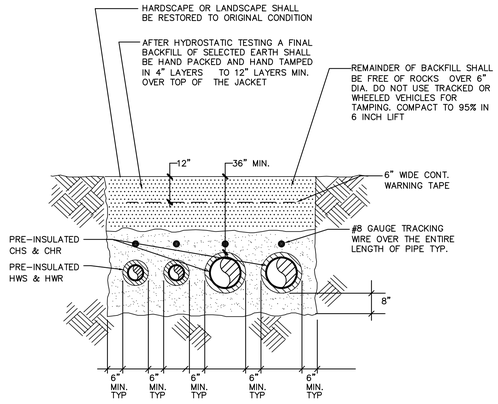
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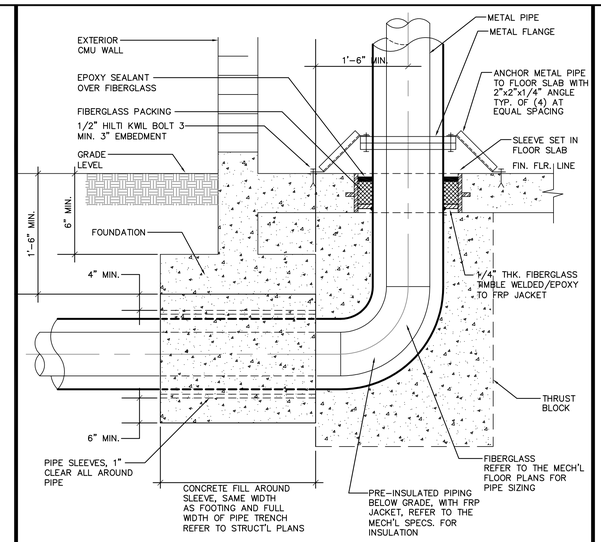
NOTES:

1. APPLY TO THE VALVE VAULT IN DRIVE ROAD. VAULTS AND COVERS IN ROADWAYS TO BE TRAFFIC RATED
2. APPLY TO THE VALVE VAULT IN OPEN FIELD.
3. OFFSET THE VALVES LOCATION TO GAIN THE ACCESS SPACE IN THE VAULT.
4. BLOCKS SHOULD BE POURED UNDER VALVES WITH THE NECESSARY STEEL THAT CAN BE CONNECTED TO THE VALVE- THIS SUPPORTS THE WEIGHT OF THE VALVE & PREVENTS ANY TORQUE OR TWISTING ACTION CAUSED BY OPENING & CLOSING OF THE VALVE

VALVE VAULT DETAIL | NTS | 1

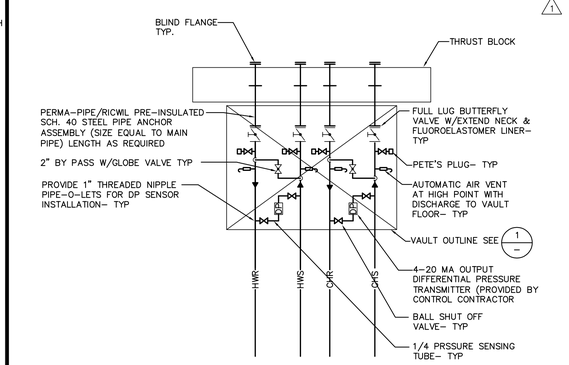


UNDERGROUND PIPING DETAIL | NTS | 2



NOTE: REFER TO STRUCTURAL DETAIL-8 OF SHEET S1.1 FOR FURTHER INFORMATION REGARDING PENETRATIONS THRU FOOTINGS.

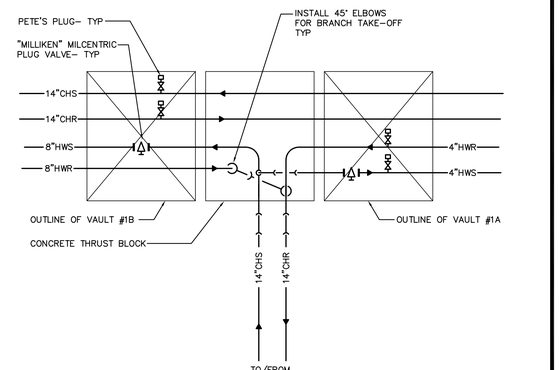
PIPE PENETRATION THRU FOOTING AND FLOOR DET. | NTS | 3



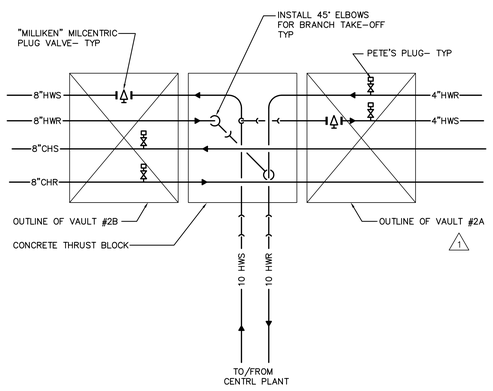
NOTE:

1. TYPICAL FOR VAULT #6. SEE FLOOR PLAN FOR EXACT PIPE SIZES AND WATER FLOW DIRECTION IN INDIVIDUAL VAULT
2. ALL FERREOUS DEVICES, PARTS OR ELEMENTS SHALL BE HOT-DIP GALVANIZED

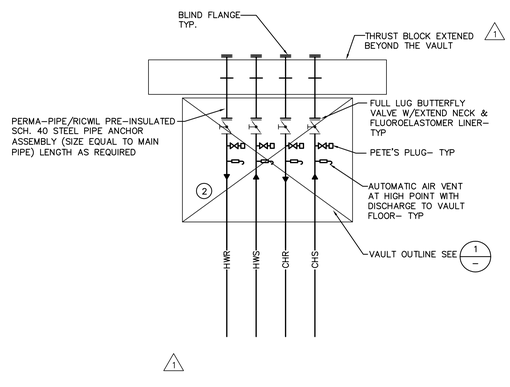
VAULT #3 PIPING DIAGRAM | NTS | 4



VAULT #1A AND #1B PIPING DIAGRAM | NTS | 5



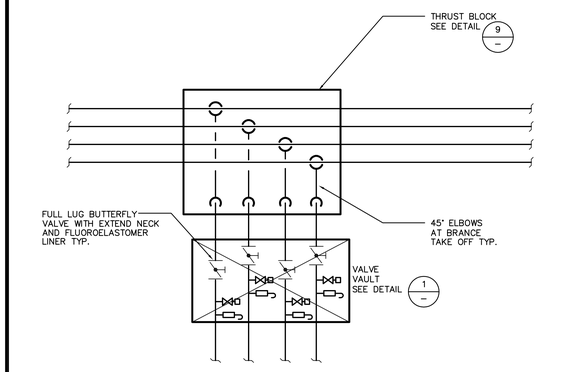
VAULT #2A AND #2B PIPING DIAGRAM | NTS | 6



NOTE:

1. TYPICAL FOR VAULT #6, #7, #4 AND #11. SEE M2.1, M2.2 AND M2.3 FOR EXACT PIPE SIZES AND WATER FLOW DIRECTION IN INDIVIDUAL VAULT
   THRUST BLOCK SIZED FOR A VAULT HAS (2)4" AND (2)6" PIPES
2. ALL FERREOUS DEVICES, PARTS OR ELEMENTS SHALL BE HOT-DIP GALVANIZED

VAULT #4 PIPING DIAGRAM | NTS | 7



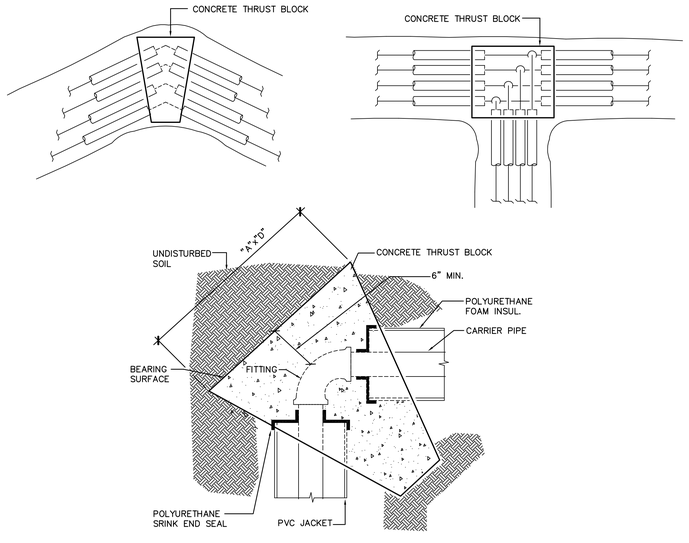
NOTE:
TYPICAL FOR VAULT #5 AND #8

T - CONNECTION | NTS | 8

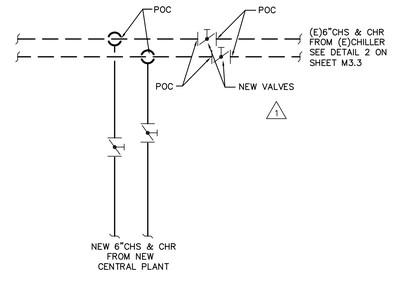
THRUST BLOCK TABLE					
PIPE SIZE	BEARING AREA (FT^2)AxD				REMARKS
	90° BENDS	45°BENDS	22.5° BENDS	DEAD ENDS & TEES	
2"	0.7 FT^2	0.4 FT^2	0.2 FT^2	0.5 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
2 1/2"	1.0 FT^2	0.6 FT^2	0.3 FT^2	0.7 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
3"	1.5 FT^2	0.9 FT^2	0.5 FT^2	1.1 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
4"	2.7 FT^2	1.5 FT^2	0.8 FT^2	1.9 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
6"	5.4 FT^2	3.0 FT^2	1.5 FT^2	3.8 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
8"	9.3 FT^2	5.1 FT^2	2.6 FT^2	6.6 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA
10"	15.2 FT^2	8.3 FT^2	4.2 FT^2	10.8 FT^2	THE BEARING AREA INDICATED IS FOR SINGLE PIPE ONLY. FOR MORE THAN ONE PIPE THE TOTAL BEARING AREA SHALL EQUAL TO NO. OF PIPES TIMES SINGLE PIPE BEARING AREA

NOTES:

1. THE THICKNESS (D) OF THE CONCRETE BLOCK MUST ENCASE A MIN. OF 6" OF THE OUTER JACKET TOP AND BOTTOM WITH CONCRETE
2. REFER TO THRUST BLOCK TABLE FOR MIN. THRUST BLOCK SIZE REQUIREMENT
3. THE BEARING SURFACE MUST REST DIRECTLY AGAINST UNDISTURBED SOIL
4. THE BLOCK BEARING SURFACE MUST BE PERPENDICULAR TO THE RESULTANT DIRECTION OF THE THRUST



THRUST BLOCK DETAIL | NTS | 9



PIPING CONNECTION AT BUSINESS BUILDING | NTS | 10

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No:	Date:
1	IB #1 8-6-07

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

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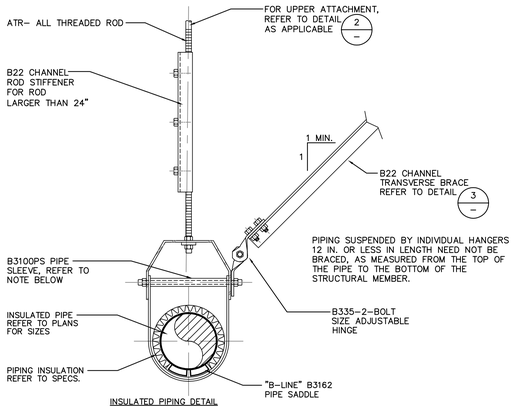
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Sheet No: **M3.1**

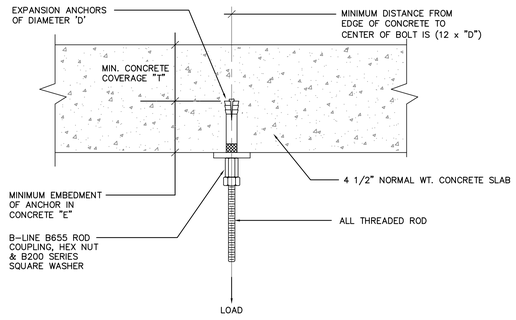
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INSULATED PIPING DETAIL

NOTE ON INSULATED PIPING:
ON TRANSVERSE BRACING, PIPE INSULATION MATERIAL MAY BE PART OF THE BRACE ASSEMBLY IN THE LOAD PATH. IN THIS CASE, INSULATING MATERIAL SHALL BE CAPABLE OF WITHSTANDING LATERAL FORCES WITHOUT DAMAGE AND SHALL INCLUDE A PIPE SHIELD FOR HANGERS OR A PIPE SADDLE FOR ROLLERS. FOR LONGITUDINAL BRACING, CLAMPING MUST BE APPLIED DIRECTLY TO PIPE WITH ANY INSULATION BEING APPLIED OVER HANGER AND BRACE ASSEMBLY. (EXCERPT FROM NOTE Q OF PAGE 10, B–LINE SEISMIC RESTRAINTS MANUAL, OPA–0114)

CLEVIS PIPE SUPPORT DETAIL | NTS | 1



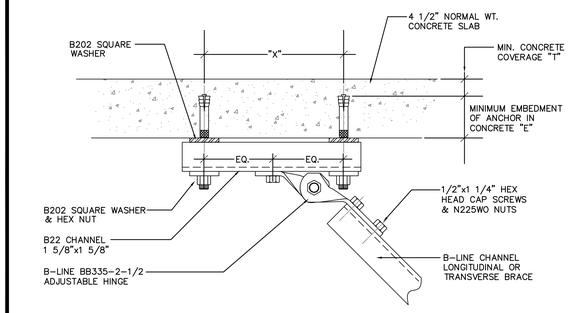
LIGHT WEIGHT CONCRETE

DIAMETER 'D'		ALLOWABLE LOAD (IN TENSION)		MINIMUM EMBEDMENT 'E'		MINIMUM CONCRETE COVERAGE "T"	
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
3/8"	(9)	395	(1.75)	2 1/4"	(57.1)	3/4"	(19)

*HILTI KWIK BOLT III IN 3000 PSI (20.7 MPA) MINIMUM LIGHT WEIGHT CONCRETE

NOTE:
1. DETAIL EXCERPT FROM B–LINE SEISMIC RESTRAINT MANUAL, SRS–02, PAGE 40 (OPA–0114).

ATR ATTACHMENT DETAIL | NTS | 2

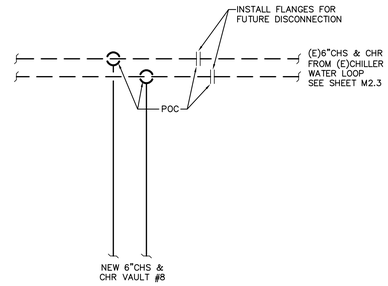


STRUCTURE CONNECTION TYPE	LOAD		ANCHOR BOLT DIAMETER "D"		MINIMUM EMBEDMENT "E"		MINIMUM DISTANCE BET. ANCHORS "X"		MINIMUM CONRETE COVERAGE "T"	
	LBS.	(KN)	IN.	(MM)	IN.	(MM)	IN.	(MM)	IN.	(MM)
I, II, II, IV	675	(3.00)	3/8"	(9)	2 1/2"	(63)	5"	(127)	3/4"	(19)

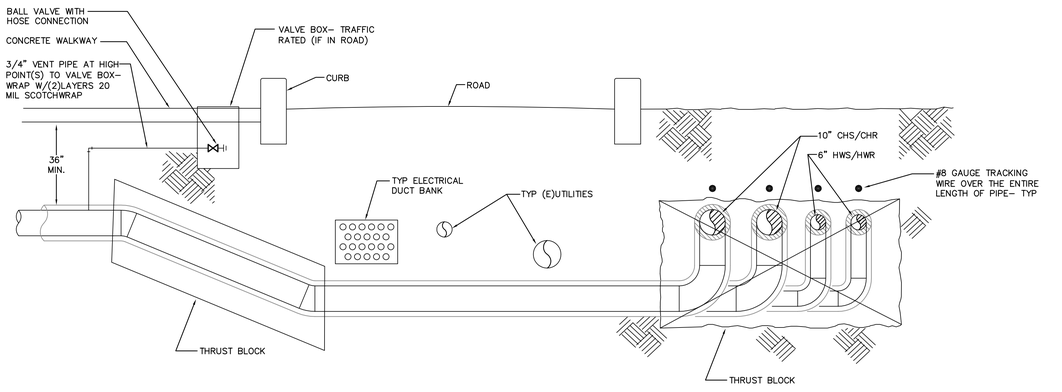
*HILTI KWIK BOLT 3 IN 3000 PSI (20.7MPA) NORMAL WEIGHT CONCRETE.
NOTE: 24" (609 MM) MAXIMUM DISTANCE BETWEEN ANCHORS

NOTE: DETAIL EXCERPT FROM B–LINE SEISMIC RESTRAINT MANUAL, SRS–02, PAGE 26 (OPA–0114).

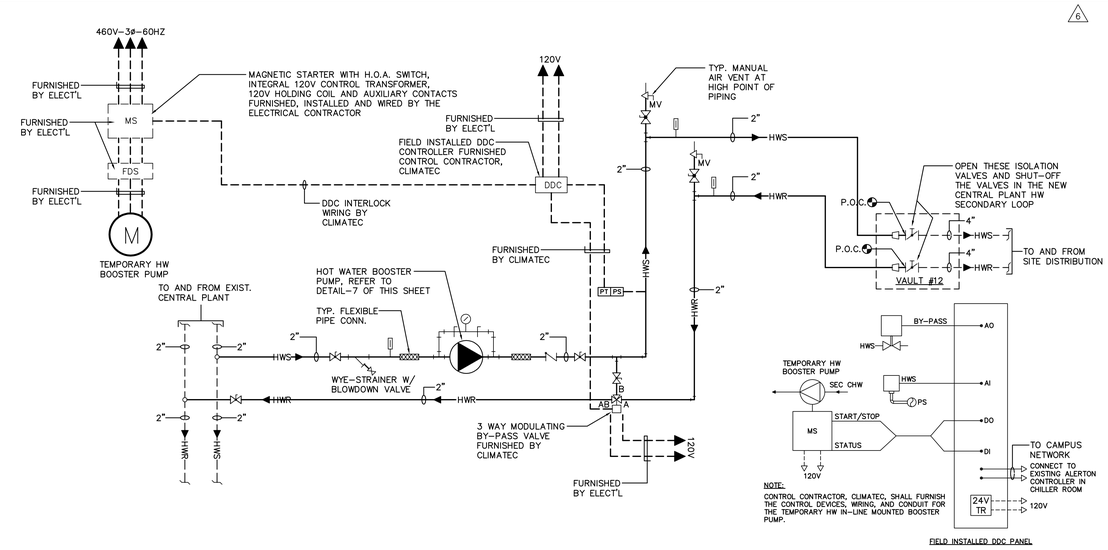
BRACING UPPER ATTACHMENT DETAIL | NTS | 3



PIPING CONNECTION AT CENTRAL PLANT | NTS | 4



TYPICAL PIPE ROUTING CROSSING EXISTING UTILITIES | NTS | 5



NOTE:
CONTROL CONTRACTOR, CLIMATEC, SHALL FURNISH THE CONTROL DEVICES, WIRING, AND CONDUIT FOR THE TEMPORARY HW IN–LINE MOUNTED BOOSTER PUMP.

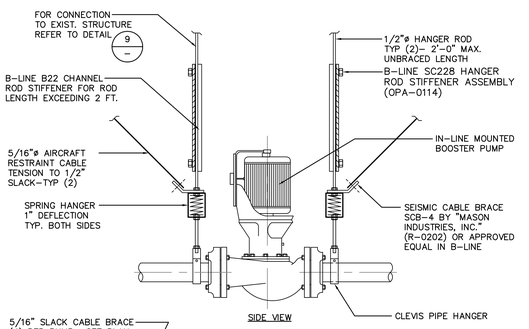
FIELD INSTALLED DDC PANEL

LRC BUILDING TEMPORARY HW BOOSTER PUMP DETAIL | NTS | 6

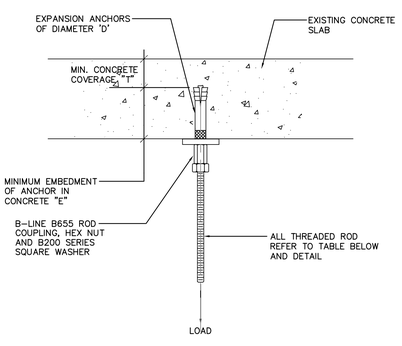
IN-LINE CENTRIFUGAL PUMP SCHEDULE

MANUFACTURER AND MODEL NO.	PUMP TYPE	LOCATION	SYSTEM SERVED	FLOW GPM	TOTAL HEAD FT.	EFFICIENCY	MOTOR DATA			PUMP INLET SIZE	PUMP OUTLET SIZE	PUMP MOTOR FLA	OPERATING WEIGHT, LBS.	MOUNTING DETAIL	REMARKS
							MIN. H.P.	RPM	V–ø–HZ						
BELL & GOSSETT SERIES 80 1–1/2x1–1/2x9–1/2	IN–LINE MOUNTED CENTRIFUGAL	EXIST. CHILLER ROOM BUSINESS BLDG.	HOT WATER	46	55	49.1	2.0	1750	460–3–60	1 1/2"	1 1/2"	2.8	185	9	

EQUIPMENT SCHEDULE | NTS | 7



IN-LINE PUMP MOUNTING DETAIL | NTS | 8



DIAMETER 'D'		ALLOWABLE LOAD (IN TENSION)		MINIMUM EMBEDMENT 'E'		MIN. CONC. COVERAGE "T"	
in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
1/2"	(13)	1000	(4.45)	3 1/2"	(89)	1 1/16"	(27)

*HILTI KWIK BOLT TZ IN 3000 PSI (20.7 MPA) MINIMUM NORMAL WEIGHT CONCRETE

NOTE: DETAIL EXCERPT FROM B–LINE SEISMIC RESTRAINT MANUAL, SRS–02, PAGE 40 (OPA–0114).

ATR EXISTING SLAB ATTACHMENT DETAIL | NTS | 9

Revisions:

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1	IB #1 8–6–07
6	CD #6 3–16–09

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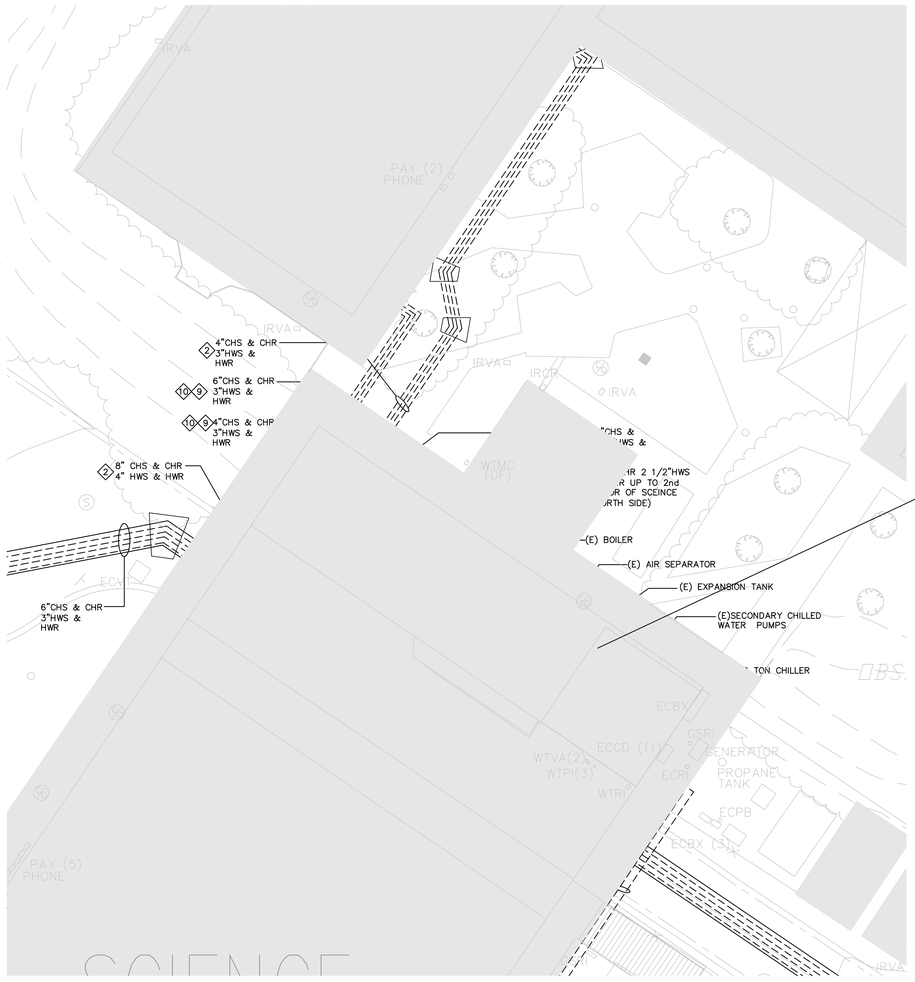
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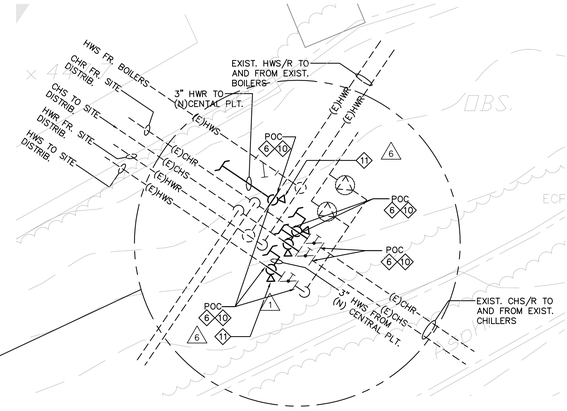
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Scale:	NONE
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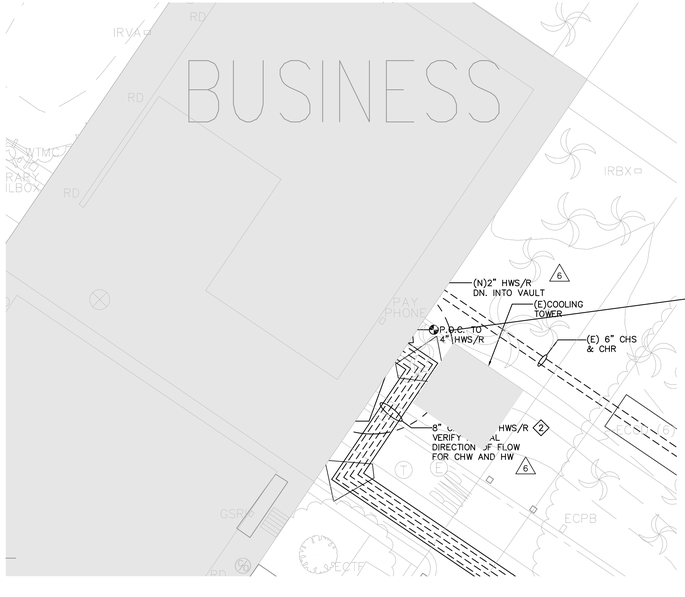
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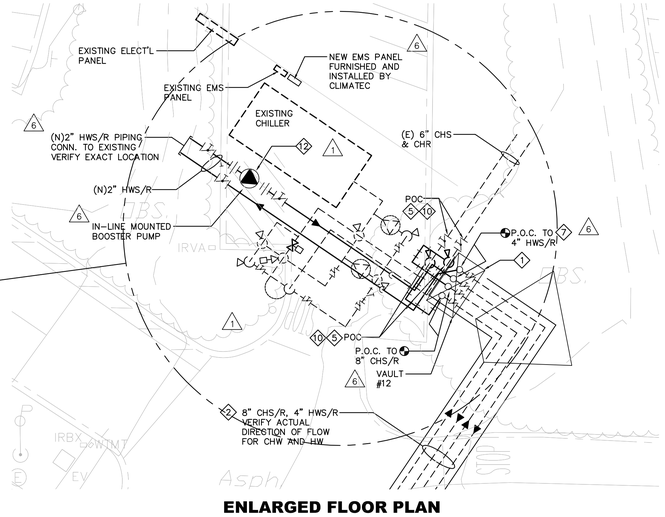


SCIENCE BUILDING-EXISTING MECHANICAL ROOM FLOOR PLAN — 1/16"=1'-0" — 1



ENLARGED FLOOR PLAN



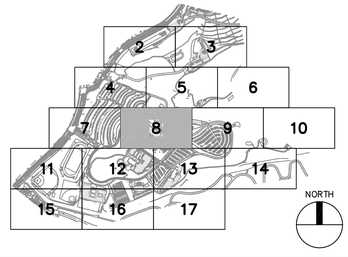


ENLARGED FLOOR PLAN

BUSINESS BUILDING-EXISTING MECHANICAL ROOM FLOOR PLAN — 1/16"=1'-0" — 2

KEY NOTES

1. VALVE VAULT– SEE DETAIL 1 ON SHEET M3.1, TYP
2. UNDERGROUND PIPING, SEE DETAIL 2 ON SHEET M3.1 TYP
3. INSTALL THRUST BLOCKS WHERE THE PIPE CHANGES DIRECTION SUCH AS AT ELLS & TEES, OR CHANGES SIZE, OR AT VALVES. THE DRAWING SHOWS THRUST BLOCK DIAGRAMMATICALLY
4. FOR THRUST BLOCK SIZES, SEE DETAIL 9 ON SHEET M3.1
5. INSTALL A SHUT–OFF VALVE IN THE NEW AND THE EXISTING PIPE LINES FOR SWITCHING SERVICE BETWEEN THE NEW AND THE EXISTING CENTRAL PLANT. SEE DETAIL 10 ON SHEET M3.1
6. INSTALL A SHUT–OFF VALVE IN THE NEW AND THE EXISTING PIPE LINES FOR SWITCHING SERVICE BETWEEN THE NEW AND THE EXISTING CENTRAL PLANT
7. OPEN THE 4" HWS & HWR BLIND FLANGES AND CONNECT THE NEW 2" HWS/R TO AND FROM BOOSTER PUMP
8. SEE DETAIL 3 ON SHEET M3.1 FOR PIPING ENTRY BUILDING
9. SEE DETAIL 1 ON SHEET M3.2 FOR PIPING SUPPORT
10. VERIFY THE WATER FLOW DIRECTION PRIOR TO MAKING A CONNECTION
11. CLOSE–OFF THE HWS AND HWR ISOLATION VALVES TO PREVENT BACKFLOW OF HOT WATER TO THE NEW CENTRAL PLANT
12. FOR HW BOOSTER PUMP CAPACITY AND DETAILS, REFER TO DETAIL #6 AND #7 OF SHEET M3.2



KEY PLAN

Revisions:

No:	Date:
1	IB #1 8–6–07
6	CD #6 3–16–09

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Date:	August 24, 2009
Scale:	AS NOTED
Job No.	2005.061.00

Sheet No: **M3.3**

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PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
	S OR W	SOIL OR WASTE BELOW GRADE
	S OR W	SOIL OR WASTE ABOVE GRADE
	V	SANITARY VENT
SD	S.D.	STORM DRAIN ABOVE GRADE
OD	O.D.	OVERFLOW DRAIN ABOVE FLOOR
C	C.W.	COLD WATER
G3	G3	GAS SERVICE INE (3 PSI)
G5	G5	GAS SERVICE LINE (5 PSI)
G40	G40	GAS SERVICE LINE (40 PSI)
IG	IG	INTERUPPTABLE GAS
GM	GM	GAS MAIN
EGS	EGS	EXISTING GAS SERVICE LINE
HPG	HPG	HIGH PRESSURE GAS (40 PSI)
		DIRECTION OF FLOW
		CAP OR PLUG
	S.O.V.	SHUT OFF VALVE IN YARD BOX
	POC	POINT OF CONNECTION
	POD	POINT OF DISCONNECT
		EXISTING PIPING TO BE REMOVED

GENERAL NOTES

1. ALL BURRED ENDS OF GAS PIPING AND TUBING SHALL BE REAMED TO THE FULL BORE OF THE PIPE OR TUBE AND ALL CHIPS SHALL BE REMOVED (SEE CALIFORNIA PLUMBING CIDE, 2001 EDITION, SECTION 310.3), ADDITIONALLY, TOOLS USED IN CUTTING OR REAMING SHALL KEPT FREE FROM OIL OR GREASE AND WHERE SUCH CONTAMINATION HAS OCCURED, THE ITEMS AFFECTED SHALL REWORKED AND RINSED.

2. CONTRACTOR SHALL VERIFY EXACT LOCATION OF GAS PIPE SIZES AND ON SITE ROUTING. PRIOR TO STARTING NEW WORK.

3. SERVICE TO ALL BUILDINGS SHALL INCLUDE A SEISMIC SHUT OFF VALVE.

ABBREVIATIONS

ø	DIAMETER
&	AND
@	AT
ADA	AMERICANS WITH DISABILITIES ACT
AP	ACCESS PANEL
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
BEL	BELOW
CLG	CEILING
CONN	CONNECT OR CONNECTION
CONT	CONTINUED OR CONTINUATION
DN	DOWN
FLR	FLOOR
FU	FIXTURE UNIT(S) (CODE)
GPF	GALLONS PER FLUSH
GR	GRADE OR GROUND
HDR	HEADER
I.E.	INVERT ELEVATION
MAX	MAXIMUM
MIN	MINIMUM
OFCI	OWNER FURNISHED – CONTRACTOR INSTALLED
PSI	POUNDS PER SQUARE INCH (GAUGE)
RI&C	ROUGH IN & CONNECT
SHT	SHEET
THRU	THROUGH
TYP	TYPICAL
VTR	VENT THRU ROOF
W/	WITH

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SITE INFRASTRUCTURE - AS-BUILT DRAWINGS

3600 WORKMAN MILL ROAD
WHITTIER, CA 90601–1699

DSA FILE NO.: 19–C12
DSA APPL. NO.: 110077

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Seal

Sheet Title: **LEGEND, ABBREVIATIONS, NOTES & DRAWING LIST**

TMAD TAYLOR & GAINES

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Date:	August 24, 2009
Scale:	NONE
Job No.	2005.061.00

Sheet No:

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