WATER AND WASTEWATER SYSTEM IMPROVEMENTS

FOR

CITY OF MIAMI BEACH, FLORIDA

MAYOR
NEISEN KASDIN

CITY COMMISSIONERS

SIMON CRUZ
DAVID DERMER
SUSAN GOTTLIEB
NANCY LIEBMAN
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JOSE SMITH

CITY MANAGER
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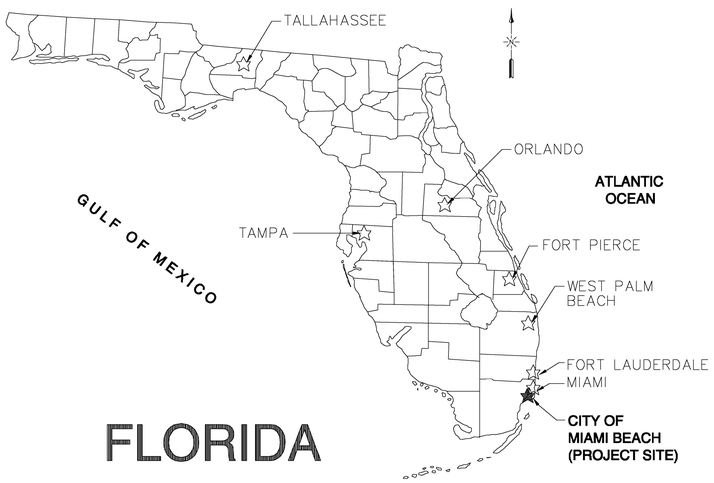

VICINITY PLAN

N.T.S.

WATER AND WASTEWATER PUMP STATIONS UPGRADES

RECORD DRAWINGS DECEMBER 2007

CAMP DRESSER & McKEE INC.

800 BRICKELL AVENUE, SUITE 710
MIAMI, FLORIDA 33131
TEL: 305-372-7171
CERT. OF AUTHORIZATION NO. 20

PROJECT NUMBER: 9381-02R

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RECORD DRAWING

THIS RECORD DRAWING HAVE BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM. THEREFORE, THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF ALL THE INFORMATION. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By _____ Date December 2007

CDM

environmental services offices worldwide CDM

DWG: L:\A381-02R\RECORDS\General\Cover.dwg USER: rumwel
DATE: Jan 04, 2008 4:29pm XREFS: RECORD_ALT C IMAGES:

#	NUMBER
&	AND
½	DIAMETER
ø	AT
A	AIR (COMPRESSED)
A, AMP	AMPERE
A/C	CONDITIONING UNIT
AA	AERATION AIR
AB	ANCHOR BOLT
ABDN	ABANDON
AC	AUTOMATIC CONTROL OR ALTERNATING CURRENT
ACCV	AUTOMATIC CONTROL CHECK VALVE
ACP	ASBESTOS CEMENT PIPE
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADDL	ADDITIONAL
ADJ	ADJUSTBLE
ADPT	ADAPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
ALT	ALTERNATE (ING)
AL, ALUM	ALUMINUM
ANOD	ANODIZE
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APPROX	APPROXIMATE (LY)
AR	ACID RESISTANT
ARCH	ARCHITECT (URAL) (URE)
ARND	AROUND
ARV	AIR RELEASE VALVE
AS	ACTIVATED SLUDGE
ASPH	ASPHALT
ASSOC	ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWL	AVERAGE WATER LEVEL
B	BRASS
B TO B	BACK TO BACK
BCV	BALL CHECK VALVE
BDD	BACKDRAFT DAMPER
BEL	BELOW
BF	BLIND FLANGE
BFP	BELT FILTER PRESS
BFV	BUTTERFLY VALVE
BGO	BURIED GEAR OPERATOR
BHP	BRAKE HORSEPOWER
BIT	BITIMUNOUS
BL	BASELINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BOW	BOTTOM OF WALL
BPRV	BACK PRESSURE REGULATING VALVE
BRG	BEARING
BSMT	BASEMENT
BSP	BLACK STEEL PIPE
BTU	BRITISH THERMAL UNIT
BTWN	BETWEEN
BUR	BUILT UP ROOF (ING)
BV	BALL VALVE
BVL	BEVEL (ED)
BWR	BACKWASH RETURN
BWS	BACKWASH SUPPLY
BYP	BYPASS
C	CHANNEL (STRUCTURAL)
CA	COMPRESSED AIR
CAD	COMPRESSED AIR, DRIED
CAP	CAPACITY
CATV	CABLE TV
CB	CATCH BASIN OR CIRCUIT BREAKER
CC	CENTER TO CENTER, COOLING COIL
CCW	COUNTER CLOCKWISE
CDT	CONDUIT
CENT	CENTRIFUGAL
CF	CUBIC FOOT
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAMF	CHAMFER
CHKD	CHECKERED
CHL	CHLORINATOR
CHR	CHLOROPRENE RUBBER (NEOPRENE)
CI	CAST IRON
CIGL	CAST IRON PIPE GLASS LINED
CIP	CAST IRON PIPE
CIR	CIRCLE
CIRC	CIRCUMFERENTIAL
CIU	CAST IRON PIPE UNLINED
CJ	CONSTRUCTION JOINT
CL	CENTER LINE
CL2	CHLORINE SYSTEM
CL2G	CHLORINE (GAS)
CL2L	CHLORINE (LIQUID)
CL2S	CHLORINE SOLUTION
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CNR	CONDENSATE RETURN
CNS	CONDENSATE SUPPLY
CO	CLEAN OUT
COL	COLUMN
COMB	COMBINATION, COMBUSTION
COMP	COMPRESSIBLE
CONC	CONCRETE
COND	CONDUCTIVITY
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRUGATED
CPLG	COUPLING
CPOL	CATIONIC POLYMER
CPP	CONCRETE PRESSURE PIPE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CRS	COURSE (S)
CS	CARBON STEEL OR CONTROL SWITCH
CSL	CONDITIONED SLUDGE
CSM	CHLORINE SULPHONILE POLYETHYLENE (HYPALON)
CSTG	CASTING
CT	CURRENT TRANSFORMER
CTG	COATING
CTJ	CONTROL JOINT
CTR	CENTER (ED)
CTSK	COUNTERSINK
CTU	CENTRAL TELEMETRY UNIT
CU	COPPER OR CUBIC
CUH	CABINET UNIT HEATER
CUP	COPPER PIPE
CV	VALVE FLOW COEFFICIENT
CV-A	CHECK VALVE (AIR CUSHION)
CV-H	CHECK VALVE (HYDRAULIC CUSHION)
CVR	CONVECTOR
CW	COLD WATER
CWO	CLEARWELL OVERFLOW
CWR	COOLING WATER RETURN
CWS	COOLING WATER SUPPLY
D	DRAIN (STRUCTURE)
DA	COMPRESSED DRIED AIR
DAF	DISSOLVED AIR FLOTATION
DB	DECIBEL OR DRY BULB
DC	DIRECT CURRENT
DCU	DISTRIBUTED CONTROL UNIT
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DG	DIGESTER GAS
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFUSER
DIGL	DUCTILE IRON GLASS LINED PIPE
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIV	DIVISION
DIW	DEIONIZED WATER
DL	DEAD LOAD
DN	DOWN
DO	DISSOLVED OXYGEN OR DITTO
DOI	DOOR INTERLOCK
DR	DRIVE
DS	DIGESTED SLUDGE
DV	DIAPHRAGM VALVE
DW	DISTILLED WATER
DWG	DRAWING
DWL	DOWEL
DWTR	DEWATER(ED)
E	EMERGENCY WATER
EA	EACH
EAT	ENTERING AIR TEMPRATURE
EC	EMPTY CONDUIT
ECC	ECCENTRIC
ED-F	EQUIPMENT DRAIN (FLUSH TYPE)
ED-O	EQUIPMENT DRAIN (EXTENDED TYPE-OPEN)
ED-S	EQUIPMENT DRAIN (EXTENDED TYPE-SEALED)
EDH	ELECTRIC DUCT HEATER
EF	EACH FACE
EFF	EFFLUENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
EGO	ELEVATED GEAR OPERATOR
EL	ELEVATION
ELEC	ELECTRIC(AL)
EMERG	EMERGENCY
ENGR	ENGINEER
ENT	ENTERING
EOP	EDGE OF PAVEMENT
EP	ELECTROPNEUMATIC OR ELECTRICAL PANEL
EPOM	ETHYLENE PROPYLENE RUBBER
EQ	EQUAL (LY)
EQIV	EQUIVALENT
EQUIP	EQUIPMENT
ES	EACH SIDE
ESMT	EASEMENT
EST	ESTIMATE (D)
ETC	ETCETERA
EVAP	EVAPORATOR (ION)
EUH	ELECTRIC UNIT HEATER
EW	EACH WAY
EXA	EXHAUST AIR
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EXTD	EXTENDED
EY	EPOXY
F	FILTRATE OR FARENHEIT
f'c	CONCRETE COMPRESSION STRESS
f'm	MASONRY PRISM STRESS
FAB	FABRICATE (OR, ED)
FAC	FACILITY OR FLANGED ADAPTOR COUPLING
FB	FLOOR BOX (BUSHING TYPE)
FBO	FURNISHED BY OTHERS
FC	FLEX CONNECTION
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDN	FOUNDATION
FE	FLOW METER
Fe CL3	FERRIC CHLORIDE
FH	FIRE HYDRANT
FHMS	FLATHEAD MACHINE SCREW
FHWS	FLATHEAD WOOD SCREW
FI	FILTER INFLUENT
FIG	FIGURE
FIN	FINISH (ED)
FL	FLOOR OR FIRE LINE
FLD	FUSIBLE LINK DAMPER
FLEX,FLX	FLEXIBLE
FLG	FLANGE (D)
FLR	FLOOR
FLX	FLEXIBLE
FM	FORCE MAIN
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FOV	FUEL OIL VENT
FP	FILTER PRESS
FPM	FEET PER MINUTE
F.P.L.	FLORIDA POWER AND LIGHT
FPT	FEMALE PIPE THREAD
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOOR STAND
FT	FEET/FOOT
FTG	FOOTING/FITTING
FTR	FINNED TUBE RADIATION
FTW	FILTER TO WASTE
FU	FUSE
FURN	FURNISHED
FW	FILTERED WATER
fy	STEEL YIELD STRESS
G	NATURAL GAS
GA	GAGE
GALV	GALVANIZED
GE	GROOVED COUPLING (SHOULDERED ENDS)
GEC	GROUNDING ELECTRODE CONDUCT
GEN	GENERATOR
GF	GROUND FAULT INTERRUPTER
GI	GALVANIZED IRON
GL	GLASS PIPE
GLB	GLASS BLOCK
GOV	GLOBE VALVE
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRADE
GRAV	GRAVITY
GRND	GROUND
GRTG	GRATING
GSKT	GASKET
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
HAS	HEADED ANCHOR STUD
HB	HOSE BIBB
HC	HEATING COIL
HCL	HYDROCHLORIC ACID
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWR	HARDWARE
HES	HIGH EARLY STRENGTH
HEX	HEXAGON
HFAC	HARNESSED FLANGED ADAPTER COUPLING
HFL	HYDROFLUOSILIC ACID
HGR	HANGER
HH	HANDHOLE
HK	HOOK
HOA	HAND-OFF AUTO
HOR	HORIZONTAL
HP	HIGH POINT OR HORSEPOWER
HPA	HIGH PRESSURE AIR
HS	HIGH STRENGTH OR HIGH SERVICE
HSM	HIGH SERVICE MAIN
HT	HEIGHT
HTHW	HIGH TEMPERATURE HOT WATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWA	HIGH WATER ALARM
HWL	HIGH WATER LEVEL
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWW	HIGH PRESSURE WASH WATER
HZ	HERTZ
IA	INSTRUMENT AIR
ID	INSIDE DIAMETER
IF	INSIDE FACE
IIR	ISOBUTENE ISOPRENE (BUTYL) RUBBER
IN	INCH
INF	INFLUENT
INS	INSIDE
INSTR	INSTRUMENT (TATION)
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IP	IRON PIPE BOUNDARY
IR	IRON ROD BOUNDARY
ISOL	ISOLATOR, ISOLATION
JB	JUNCTION BOX
JCT	JUNCTION
JT	JOINT
KO	KNOCKOUT
KSI	KIPS (1000 POUNDS) PER SQUARE INCH
KTV	KNIFE GATE VALVE
L	LENGTH OR STRUCTURAL ANGLE DESIGNATION
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAM	LAMINATED
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LB	POUND
LBS	POUNDS
LCP	LOCAL CONTROL PANEL
LF	LINEAL FEET
LG	LONG
LGB	LAG BOLT
LIME	LIME, DRY
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNDG	LANDING
LOC	LOCATION/LOCATED
LONG	LONGITUDINAL
LP	LOW POINT OR LOW PRESSURE OR LIGHT POLE
LPA	LOW PRESSURE AIR (FROM BLOWERS)
LPNL	LIGHTING PANEL
LR	LONG RADIUS
LS	LIME SLURRY
LT	LIGHT
LVG	LEAVING
LW	LIGHTWEIGHT
LWA	LOW WATER ALARM
LWL	LOW WATER LEVEL
LWT	LEAVING WATER TEMPERATUE
M	MOTOR
MASY	MASONRY
MATL	MATERIAL
MAU	MAKEUP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLTS
MBH	THOUSAND BTU PER HOUR
MC	STEEL MISCELLANEOUS CHANNEL
MCC	MOTOR CONTROL CENTER
MCJ	MASONRY CONTROL JOINT
ME	METHANOL
MECH	MECHANICAL
MFD	MANUFACTURED
MFG	MANFACTURING
MFR	MANUFACTURER
MG/L	MILLIGRAMS PER LITER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MHS	METAL HOSE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MO	MASONRY OPENING
MOD	MOTOR OPERATED DAMPER
MON	MONUMENT
MPH	MILES PER HOUR
MRPP	METAL REINFORCED PLASTIC PIPE
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MV	MUD VALVE
N	NEUTRAL
N2	NITROGEN
NACL	SODIUM CHLORITE
NAOH	CAUSTIC SODA (SODIUM HYDROXIDE)
NBR	NITRILE RUBBER
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NMO	NORMALLY OPEN
NOM	NOMINAL
NOS	NATIONAL OCEANOGRAPHIC SURVEY
NPOL	NONIONIC POLYMER
NPT	AMERICAN NATIONAL TAPER PIPE THREAD
NPW	(NON-POTABLE) RAW WATER
NR	NATURAL RUBBER
NTS	NOT TO SCALE
NO	NUMBER, NORMALLY OPEN
OA	OUTSIDE AIR
OC	ON CENTER
OCCV	OIL CUSHION SWING CHECK VALVE
OD	OUTSIDE DIAMETER
OE	OVERHEAD ELECTRIC
OF	OUTSIDE FACE
OG	OZONE OFF-GAS
OH	OVERHEAD (DOOR)
OL	OVERLOAD
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTION (AL)
OS	OXIDIZED SLUDGE
OT	OVERHEAD TELEPHONE
OTV	OVERHEAD TELEVISION
OVF	OVERFLOW
OZA	OZONATED AIR
OZE	OZONE EXHAUST
O/E	OR EQUAL
P	PROTECTED
PA	POLYAMIDE
PAB	PROCESS AERATION BLOWERS
PAC	PLANT AIR COMPRESSOR
PAG	AIRGAP PROTECTED WATER
PAVT	PAVEMENT
PB	PUSHBUTTON
PBAV	PLASTIC BALL VALVE
PC	POINT OF CURVE
PCC	POINT OF COMPLEX CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCF	POUND PER CUBIC FOOT
PCF	POUND PER CUBIC FOOT
PCTFE	POLYCHLOROTRIFLUORETHYLENE
PCV	PRESSURE CONTROL VALVE
PD	PUMP DISCHARGE
PE	PLAIN END
PEFL	PRIMARY EFFLUENT
PERF	PERFORATED
PF	PHENOL-FORMALDEHYDE
PFU	POLYMER FEED UNIT
PGA	PURGE AIR (LIME SILOS)
pH	HYDROGEN ION CONCENTRATION
PH	PHASE
PHOS	PHOSPHATE
PWH	PROTECTED HOT WATER
PI	POINT OF INTERSECTION
PINF	PRIMARY INFLUENT
PJF	PREMOLDED JOINT FILLER
PL	PROPERTY LINE, PLATE DESIGNATION, OR PILOT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLP	POLYPHOSPHATE
PLS	PLASTIC LINED STEEL
PLT	PLANT
PLYWD	PLYWOOD
PNL	PANEL
POJ	PUSH ON JOINT
POL	POLYMER
POLYE	POLYETHYLENE
POLYP	POLYPROPYLENE
POM	POLYOXYMETHYLENE
POT	POINT OF TANGENCY
POTH	POTASSIUM HYDROXIDE
POTM	POTASSIUM PERMANGANATE
PP	POWER POLE
PPM	PARTS PER MILLION
PR	PRETREATED WATER SYSTEM
PRC	POINT OF REVERSE CURVE
PRCST	PRECAST
PREFAB	PRE-FABRICATED
PRES	PRESSURE
PRIM	PRIMARY
PRV	PRESSURE RELIEF VALVE
PRW	PRESSURE WASTE
PS	PUMP STATION
PSC	PRIMARY SCUM
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAGE
PSIG	PSI GAGE
PT	POINT
PTFE	POLYTETRAFLUORETHYLENE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVRV	PRESSURE VACUUM RELIEF VALVE
PW	POTABLE WATER
PWL	PEAK WATER LEVEL
PWM	POTABLE WATER METER
QTY	QUANITY/QUALITY
R/W	RIGHT-OF-WAY
RA	RETURN AIR
RAD	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RBH	RUBBER HOSE
RC	REINFORCED CONCRETE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDWD	REDWOOD
RED	REDUCER
REF	REFERENCE, REFER, ROOF EXHAUST FAN
REG	REGISTER
REINF	REINFORCING
REM	REMOVE
REQ'D	REQUIRED
RES	RESIDUAL
REV	REVISION
RF	ROOF FAN
RH	RELATIVE HUMIDITY
RIS	RUBBER IN SHEAR
RJ	RESTRAINED JOINT
RL	RAIN LEADER
RLCI	RUBBER LINED CAST IRON
RLDI	RUBBER LINED DUCTILE IRON
RM	ROOM
RMS	ROOT MEAN SQUARE
RND	ROUND
RO	ROUGH OPENING
ROT	ROTAMETER
RPBP	REDUCED PRESSURE BACKFLOW PRECLENTOR
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RS	RAW SEWAGE
RSL	RAW SLUDGE
RT	RIGHT
RTU	REMOTE TELEMETRY UNIT
RW	RAW WATER
S	SIGNAL LINE OR STEEL S-SHAPE DESIGNATION
SA	SUPPLY AIR
SAN	SANITARY
SAN S	SANITARY SEWER
SB	STONE MONUMENT BOUNDARY
SC	SCUM
SCH	SCHEDULE
SCV	SILENT CHECK VALVE
SDCV	SLANTING DISK CHECK VALVE
SD	STORM DRAIN
SE	SECONDS OR SECONDARY
SEC	SECTION
SEE	SECONDARY EFFLUENT
SF	SUPPLY FAN
SG	SLUICE GATE
SG-C	SLUICE GATE - MANUAL CRANK OPERATOR
SG-HW	SLUICE GATE - HAND WHEEL OPERATOR
SG-M	SLUICE GATE - MOTOR OPERATOR
SHC	SODIUM HYPOCHLORITE
SHT	SHEET
SIM	SIMILAR
SJ	SOLDERED JOINT
SL	SLUDGE
SLG	SLIDE GATE
SLG-C	SLIDE GATE - MANUAL CRANK OPERATOR
SLG-HW	SLIDE GATE - HAND WHEEL OPERATOR
SLG-M	SLIDE GATE - MOTOR
SLV	SLEEVE
SN	SOLID NEUTRAL
SN	SUPERNATANT
SO2G	SULFUR DIOXIDE (GAS)
SO2S	SULFUR DIOXIDE (SOLUTION)
SOJ	SLIP ON JOINT
SOL	SOLUTION
SP	STATIC PRESSURE OR SPACE (D)
SPC	SPACE (S, ED)
SPEC	SPECIFICTION, SPECIFIED
SPG	SPRING
SPL	SAMPLE
SPR	SPRINKLER LINE
SPTG	SEPTAGE
SPW	SPRAY WATER
SQ	SQUARE
SR	SLUDGE RETURN
SS	STAINLESS STEEL OR STORM SEWER
SSC	SECONDARY SCUM
SSFL	SODIUM SILICO FLUORIDE
SSIL	SODIUM SILICATE
SSK	SERVICE SINK
SSL	SECONDARY SLUDGE
SSP	STAINLESS STEEL PIPE
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUP (S)
STL	STEEL
STRUC	STRUCTURE (S, URAL)
SUSP	SUSPENDED
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWD	SIDE WATER DEPTH
SWGR	SWITCHGEAR
SWK	SIDEWALK
SYM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENCY
TAS	THICKENED ACTIVATED SLUDGE
TC	TIME DELAY ON CLOSING
TD	TRENCH DRAIN OR TEMPERATURE DIFFERENCE
TDO	TIME DELAY ON OPENING
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE/TEMPORARY
TF	TOP FACE, TRANSFER FAN
TFP	TRANSFER PUMP
THD	THREADED
THK	THICK (NESS)
TKD	TANK DRAIN
TM	TELEMETER OR TIME
TO	TOP OF
TOB	TOP OF BERM/BANK
TOC	TOP OF CURB/CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TOXS	THICKENED OXIDIZED SLUDGE
TP	TURNING POINT
TPRP	THERMOPLASTIC REINFORCED PIPE
TPS	THICKENED PRIMARY SLUDGE
TPY	TEMPORARY
TR	TRIANGULATION POINT
TRAN	TRANSFER
TRANS	TRANSVERSE (ITION), TRANSITION
TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)
TSL	THICKENED SLUDGE
TUBV	TIME UNION BALL VALVE
TURB	TURBIDITY
TV	TELEVISION
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TYP	TYPICAL
U	HEAT TRANSFER COEFFICIENT
UD	UNDERDRAIN
UG	UNDERGROUND
UGTC	UNDERGROUND TELEPHONE CABLE
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UPVC	UN-PLASTICISED POLYVINYL CHLORIDE
V	VOLTS
VA	VENT AIR
VA-H	HYDRAULIC VALVE OPERATOR
VA-M	MOTOR VALVE OPERATOR
VA-P	PNEUMATIC VALVE OPERATOR
VA-S	SOLENOID VALVE OPERATOR
VAC	VACUUM
VAR	VARIOUS/VARIABLE
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX
VBR	VACUUM BREAKER
VC	VICTAULIC COUPLING
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
VIPA	VIRGIN ISOPROPYL ALCOHOL
VNBA	VIRGIN N. BUTYL ACETATE
VOL	VOLUME
VS	VARIABLE SPEED
VSD	VARIABLE SPEED DRIVE
VT	VENT
VTR	VENT THRU ROOF
W	WIDTH
W/	WITH
W/O	WITHOUT
WAP	WALL PIPE
WAS	WASTE ACTIVATED SLUDGE
WB	WET BULB
WBW	WSTE BACKWASH WATER
WC	WATER CLOSET
WF	STEEL WIDE FLANGE
WH	WATER HEATER
WJ	WELDED JOINT
WL	WATER LEVEL
WM	WATER MAIN
WNSA	WASTE N. BUTYL ACETATE
WNC	WASTE NON-CHLORINATED
WOAS	WASTE OXYGEN ACTIVATED SLUDGE
WP	WELDED PIPE OR WORKING POINT
WPF	WEATHERPROOF
WR	WASHWATER RECOVERY
WS	WATERSTOP OR WATER SURFACE
WSH	WASHWATER
WSL	WASTE SLUDGE
WSV	WALL SLEEVE
WT	WEIGHT OR STEEL TEE-SHAPE DESIGNATION
WTP	WATER TREATMENT PLANT
WSD	WASHWATER DRAIN
WW	WASTE WATER
WWF	WELDED WIRE FABRIC
WWTP	WASTEWATER TREATMENT PLANT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
YD	YARD
YR	YEAR

RECORD DRAWING

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By ____________ Date December 2007

CDM

REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	ALN	JEC	RECORD DRAWING
	3/99	ALN	WMS	CONFORMED DRAWINGS

DESIGNED BY: W. SPRIGGS
DRAWN BY: A. NUNES
SHEET CHK'D BY: W. SPRIGGS
CROSS CHK'D BY: E. STURTZ
APPROVED BY: J. GOLDMAN
DATE: DECEMBER, 1997

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Cert. of Authorization No. 20

CDM environmental engineers, scientists, planners, & management consultants

CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

ABBREVIATIONS

JONATHAN Z. GOLDMAN
P.E. NO. 48925

PROJECT NO. 9381-002R

SHEET NO. G-3

DWG: L:\9381-02R\RECORD\General\GARTB003.DWG USER: nunesa IMAGES:
DATE: Jun 04, 2008 4:13pm XREFS: tb4x4 RECORD_ALT C

PIPING SYMBOLOGY

DOUBLE LINE SYMBOL	SINGLE LINE SYMBOL	FEATURE
		WELDED JOINT
		FLANGED JOINT SIMPLIFIED REPRESENTATION.
SEE NOTE 2		FLANGED JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT SIMPLIFIED REPRESENTATION.
		MECHANICAL JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT RESTRAINED
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT SIMPLIFIED REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT COMPLEX REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT RESTRAINED
		BALL JOINT
		DIRECTION OF FLOW
		PLAIN END x PLAIN END PIPE COUPLING
		PLAIN END x PLAIN END PIPE COUPLING RESTRAINED
		FLANGE x PLAIN END PIPE COUPLING
		FLEXIBLE COUPLING OR EXPANSION JOINT (SLEEVE TYPE)
(A) (B) TYPE IDENTIFICATION REFER TO SPECS (A) (B)		FLEXIBLE COUPLING OR EXPANSION JOINT (BELLOWS TYPE)
(G) OR (S)		COUPLING FOR VICTAULIC JOINTS: (G) GROOVED (S) SHOULDERED
		FLANGE GUARD
		FLANGE FILLER
		UNION
		QUICK CONNECT COUPLING
		HOSE COUPLING

PIPE AND FITTING SYMBOL NOTES

1. SIMPLIFIED JOINT SYMBOL IS USED FOR ALL SINGLE LINE PIPING SHOWN ON THE INTERIOR AND EXTERIOR PIPING DRAWINGS.

2. BOTH SIMPLIFIED AND COMPLEX JOINT REPRESENTATIONS MAY BE SHOWN ON THE DRAWINGS.

3. UNLESS MODIFIED BY THE GENERAL PROJECT NOTES OR DETAILED ON THE LAYOUT AND SCHEMATIC DRAWINGS PIPE AND FITTING JOINT REQUIREMENTS FOR THE VARIOUS PIPE MATERIALS ARE DEFINED IN THE SPECIFICATIONS.

VALVE SYMBOLOGY

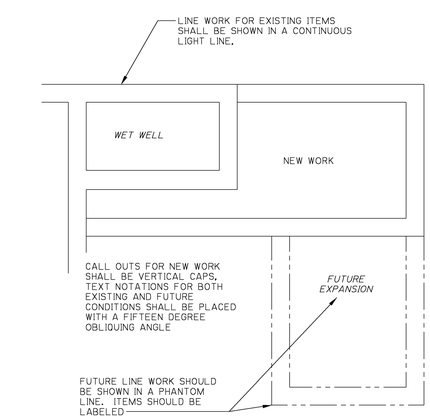
SYMBOL	FEATURE
	UNCLASSIFIED. TYPE AS SHOWN ON THE DRAWINGS ADJACENT TO SYMBOL
	FLOW METER
V	TELESCOPING VALVE
	VALVE WITH HOSE END
	GATE VALVE
K	KNIFE GATE VALVE
	GLOBE VALVE
	BALL VALVE
	3-WAY BALL VALVE
	4-WAY BALL VALVE
	CONE VALVE
	NEEDLE VALVE
	PINCH VALVE
	DIAPHRAGM VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	3-WAY PLUG VALVE
	4-WAY PLUG VALVE
	CHECK VALVE, GENERAL SYMBOL
	BALL CHECK VALVE
	DOUBLE DOOR CHECK VALVE
	ANGLE VALVE
S	SOLENOID VALVE
S	THREE WAY SOLENOID VALVE
S	THREE WAY SOLENOID VALVE
M	MOTOR OPERATED VALVE
	FLAP VALVE
	SHEAR GATE
	MUD VALVE
	FLOOR DRAIN
	OPEN EQUIPMENT DRAIN
	ECCENTRIC REDUCER OR REDUCING BUSHING
	CONCENTRIC REDUCER OR REDUCING BUSHING
	Y-STRAINER
	CALIBRATION CYLINDER
	AIR RELEASE VALVE

GATE SYMBOLOGY

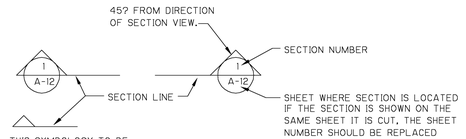
PLAN	FEATURE
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	WEIR SLIDE GATE (WSLG)
	STOP PLATE (SP)

SECTION (OPERATOR ONLY)	FEATURE
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	WEIR SLIDE GATE (WSLG)

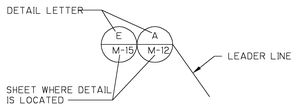
EXISTING OR FUTURE CONDITION DESIGNATION



SECTION CUT SYMBOLS



DETAIL CALL OUT SYMBOLS

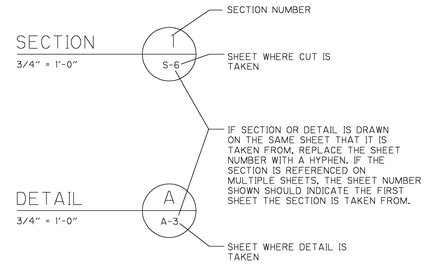


IF MULTIPLE DETAILS REFER TO THE SAME AREA OF THE DRAWING, THE BUBBLES SHOULD BE STACKED SIDE BY SIDE.

DRAWING, SECTION AND DETAIL TITLES

SUBTITLE OR DESCRIPTION (AS REQ'D)

PLAN
1/4" = 1'-0"



GENERAL

	NEW MAIN THIS PROJECT
20" WM	EXISTING WATER MAIN
16" RW	EXISTING RAW WATER MAIN
MH SAN S	EXISTING SANITARY SEWER W/ MANHOLE
10" FM	EXISTING FORCE MAIN
T	EXISTING BURIED TELEPHONE
P	EXISTING POWER DUCTS OR CABLES
OHP	OVERHEAD POWER
CATV	EXISTING CABLE TELEVISION
CB 15" SS	EXISTING STORM SEWER W/CATCH BASIN
FH	FIRE HYDRANT
	R/W - RIGHT OF WAY
	℄ - PROPERTY LINE
	NEW MAIN TO BE CONST. UNDER EXISTING UTILITY
	NEW MAIN TO BE CONST. OVER EXISTING UTILITY
☐ or ○ PP	EXISTING POWER POLE
☐ or ○ LP	EXISTING LIGHT POLE
SB-1	SOIL BORING
BM 1	BENCH MARK
	EXISTING CHAIN LINK FENCE
	NEW CHAIN LINK FENCE
12.00	EXISTING CONTOUR
12.00	NEW CONTOUR
12.00 +	EXISTING SPOT ELEVATION
12.00	NEW SPOT ELEVATION
	NEW STRUCTURES
	EXISTING STRUCTURES (TO REMAIN)
	EXISTING STRUCTURES (TO BE MODIFIED)
	EXISTING STRUCTURES (TO BE REMOVED)
	NEW CONCRETE SLAB OR SIDEWALKS
EXISTING STRUCTURES	SLANTED TEXT
NEW STRUCTURES	VERTICAL TEXT

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By _____ Date December 2007

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JONATHAN Z. GOLDMAN
P.E. NO. 48925

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	3/99	ALN	WMS	CONFORMED DRAWINGS

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CITY OF MIAMI BEACH, FLORIDA

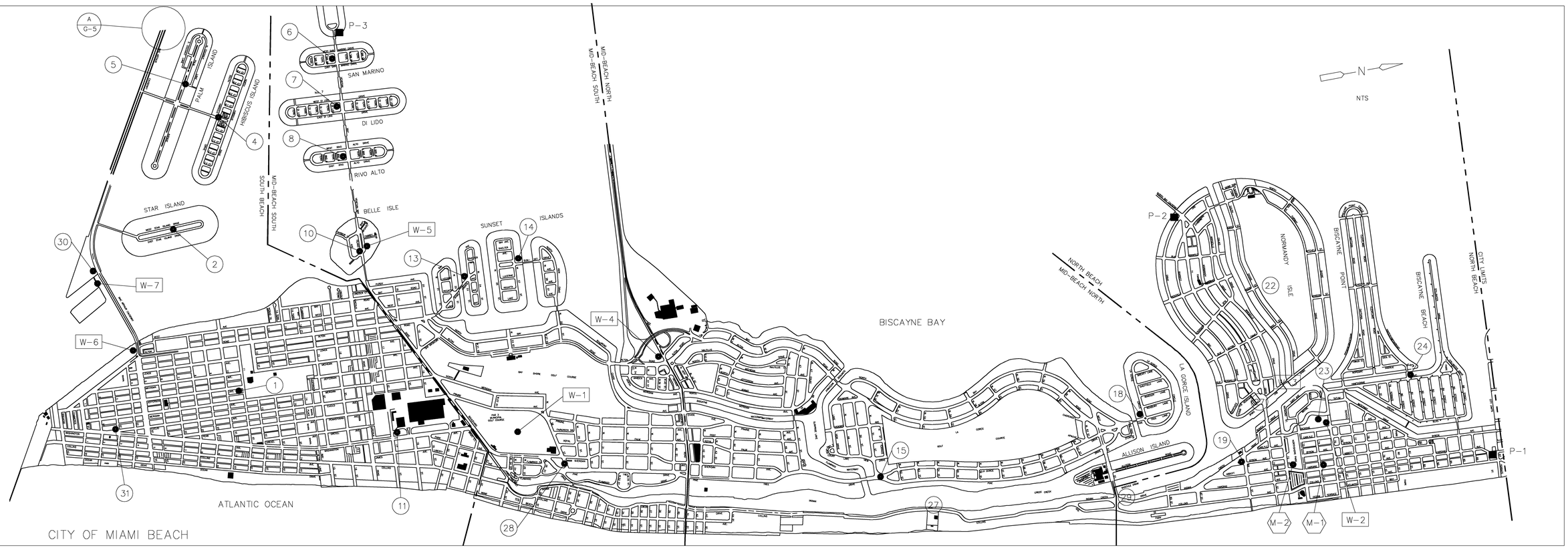
WATER AND WASTEWATER SYSTEM IMPROVEMENTS

SYMBOLS

PROJECT NO. 9381-02R

SHEET NO. G-4

DWG: L:\9381-02R\RECORD\General\GSYTB004.DWG USER: nunesal
DATE: Jan 04, 2008 4:37pm XREFS: tb4txt RECORD_ALT C IMAGES:



WATER AND WASTEWATER PUMP STATIONS LOCATION PLAN

WASTEWATER PUMPING STATIONS

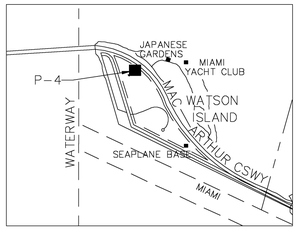
STATION I.D.	LOCATION	TYPE
1	11TH STREET AND JEFFERSON AVENUE	DRY PIT PUMP
2	STAR ISLAND	SUBMERSIBLE PUMP
4	HIBISCUS ISLAND	SUBMERSIBLE PUMP
5	PALM ISLAND	SUBMERSIBLE PUMP
6	SAN MARINO ISLAND	SUBMERSIBLE PUMP
7	DI LIDO ISLAND	SUBMERSIBLE PUMP
8	RIVO-ALTO ISLAND	SUBMERSIBLE PUMP
10	ISLAND AVENUE AND VENETIAN WAY	DRY PIT PUMP
11	17TH STREET AND WASHINGTON AVENUE	DRY PIT PUMP
13	SUNSET SOUTH	SUBMERSIBLE PUMP
14	SUNSET NORTH	SUBMERSIBLE PUMP
15	51ST STREET AND PINE TREE DRIVE	DRY PIT PUMP
18	LA GORCE ISLAND	SUBMERSIBLE PUMP
19	69TH STREET AND INDIAN CREEK DRIVE	DRY PIT PUMP
21	71ST STREET	DRY PIT PUMP
22	HAGAN STREET	DRY PIT PUMP
23	75TH STREET	DRY PIT PUMP
24	81TH STREET	DRY PIT PUMP
27	5400 BLOCK COLLINS AVENUE	DRY PIT PUMP
28	28TH STREET AND SHERIDAN AVENUE	DRY PIT PUMP & BOOSTER
29	63RD STREET AND INDIAN CREEK DRIVE	DRY PIT PUMP & BOOSTER
30	TERMINAL ISLAND	SUBMERSIBLE PUMP
31	3RD STREET AND EUCLID	SUBMERSIBLE PUMP

WATER PUMPING STATIONS

STATION I.D.	LOCATION	TYPE	
25TH STREET (W-1)	25TH STREET AND PINE TREE DRIVE	INJECTOR	(BY OTHERS)
75TH STREET (W-2)	75TH STREET AND DICKENS AVENUE	INJECTOR	
NORMANDY (W-3)	71ST STREET AND RUE VENDOME	IN-LINE BOOSTER	
41ST STREET (W-4)	41ST STREET AND ALTON ROAD	IN-LINE BOOSTER	
BELLE ISLE (W-5)	ISLAND AVENUE AND VENETIAN WAY	IN-LINE BOOSTER	
~~SHOP (MARINA) (W-6)~~	~~430 ALTON ROAD~~	~~IN-LINE BOOSTER (OFFLINE)~~	(NIC)
TERMINAL IS. (W-7)	TERMINAL ISLAND	IN-LINE BOOSTER	(BY OTHERS)

PRESSURE & FLOW MONITORING STATIONS

STATION I.D. NO.	LOCATION	TYPE	
1A AND 1B (M1)	74TH STREET AND HARDING	WASTEWATER	(BY OTHERS)
2 (M2)	72ND STREET AND HARDING	WASTEWATER	(BY OTHERS)
87TH STREET (P-1)	87TH STREET AND COLLINS AVENUE	WATER	
NORMANDY CAUSEWAY (P-2)	BIARRITZ AND 71ST STREET	WATER	(BY OTHERS)
VENERIAN WAY (P-3)	VENETIAN WAY	WATER	(BY OTHERS)
MC ARTHUR CAUSEWAY (P-2)	MC ARTHUR CAUSEWAY ON WATSON ISLAND	WATER	(BY OTHERS)



DETAIL A G-5
NTS

(BY OTHERS)

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JONATHAN Z. GOLDMAN
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REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	ALN	JEC	RECORD DRAWING
	12/02	ALN	JEC	CLARIFIED SCOPE
	3/99	ALN	WMS	CONFORMED DRAWINGS
	9/98	ALN	WMS	ADDENDUM NO. 3

DESIGNED BY: W. SPRIGGS
DRAWN BY: A. NUNES
SHEET CHK'D BY: W. SPRIGGS
CROSS CHK'D BY: E. STRUTZ
APPROVED BY: J. GOLDMAN
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CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

WATER AND WASTEWATER PUMP STATION LOCATION PLAN

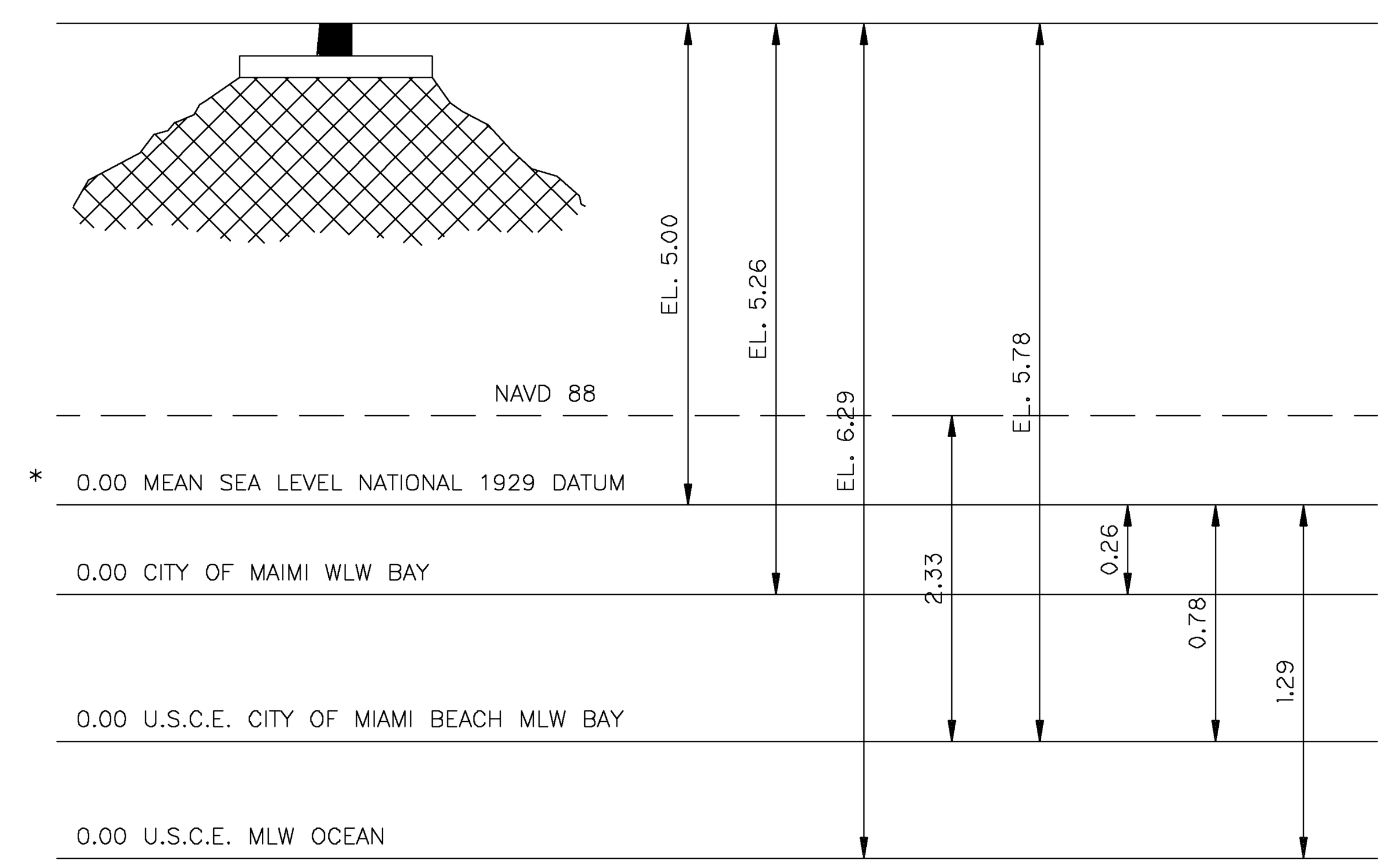
PROJECT NO. 9381-02R

SHEET NO. G-5

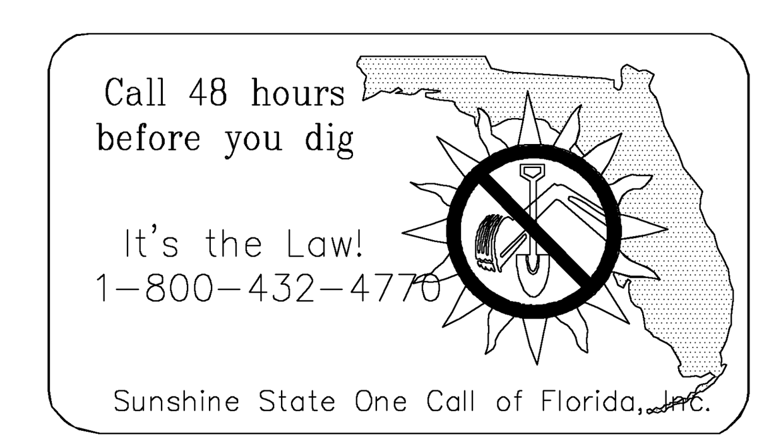
DWG: G:\9381-02R\record\General\GSTPLOCS.DWG USER: nunesal
DATE: Jun 04, 2008 2:28pm XREFS: RECORD_ALT C tbktxt IMAGES:

GENERAL NOTES

1. ALL APPLICABLE PERMITS MUST BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL MATERIALS AND CONSTRUCTION UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE ENGINEERING AND CONSTRUCTION MANAGEMENT DEPARTMENT, CITY OF MIAMI BEACH.
3. THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THE APPROVED PLANS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. APPROVAL OF DEVELOPMENT PLANS BY THE ENGINEERING AND CONSTRUCTION MANAGEMENT OF THE CITY OF MIAMI BEACH IN NO WAY IMPLIES VERIFICATION OF THE ACCURACY OF THOSE PLANS OR FEATURES DEPICTED THEREON. ALL COST FOR THIS WORK SHALL BE INCLUDED IN THE APPROPRIATE PRICE BID FOR INSTALLING THE PIPE. AFTER THESE DETERMINATIONS HAVE HAVE BEEN MADE, CONTRACTOR SHALL WORK AS NEEDED TO AVOID CONFLICT WITH EXISTING UTILITIES. (NO ADDITIONAL COST WILL BE PAID FOR THIS WORK.) EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OR HIS DESIGNEE OF ANY DISCREPANCY, VARIATION OR CONFLICTS FROM THE APPROVED PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES AND IMPROVEMENTS FROM DAMAGE, DISRUPTION OF SERVICE, OR DESTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
5. PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT, A PRECONSTRUCTION MEETING WILL BE HELD WITH THE ENGINEERING AND CONSTUCTION MANAGEMENT OF THE CITY. THE CONTRACTOR AND OTHER INTERESTED PARTIES SHALL ATTEND THE MEETING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SCHEDULING OF, AND PAYMENT FOR SUCH TESTS AS MAY BE DEEMED NECESSARY BY THE CITY ENGINEER, AND AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON SITE. THE PLANS ARE TO BE MADE AVAILABLE TO THE ENGINEERING INSPECTOR OF THE CITY OF MIAMI BEACH OR HIS DESIGNEE UPON REQUEST.
8. WHERE SANITARY SEWER MAINS CROSS UNDER WATER MAINS WITH LESS THAN 18 INCHES VERTICAL CLEARANCE, OR WHERE THE SANITARY SEWER CROSSES ABOVE A WATER MAIN, THE SANITARY SEWER SHALL BE OF CLASS 52 DUCTILE IRON PIPE OR AWWA C-900 PVC PRESSURE PIPE FOR A CONTINUOUS LENGTH OF 20 FEET CENTERED AT THE WATER MAIN, PRESSURE TESTED AT THAT LOCATION.
9. THE CONTRACTOR SHALL PROVIDE ACCESS AND ASSISTANCE TO THE CITY ENGINEER OR HIS DESIGNEE TO MAKE INSPECTIONS, AS NECCESSARY, DURING CONSTRUCTION.
10. NO DEVIATION FROM APPROVED PLANS SHALL BE PERMITTED WITHOUT THE WRITTEN CONSENT OF THE CITY ENGINEER OR HIS DESIGNEE.
11. ALL WATER MAIN VALVES SHALL BE INSTALLED COMPLETE WITH 10" RISER PIPES AND NO.3 VALVE BOXES. FIRE HYDRANTS AND SERVICE VALVES SHALL BE INSTALLED COMPLETE WITH 6" RISER PIPES AND NO. 2 VALVE BOXES.
12. ENGINEERING PERSONNEL WILL INSPECT ALL FACILITIES APPROVED BY THEIR OFFICE. ALL OTHER REQUIREMENTS OF THE PERMITTING AGENCY SHALL BE IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS.
13. TRENCH EXCAVATIONS IN EXCESS OF 5 FEET DEEP SHALL COMPLY WITH THE TRENCH SAFETY ACT AS PER O.S.H.A. STANDARD 29 CFR S.926.650 SUBPART P IN STATUTES. THE TRENCHES AND DITCHES SHALL BE PROTECTED IN ACCORDANCE WITH RULE 38c 43.02 FAC AND 6A-1,095(2).
14. ERECTION OR INSTALLATION OF APPROPRIATE SAFETY AND WARNING DEVICES WILL BE REQUIRED DURING THE COURSE OF CONSTRUCTION. SAID DEVICES WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION'S "MANUAL ON TRAFFIC CONTROL AND SAFETY PRACTICES" AND THE DADE COUNTY PUBLIC WORKS MANUAL.
15. PLANS AND SPECIFICATIONS REQUIRE THAT COMPACTED BACKFILL BE PLACED ALONGSIDE OF AND OVER ALL UTILITIES. THE ENGINEER REQUIRES THAT COMPACTION TESTS BE TAKEN TO VERIFY BACKFILL COMPACTION. THE COST OF SUCH COMPACTION TESTS WILL BE BORNE BY THE CITY. THE RETESTING COST, DUE TO FAILURE OF THE COMPACTION TEST, WILL BE PAID BY THE CONTRACTOR.
16. WORK PERFORMED UNDER THIS PROJECT WILL NOT BE CONSIDERED AS COMPLETE UNTIL THE FOLLOWING DOCUMENTS ARE RECEIVED BY THE ENGINEER.
    A. CONTRACTOR'S, SUBCONTRACTOR'S AND SUPPLIER'S WAIVER AND RELEASE OF LIEN.
    B. CONTRACTOR'S LETTER OF WARRANTY (I.E. LETTER OF AGREEMENT).
    C. "AS BUILT" 4 MIL MILARS 24"X36" SHOWING SPECIFIC LOCATIONS, DEPTH, ETC., OF ALL CITY FACILITIES AS LOCATED BY A LICENSED SURVEYOR, ALONG WITH (2) PRINTS OF THE "AS BUILT" WHICH HAVE BEEN SIGNED AND SEALED BY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA. SEE SPECS.
17. PIPE DEFLECTION AT JOINTS SHALL NOT EXCEED 75% OF THE PIPE MANUFACTURERS ALLOWABLE DEFLECTION.
18. ELEVATIONS ARE REFERENCED TO N.G.V.D. ADD 0.78 FEET, TO CONVERT TO CITY OF MIAMI BEACH DATUM.
19. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, ETC... WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER THE APPROIATE BID ITEM.
20. THE INFORMATION PROVIDED IN THESE PLANS IS SOLEY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL PROSPECTIVE BIDDERS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
21. SPECIAL PIPE FOUNDATIONS, IF REQUIRED, SHALL BE DETERMINED IN THE FIELD AND THE TYPE REQUIRED WILL BE AS APPROVED BY THE ENGINEER.
22. ALL PIPE FITTINGS, SPECIALS AND VALVES INCLUDING LINING AND COATINGS, PRESSURE TESTING AND INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF MIAMI BEACH PUBLIC WORKS DEPARTMENT, AS OUTLINED IN THE SPECIFICATIONS.
23. ALL PRESSURE PIPING AND FITTINGS 4 INCHES IN DIAMETER AND OVER SHALL HAVE RESTRAINED JOINTS IN ACCORDANCE WITH THE SPECIFICATIONS.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL TIE-IN CONNECTIONS TO ALL PIPE LINES AND VALVES.
25. MECHANICAL JOINT PIPE SHOWN ON THE PLANS MAY, AT THE CONTRACTOR'S OPTION, BE SUBSTITUTED WITH PUSH-ON JOINT PIPE. ALL RESTRAINTS, THRUST BLOCKS AND SUPPORT BLOCKS AS SPECIFIED OR NOTED ON THE DRAWINGS SHALL STILL APPLY, REGARDLESS OF PIPE JOINTS TYPE USED.
26. ALL FITTINGS FOR PVC/DI SHALL BE DUCTILE IRON, SHORT BODY WITH MECHANICAL (OR PUSH ON) JOINTS, WITH HIGH STRENGTH CORTEN CORROSION RESISTANT ALLOY T-HEAD BOLTS. SUBJECT TO THE APPROVAL OF THE ENGINEER.
27. ALL GATE VALVES, WHERE SPECIFIED, FOR SIZES 4" THROUGH 10" SHALL BE RESILIENT SEATED GATE VALVES AND VALVES 12" AND LARGER SHALL BE BUTTERFLY VALVES IN CONFORMANCE WITH THE SPECIFICATIONS.
28. ALL GRASSING SHALL BE SOLID SOD OF A TYPE CONSISTENT WITH THE SURROUNDING AREA AND IN CONFORMANCE WITH THE SPECIFICATIONS.
29. CONTRACTOR IS RESPONSIBLE FOR PRESSURE TESTING ALL INSTALLED PIPE AND FITTINGS IN ACCORDANCE WITH AWWA STANDARDS.
30. DISINFECTION AND BACTERIOLOGICAL TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARDS AND F.A.C. 62-555. CONTRACTOR ASSUMES RESPONSIBILITY TO COORDINATE THE TESTING EFFORT.
31. CONTRACTOR TO SUBMIT A TRAFFIC CONTROL PLAN TO OWNER FOR APPROVAL PRIOR TO WORK IN ANY RIGHT OF WAY, AND FOR EACH PUMP STATION SITE.
32. ALL EXISTING MISCELLANEOUS METALS WHICH ARE NOT INDICATED TO BE REPLACED SHALL BE REFURBISTIED AS FOLLOWS:
    ALU-HYDROBLAST
    STEEL-SANDBLAST AND PAINT
    CAST/DUCTILE IRON-SANDBLAST AND PAINT
33. ALL INTERIOR AND EXTERIOR SURFACES OF THE PUMP STATIONS TO BE PRESSURE CLEANED, SEAL AND PAINT ALL INTERIOR AND EXTERIOR SUFACES OF STRUCTURE, WALLS, FLOORS, STAIRS, CEILINGS. SEE SPECS.
34. PRIOR TO CLEANING, ALL WALL, FLOOR, AND CEILING ANCHORING WHICH ARE NO LONGER BEING USED ARE TO BE REMOVED AND ALL HOLES FILLED TO MATCH SURFACE.
35. CONTRCTOR TO COORDINATE WITH FPL FOR ALL TRANSFORMER RELOCATIONS, EXACT LOCATIONS FOR PROVIDING NEW TRANSFORMER PADS, INSTALLATION OF POWER CONDUIT AND PROVISION OF TEMPORARY POWER AND NEW POWER TO STATIONS.



* SAME ELEVATION AND DATUM PREVIOUSLY CALLED U.S.C. 8 G.S. 1929 MEAN SEAL LEVEL.



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By ______________ Date December 2007

CDM

JONATHAN Z. GOLDMAN
P.E. NO. 48925

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	12/07	ALN	JEC	RECORD DRAWING
	12/02	ALN	JEC	CLARIFIED NOTE NO. 18
	3/99	ALN	WMS	CONFORMED DRAWINGS

DESIGNED BY: W. SPRIGGS
DRAWN BY: A. CHINNERY
SHEET CHK'D BY: W.SPRIGGS
CROSS CHK'D BY: E. STURTZ
APPROVED BY: J. GOLDMAN
DATE: DECEMBER, 1997

CAMP DRESSER & McKEE INC.
800 Brickwell Avenue, Suite 710
Miami, Florida 33131
Tel: 305-372-7171
Cert. of Authorization No. 20
environmental engineers, scientists, planners, & management consultants
CDM

CITY OF MIAMI BEACH, FLORIDA

WATER AMD WASTEWATER SYSTEM IMPROVEMENTS

GENERAL NOTES

PROJECT NO. 9381_02R

SHEET NO. G-6

NOTES:

1. FOR INFORMATION ONLY THE GENERAL DETAILS OF EXISTING BURIED DIESEL FUEL TANKS ARE SHOWN ON SHEET NO. MD-3.
2. THE LOCATION OF GRAVITY AND STORM SEWERS AND FORCE MAINS HAVE BEEN TAKEN FROM RECORD DRAWINGS AND ARE APPROXIMATE.
3. CONTRACTOR TO FINE GRADE AND RESOD ALL DISTURBED AREA THIS SITE.

RECORD DRAWING

THIS RECORD DRAWING HAVE BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM. THEREFORE, THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF ALL THE INFORMATION. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By ______________ Date December 2007

CDM

1" = 10'

JONATHAN Z. GOLDMAN
P.E. NO. 48925

DWG: L:\9381-02R\RECORD\Civil\CSTPL009.DWG XREFS: tbktxt
DATE: Jan 04, 2008 4:46pm

REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	ALN	JEC	RECORD DRAWING
	3/99	ALN	WMS	CONFORMED DRAWINGS

DESIGNED BY: W. SPRIGGS
DRAWN BY: A. NUNES
SHEET CHK'D BY: W. SPRIGGS
CROSS CHK'D BY: E. STURTZ
APPROVED BY: J. GOLDMAN
DATE: DECEMBER, 1997

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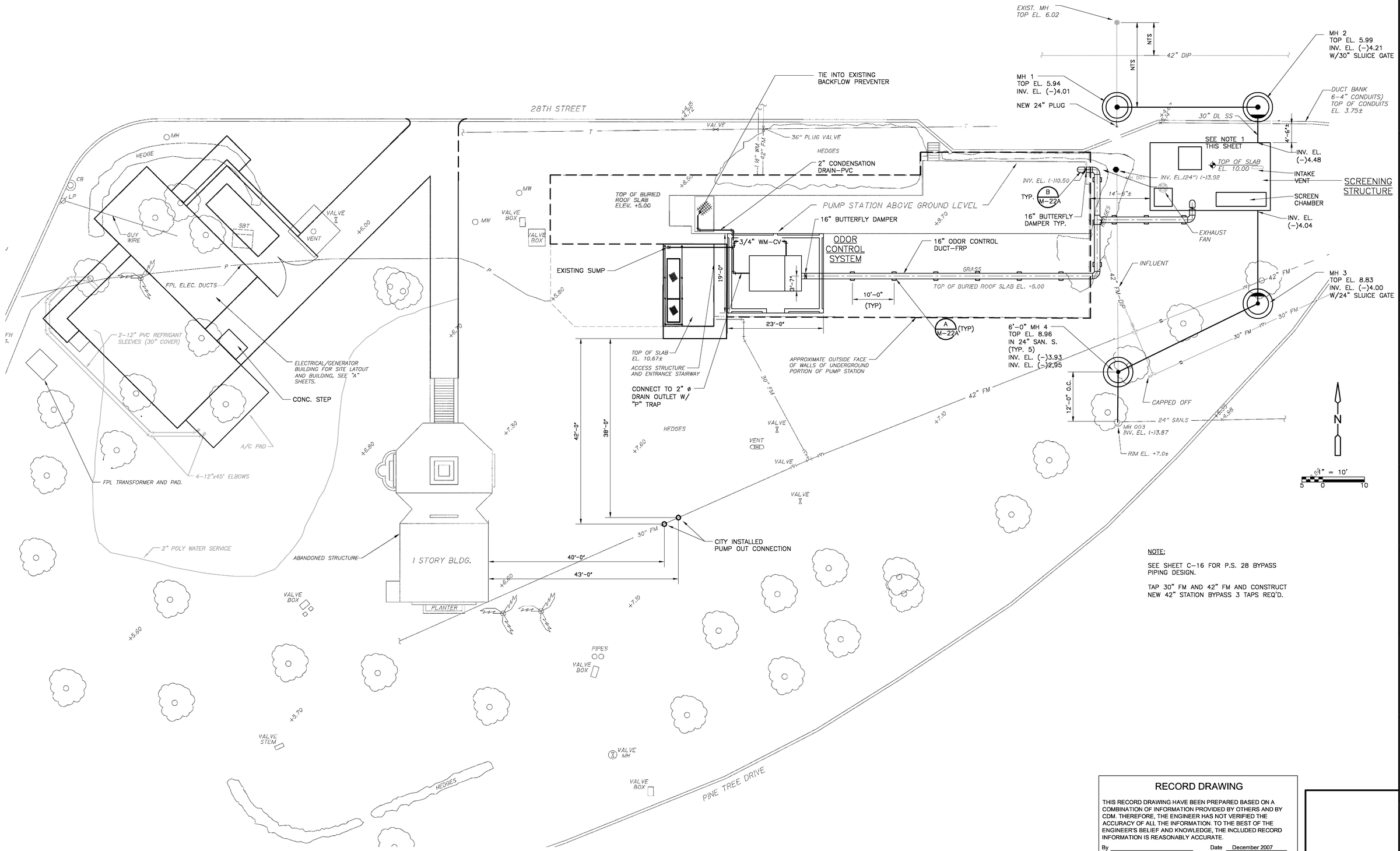
CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

WASTEWATER PUMP STATION NO. 28
DEMOLITION SITE PLAN

PROJECT NO. 9381-02R

SHEET NO. C-9



NOTE:

SEE SHEET C-16 FOR P.S. 28 BYPASS PIPING DESIGN.

TAP 30" FM AND 42" FM AND CONSTRUCT NEW 42" STATION BYPASS 3 TAPS REQ'D.

RECORD DRAWING

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By _____ Date December 2007

CDM

JONATHAN Z. GOLDMAN
P.E. NO. 48925

REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	ALN	JEC	RECORD DRAWING
	6/07	LRB	WMS	RELOCATE ODOR CONTROL SYSTEM
	2/07	JDA	WMS	SHEET ISSUED FOR CHANGE ORDER NO. 6

DESIGNED BY: G. LAWRENCE
DRAWN BY: D. AUST
SHEET CHK'D BY: W. SPRIGGS
CROSS CHK'D BY: G. LAWRENCE
APPROVED BY: S. MARTIN
DATE: DECEMBER, 1997

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CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

WASTEWATER PUMP STATION NO. 28
SITE PLAN

PROJECT NO. 9381-02R C010STPL0

SHEET NO. C-10

DWG: L:\9381-02R\record\Civil\C010STPL0.DWG
DATE: Jul 01, 2008 9:45am
USER: austjd
XREFS: RECORD_ALT C tblxref
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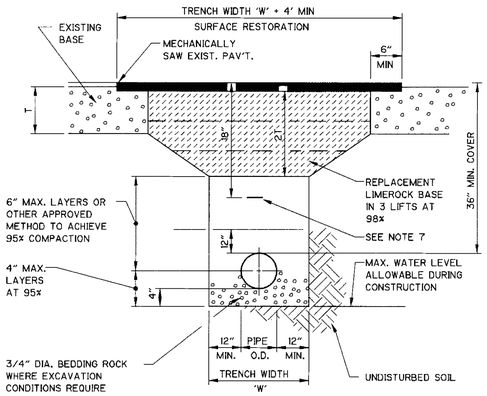


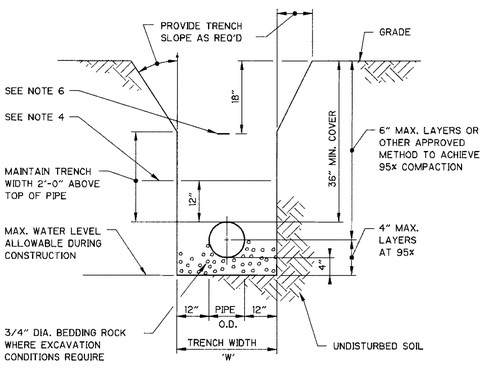
NOTES:

1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED AND FEATHERED JOINTS (1 1/2" MIN. THK.)
4. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180.
5. FOR PVC PIPE ONLY - INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE. SEE SPECIFICATIONS.

(PAVED AREAS)

TRENCH DETAIL

NTS



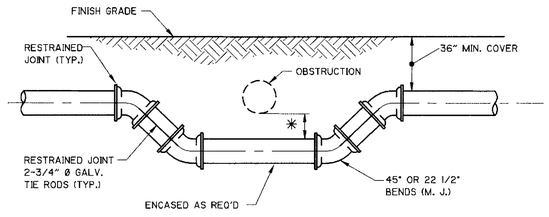
NOTES:

1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180.
4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
5. PVC PIPE TO HAVE ROCK BACKFILL TO ℄ OF PIPE.
6. FOR PVC PIPE ONLY - INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE. SEE SPECIFICATIONS.

(UNPAVED AREAS)

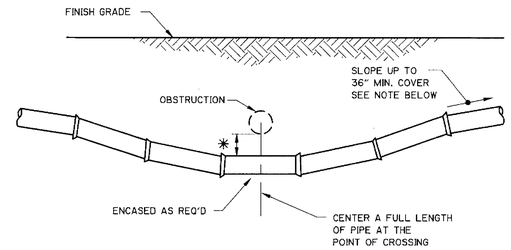
TRENCH DETAIL

NTS



SPECIAL UTILITY CROSSING - FITTING TYPE

* 18" MIN. CLEARENCE REQUIRED FOR WATER AND SEWER MAIN CROSSINGS. 12" MIN. CLEARENCE REQUIRED FOR OTHER TYPE UTILITIES CROSSING. SEE WATER AND SEWER SEPARATION STATEMENT ON THIS SHEET.



STANDARD UTILITY CROSSING - DEFLECTION TYPE

NOTE:

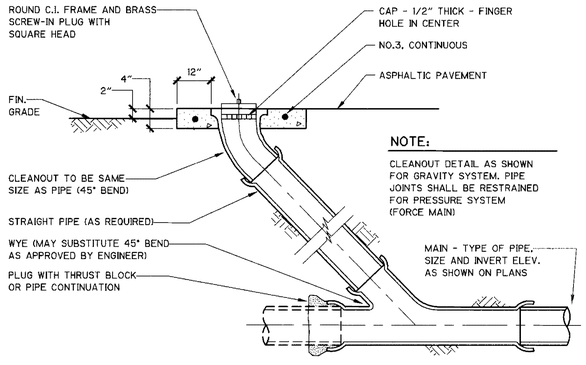
1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHERE EVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSING BE ALLOWED.
2. CONSTRUCT STANDARD CROSSING USING 75% OF MANUFACTURERS MAXIMUM JOINT DEFLECTION (MAX.)
3. COAT TIE RODS WITH A COAL TAR ENAMEL AFTER ASSEMBLY. (2 COATS MIN.)
4. TIE RODS MAY BE OMITTED WHEN OTHER APPROVED METHODS OF RESTRAINING ARE UTILIZED.

UTILITY CROSSING

NTS

STANDARD WATER AND SEWER SEPARATION STATEMENT

1. STORM AND SANITARY SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS AND BOTH PIPES SHALL BE D.I.P. WHERE THERE IS NOT ALTERNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MIMIMUM SEPARATION BETWEEN LINES AND JOINTS IN THE ABOVE, SHALL BE REQUIRED AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN TEN (10) FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND STORM OR SANITARY SEWER MAIN, AS A MINIMUM.
3. FORCE MAIN CROSSING WATER MAIN SHALL BE LAID TO PROVIDE A MIMIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE WATER MAIN WITH WATER CROSSING OVER THE FORCE MAIN.



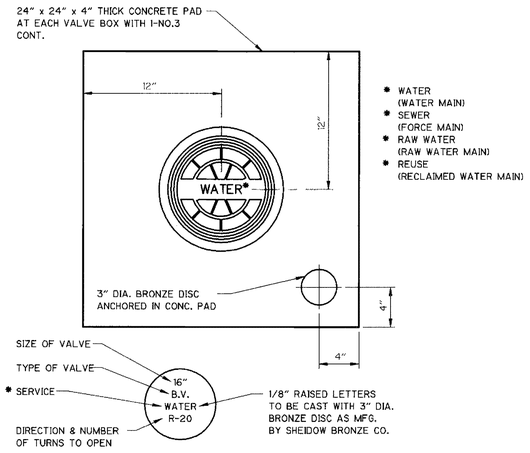
NOTE:

CLEANOUT DETAIL AS SHOWN FOR GRAVITY SYSTEM. PIPE JOINTS SHALL BE RESTRAINED FOR PRESSURE SYSTEM (FORCE MAIN)

GRAVITY LINE CLEANOUT

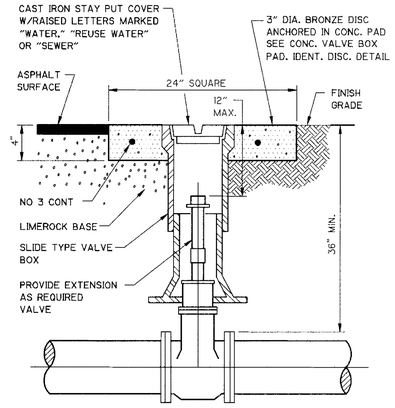
DETAIL A

NTS



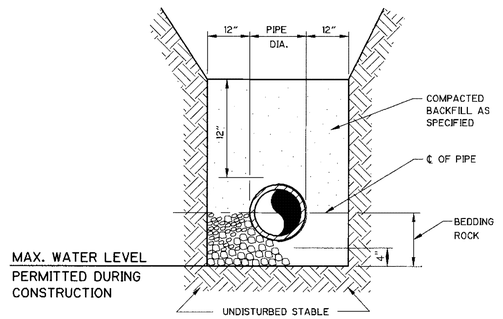
CONCRETE VALVE PAD/IDENT. DISC.

NTS



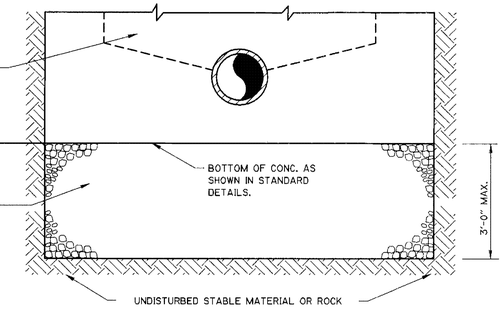
VALVE AND BOX

NTS



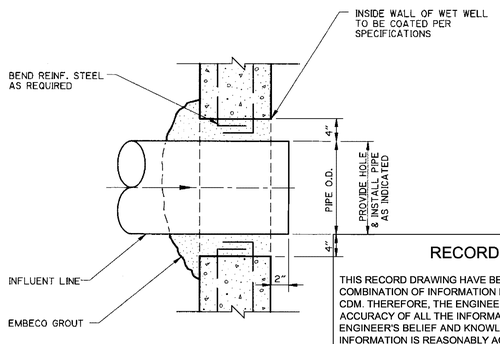
SPECIAL BEDDING

NTS



TYPE 2 MANHOLE FOUNDATION

NTS



DETAIL B

NTS

RECORD DRAWING

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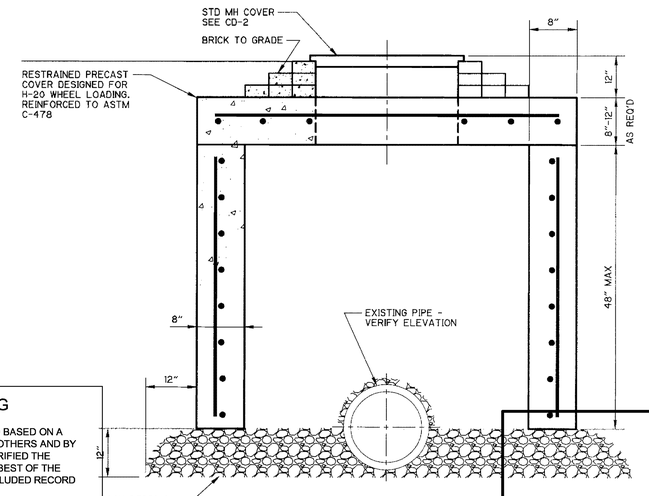
By _____ Date December 2007

CDM



STANDARD SHALLOW MANHOLE

NTS

JONATHAN Z. GOLDMAN
P.E. NO. 48925

REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	ALN	JEC	RECORD DRAWING
	3/99	ALN	WMS	CONFORMED DRAWINGS

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CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

CIVIL DETAILS

PROJECT NO. 9381-02R

SHEET NO. CD-1

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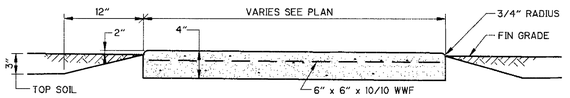
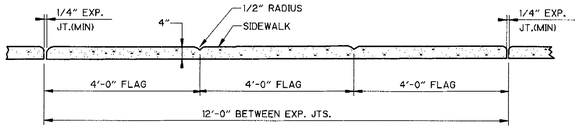


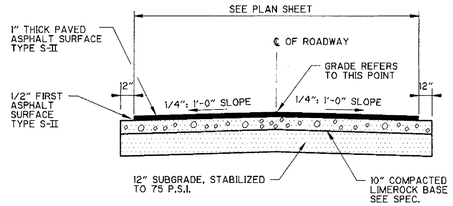
WALK SECTION

DETAIL A NTS C-1



FLAG AND EXPANSION JOINT

DETAIL B NTS C-1

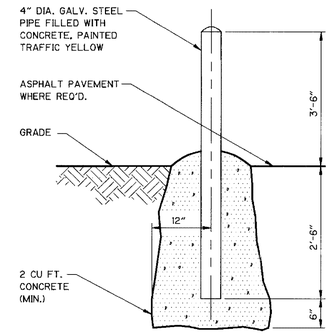


NOTE:

SEE PLAN FOR ROADWAY LOCATIONS.

TYPICAL ROADWAY DETAIL

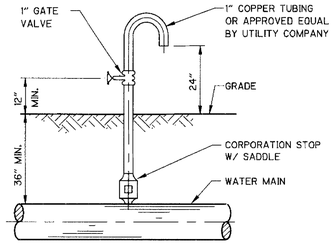
DETAIL C NTS C-1



GUARD POST

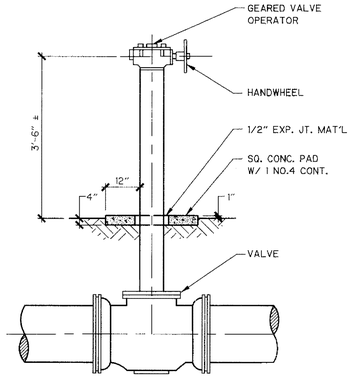
DETAIL D NTS C-1

A CORPORATION STOP SHALL BE INSTALLED WITH A LENGTH OF 1" COPPER TUBING EXTENDING ABOVE THE GROUND. THE TUBING SHALL BE INSTALLED WITH A 180° BEND. AFTER SATISFACTORY BACTERIOLOGICAL TESTING CORPORATION IS TO BE SHUT OFF AT MAIN AND ALL TUBING REMOVED

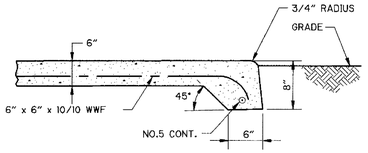


SAMPLING POINT

DETAIL E NTS C-1

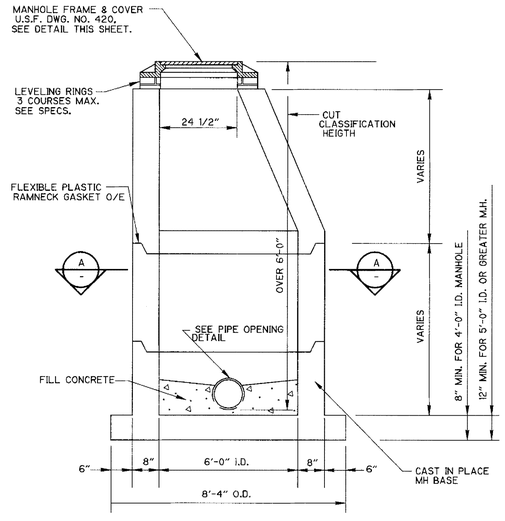


DETAIL F NTS C-1



TYPICAL EQUIP. WORK SLAB

DETAIL G N.T.S. C-1

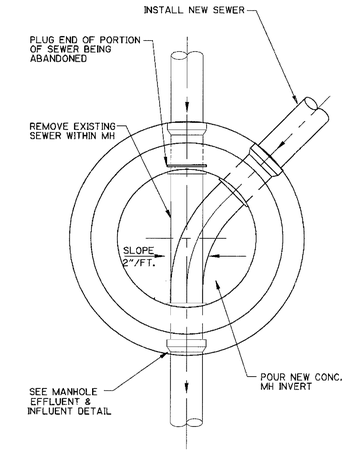


ELEVATION

TO BE USED WHEN CUT CLASSIFICATION IS OVER 6'-0"

STANDARD DEEP TYPE MANHOLE

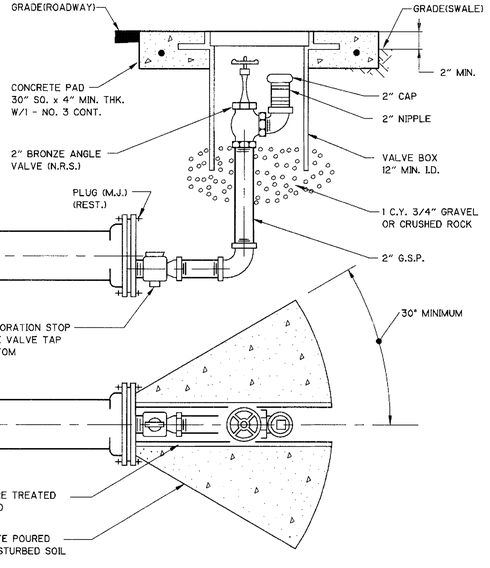
NTS



SECTION A NTS -

STRUCTURAL NOTES:

1. REINFORCING AREA OF 0.20 SQ. IN./FT. FOR WALL SECTION, MIN. TO MEET OR EXCEED ASTM A 185.
2. ALL CEMENT TO BE TYPE II ACID RESISTANT.
3. ALL CONCRETE FOR PRECAST MANHOLES TO BE 4,000 P.S.I. TO MEET OR EXCEED ASTM C 478.
4. BOTTOMS & CHANNELS OF ALL MANHOLES TO BE OF 2,500 P.S.I. FILL CONCRETE FINISHED SMOOTH WITH STEEL TROWEL.
5. CONCRETE MANHOLES TO HAVE A MIN. WALL THICKNESS OF 8".
6. INSIDE OF MANHOLE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY AND ONE COAT OUTSIDE.
7. CHANNELS TO BE FORMED IN ALL MANHOLES TO ACCEPT T.V. CAMERA.
8. WHEN DIRECTIONAL CHANGES EXCEEDING 45° OCCUR, AN EXTRA FLOW LINE ELEVATION DROP OF (.05 FEET) ACROSS MANHOLE WILL BE PROVIDED.
9. ORIENT ECCENTRIC CONE AS REQUIRED BY ENGINEER IN FIELD.
10. BOTTOM SECTION TO BE MONOLITHIC POUR EXCEPT WHERE DROP CONNECTION IS REQUIRED.



NOTE:

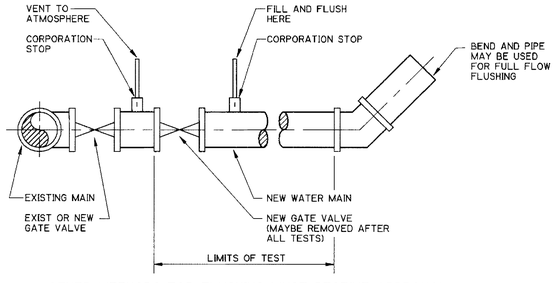
1. COAT ALL EXPOSED THREADS WITH COAL TAR ENAMEL BEFORE BACKFILL.
2. THRUST BLOCK HEIGHT EQUAL TO PIPE DIAMETER.

2" BLOW-OFF

NTS

NOTES:

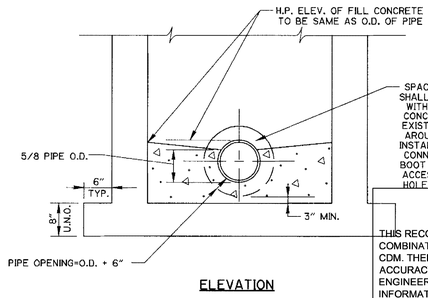
1. REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
2. DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL ALL TESTING HAS BEEN COMPLETED.
3. COMPLY WITH ALL DADE COUNTY HEALTH DEPT. AND DERM REGULATIONS.
4. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.



OTHER METHODS FOR FLUSHING MUST RECEIVE APPROVAL FROM THE UTILITY COMPANY.

FILLING AND FLUSHING CONNECTION

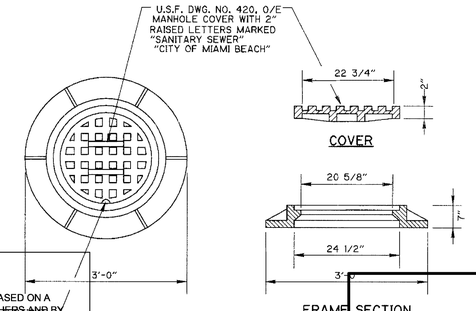
NTS



ELEVATION

PIPE OPENING DETAIL

NTS



FRAME SECTION

MANHOLE CASTING

NTS

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CITY OF MIAMI BEACH, FLORIDA

WATER AND WASTEWATER SYSTEM IMPROVEMENTS

CIVIL DETAILS

PROJECT NO. 9381-02R

SHEET NO. CD-2

DWG: L:\9381-02R\record\Civil\DETAILS\SD0TC02.DWG USER: pstid
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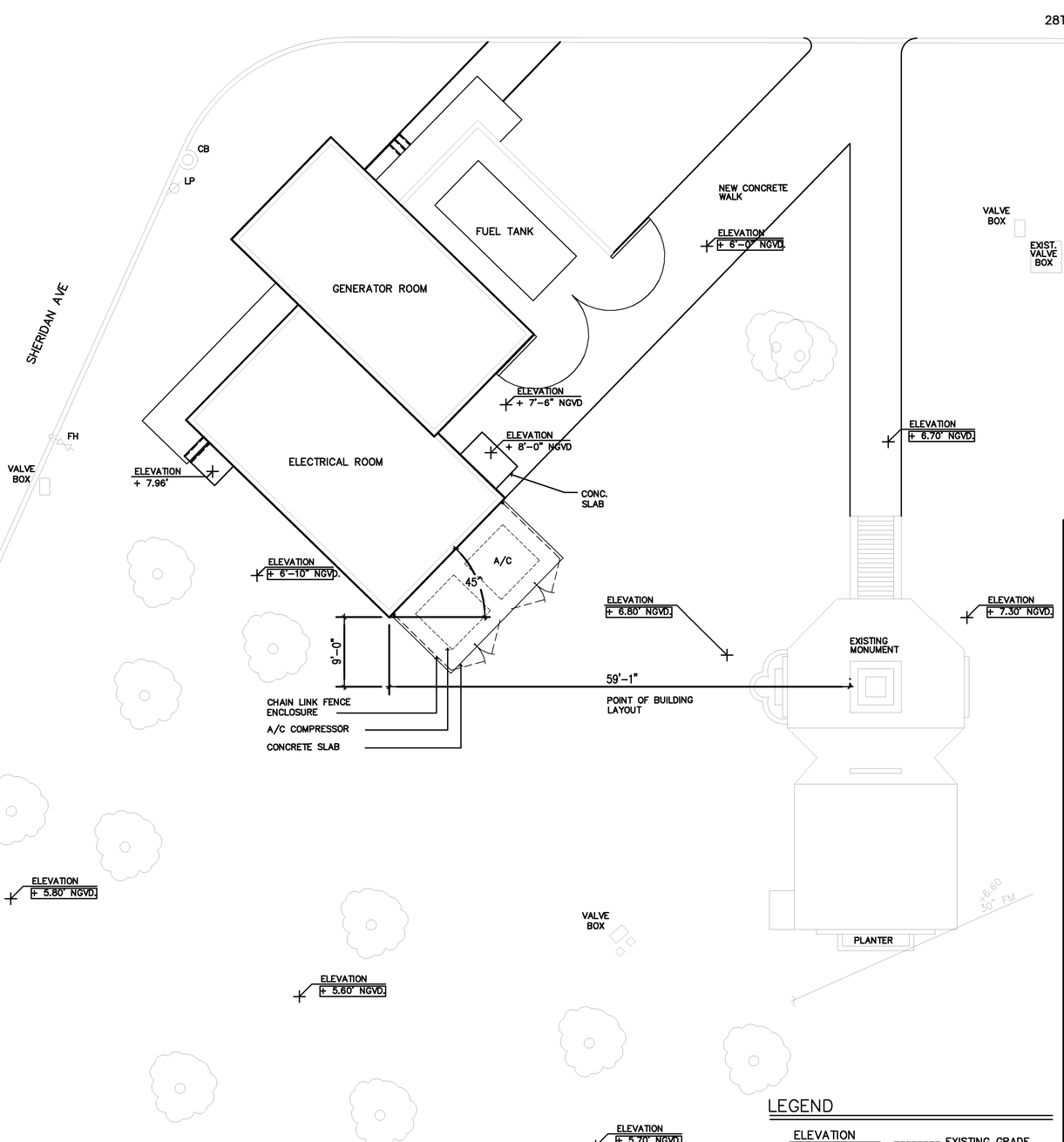
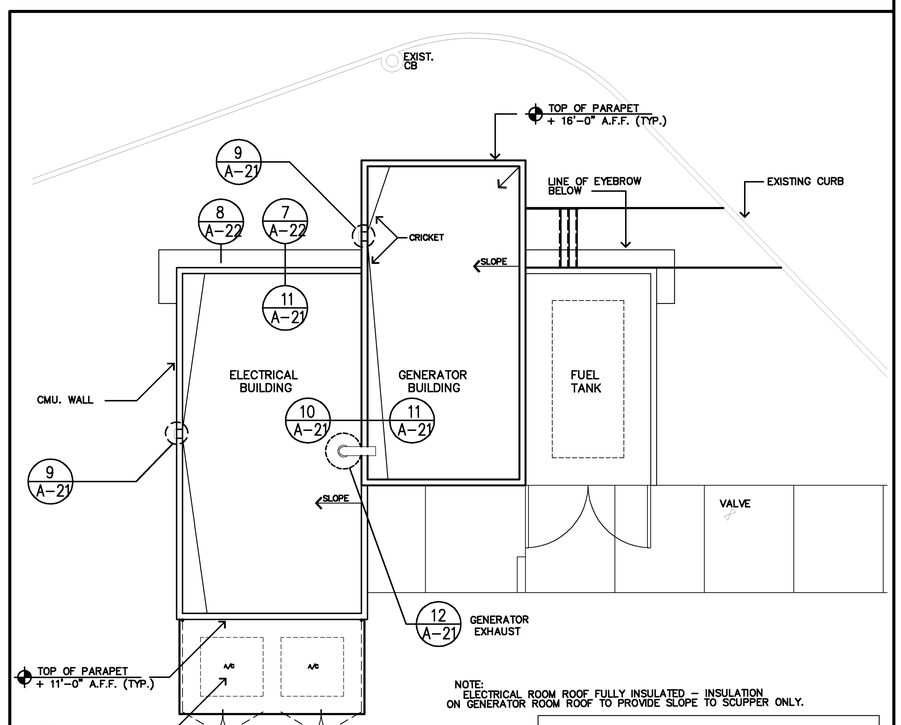


1 Site Plan
A-11 1/8" = 1'-0"

PUMP STATION 28



NOTE:
ELECTRICAL ROOM ROOF FULLY INSULATED – INSULATION ON GENERATOR ROOM ROOF TO PROVIDE SLOPE TO SCUPPER ONLY.

2 BUILDING ROOF PLAN
A-11 1/8" = 1'-0"

RECORD DRAWING

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By _____ Date December 2007

CDM

DONNELL, DUQUESNE & ALBAISA, P.A.
CONSULTING ENGINEERS
RAMON R. DONNELL P.E. 0011690 CIVIL/STRUCTURAL
PEDRO J. DUQUESNE P.E. 0022764 CIVIL/STRUCTURAL
AIDA M. ALBAISA P.E. 0045130 CIVIL/STRUCTURAL
4830 S.W. 74th CT. MIAMI, FLORIDA 33155
(305) 666-0711 FAX 666-5289

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800 Brickell Avenue, Suite 710
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305 372-7171, Fax: 305 372-9167

City of Miami Beach

zyscovich
100 N. BISCAYNE BLVD. SUITE 1400 MIAMI FL 33132
T 305 372 9222 F 305 577 4521
CIS 73527, 2250

ELECTRIC GENERATOR

28th Street and Sheridan Avenue, Miami Beach
STATION No 28

Seal:

CONFORMED FEB 99
REG. NO. C001431

Site & Roof Plans

RECORD DRAWINGS

Revised:
Revised:
Revised: REPROCUREMENT JAN. 2003
Revised: RECORD DRAWING 12/07
Revised:

05/22/98
9507PUMP

A 11

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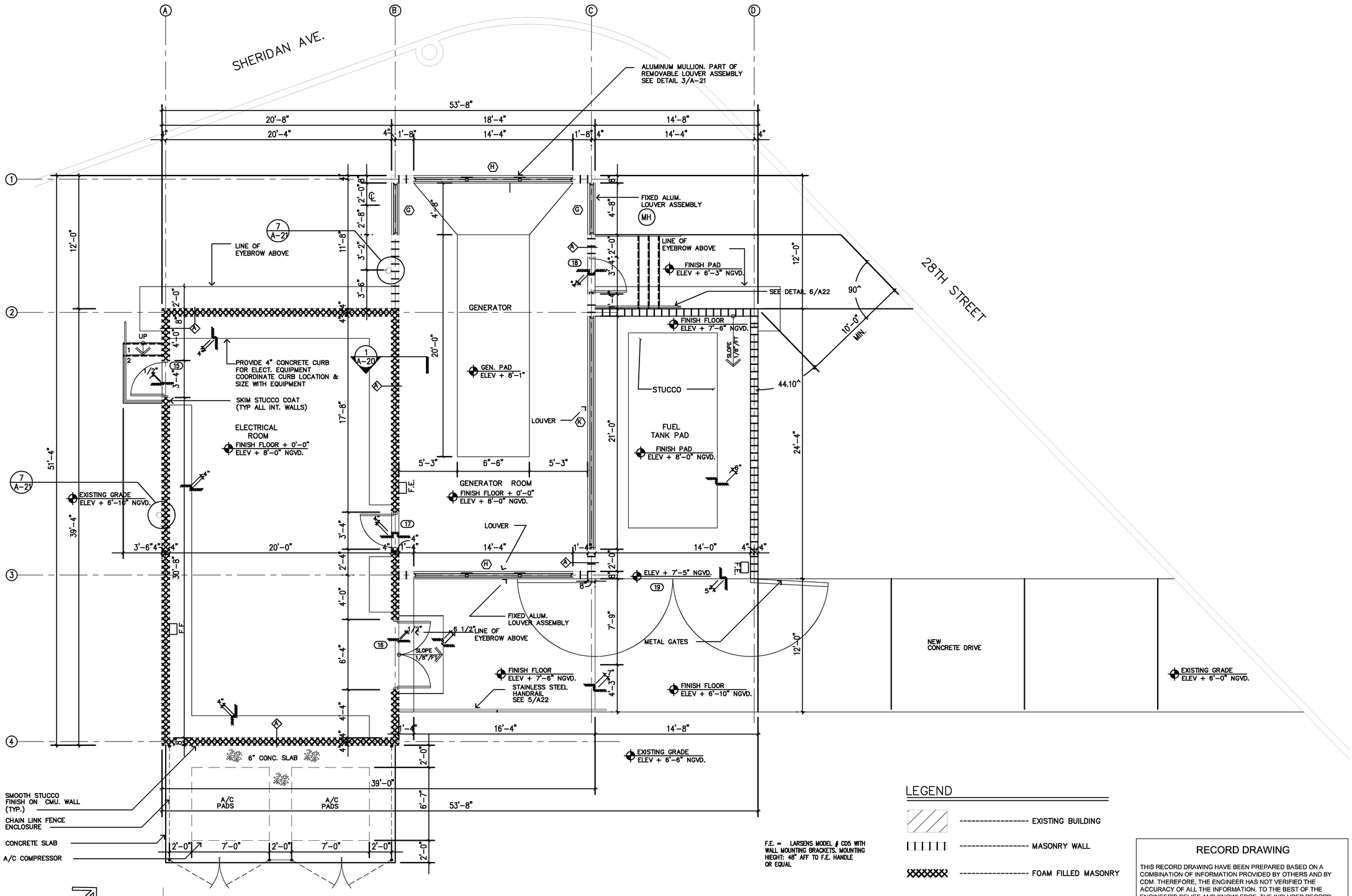

F.E. = LARSENS MODEL # CD5 WITH WALL MOUNTING BRACKETS. MOUNTING HIEGHT: 48" AFF TO F.E. HANDLE OR EQUAL

LEGEND

- EXISTING BUILDING
- MASONRY WALL
- FOAM FILLED MASONRY

1 Floor Plan
A 12 1/4" = 1'-0"

PUMP STATION NO. 28

RECORD DRAWING

THIS RECORD DRAWING HAVE BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM. THEREFORE, THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF ALL THE INFORMATION. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.

By _____ Date December 2007

CDM

FINISH NOTES:

INTERIOR FINISHES (ALL INTERIOR ROOMS)
WALLS: SKIM COAT STUCCO / PAINT
FLOOR: CONCRETE SEALER
CEILINGS: PAINTED (EXCEPT ELECTRICAL ROOMS WHICH SHALL RECEIVE A LAY-IN ACOUSTICAL CEILING. COORDINATE WITH ELECTRICAL)

DONNELL, DUQUESNE & ALBAISA, P.A.
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ELECTRIC GENERATOR

28th Street and Sheridan Avenue, Miami Beach
STATION No 28

Seal:

CONFORMED FEB 99
REG. NO. C001431

FLOOR PLAN

RECORD DRAWINGS

Revised:
Revised:
Revised:
Revised: REPROCUREMENT JAN. 2003
Revised: RECORD DRAWING 12/07

04/20/98
9507PUMP

A 12

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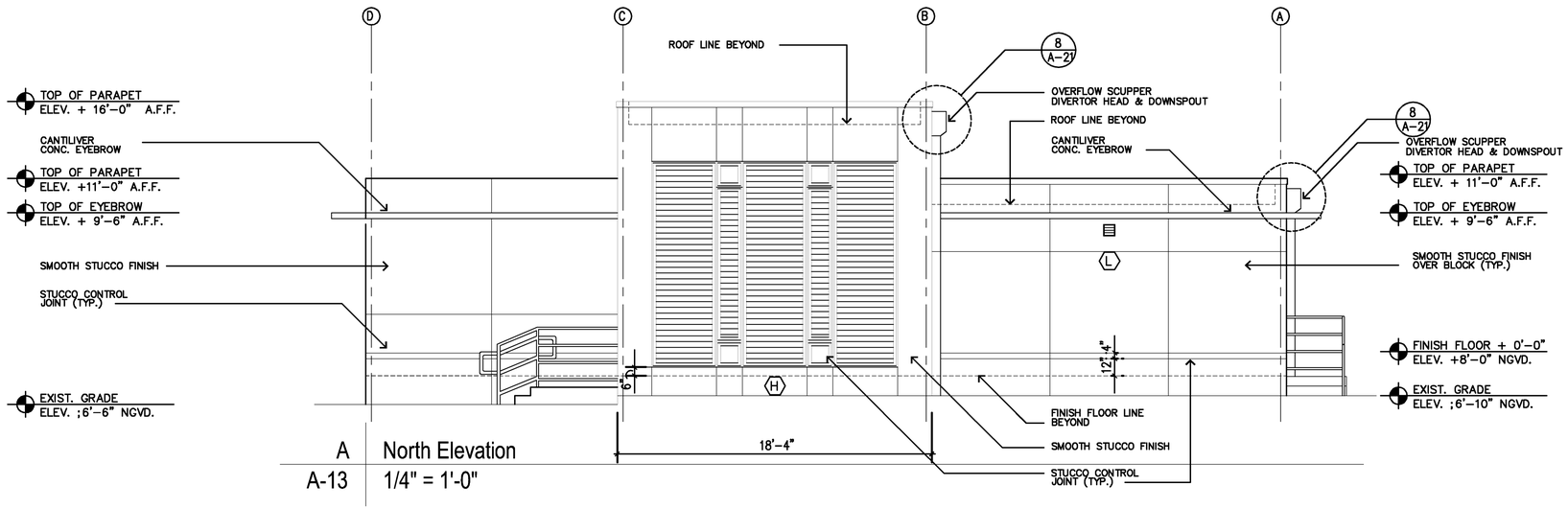
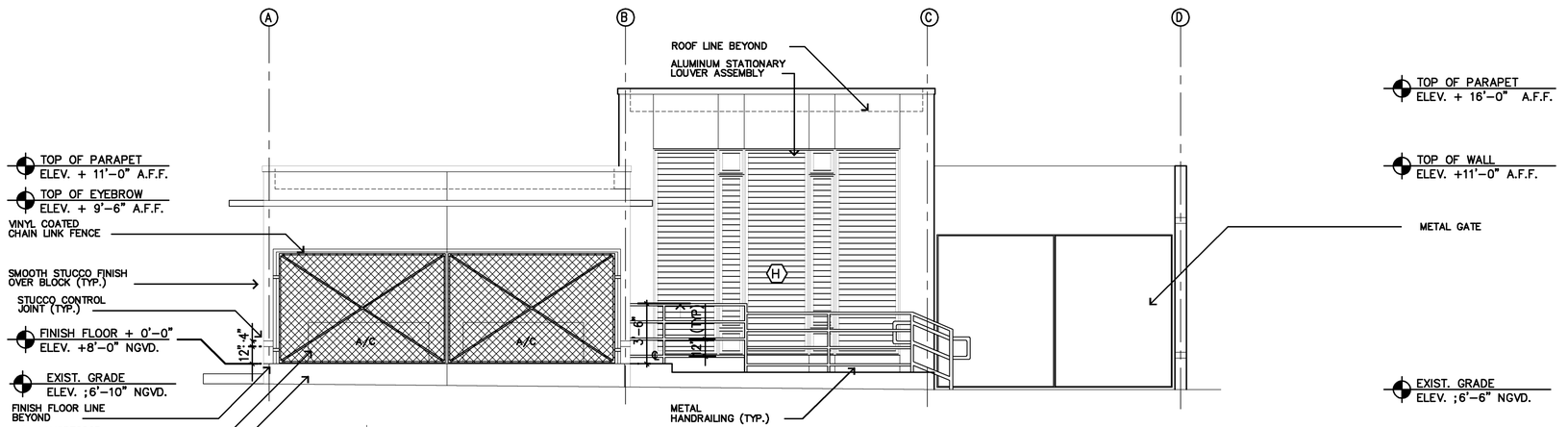
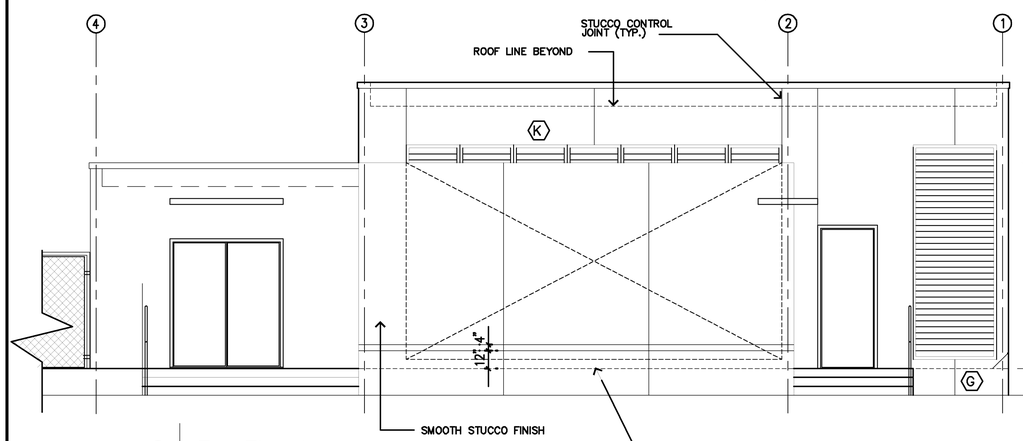


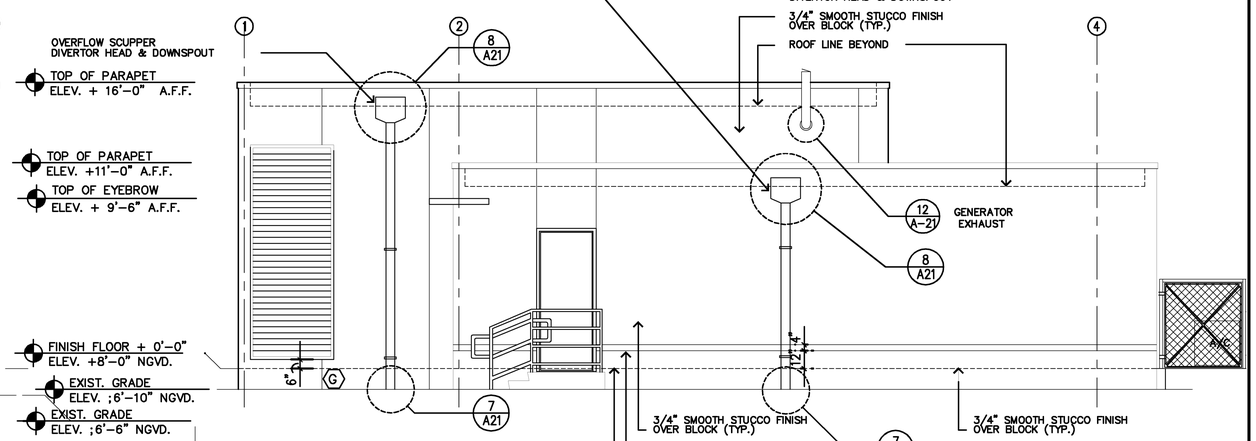
A | North Elevation
A-13 | 1/4" = 1'-0"



B | South Elevation
A-13 | 1/4" = 1'-0"



C | East Elevation
A-13 | 1/4" = 1'-0"



D | West Elevation
A-13 | 1/4" = 1'-0"

PUMP STATION 28

RECORD DRAWING

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CIS 73527, 2250

ELECTRIC GENERATOR

28th Street and Sheridan Avenue, Miami Beach
STATION No 28

Seal:

CONFORMED FEB 99

REG. NO. C001431

Elevations

RECORD DRAWINGS

Revised:
Revised:
Revised:
Revised: REPROCUREMENT JAN. 2003
Revised: RECORD DRAWING 12/07

SCHEME A	04/20/98
	9507PUMP

A | 13

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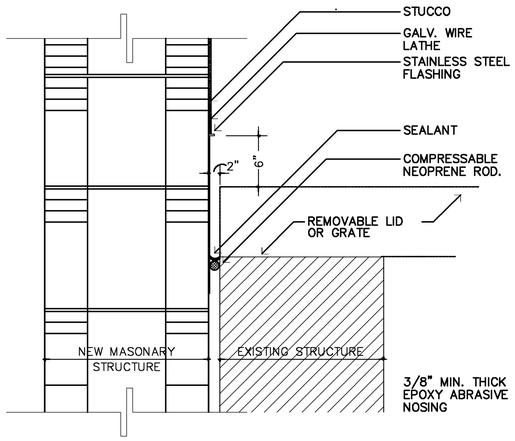
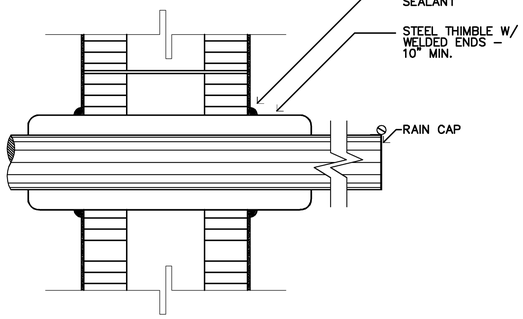
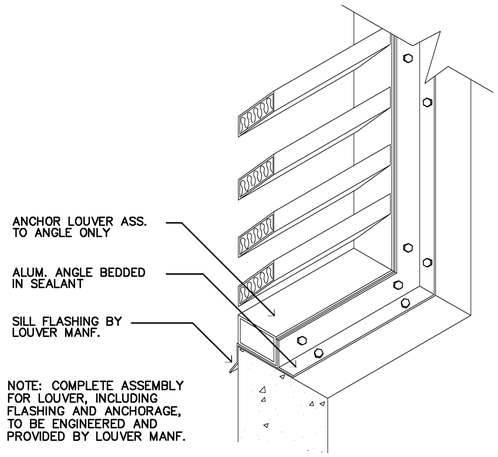


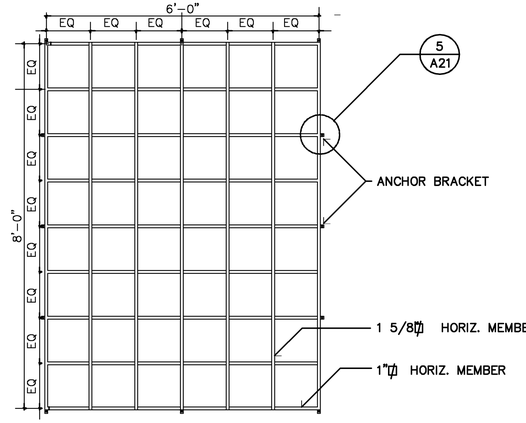
1 / A21 DETAIL @ WALL INTERSECTION — N.T.S.



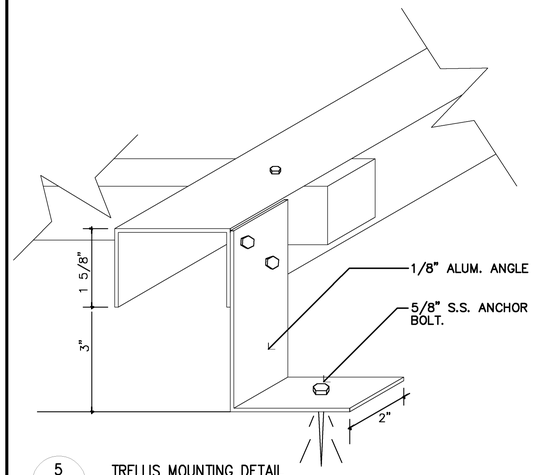
2 / A21 GENERATOR EXHAUST — N.T.S.



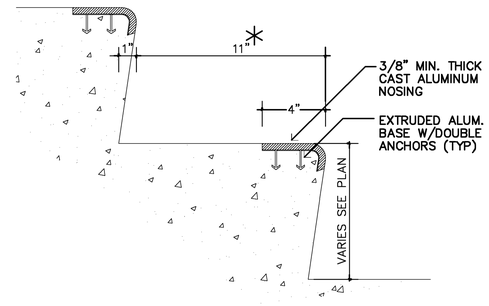
3 / A21 REMOVABLE LOUVER — N.T.S.



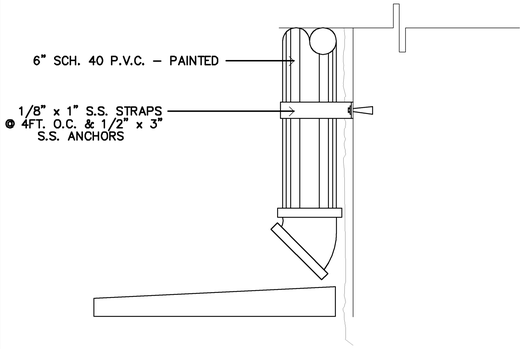
4 / A21 TRELLIS ELEVATION — N.T.S.



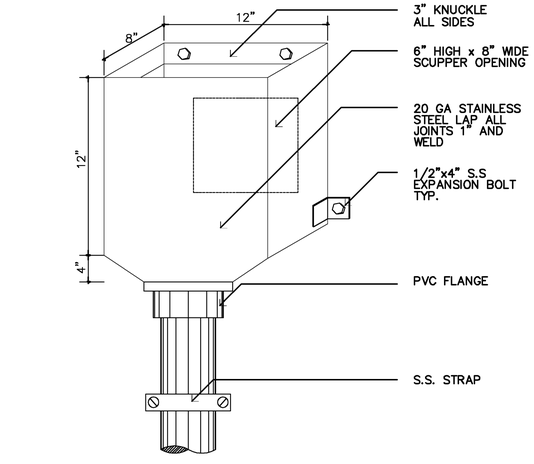
5 / A21 TRELLIS MOUNTING DETAIL — N.T.S.



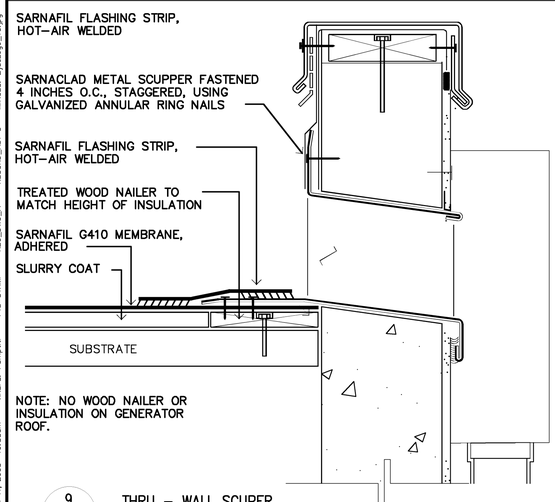
6 / A21 TYPICAL NOSING DETAIL — N.T.S.



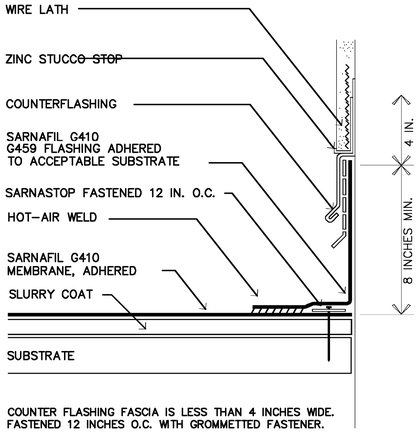
7 / A21 PVC DOWN SPOUT/STORM SEWER DETAIL — 1"=1'-0"



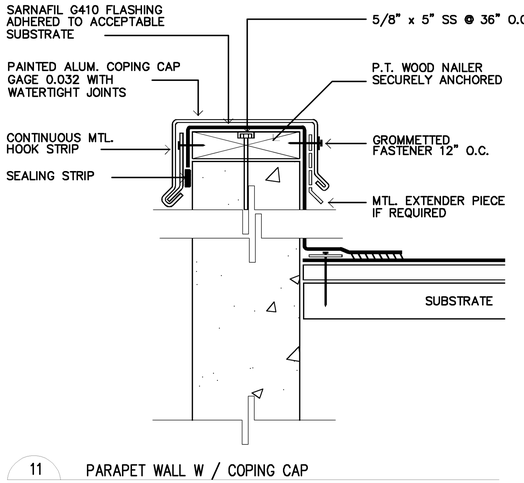
8 / A21 CONDUCTOR HEAD — N.T.S.



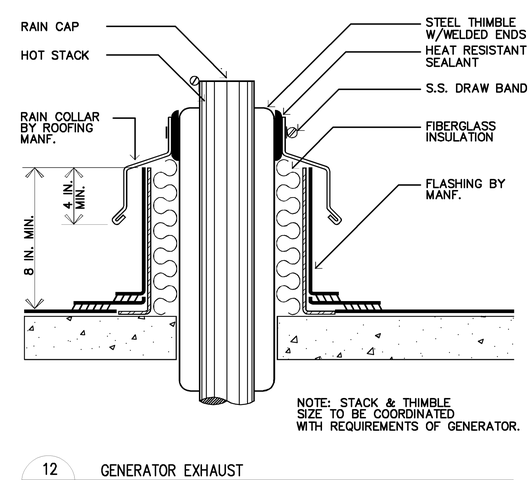
9 / A21 THRU – WALL SCUPER — 3"=1'-0"



10 / A21 CUT-IN REGLET — 3"=1'-0"



11 / A21 PARAPET WALL W / COPING CAP — 3"=1'-0"



12 / A21 GENERATOR EXHAUST — N.T.S.

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RECORD DRAWING

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City of Miami Beach

ELECTRIC / GENERATOR

City of Miami Beach

Seal:

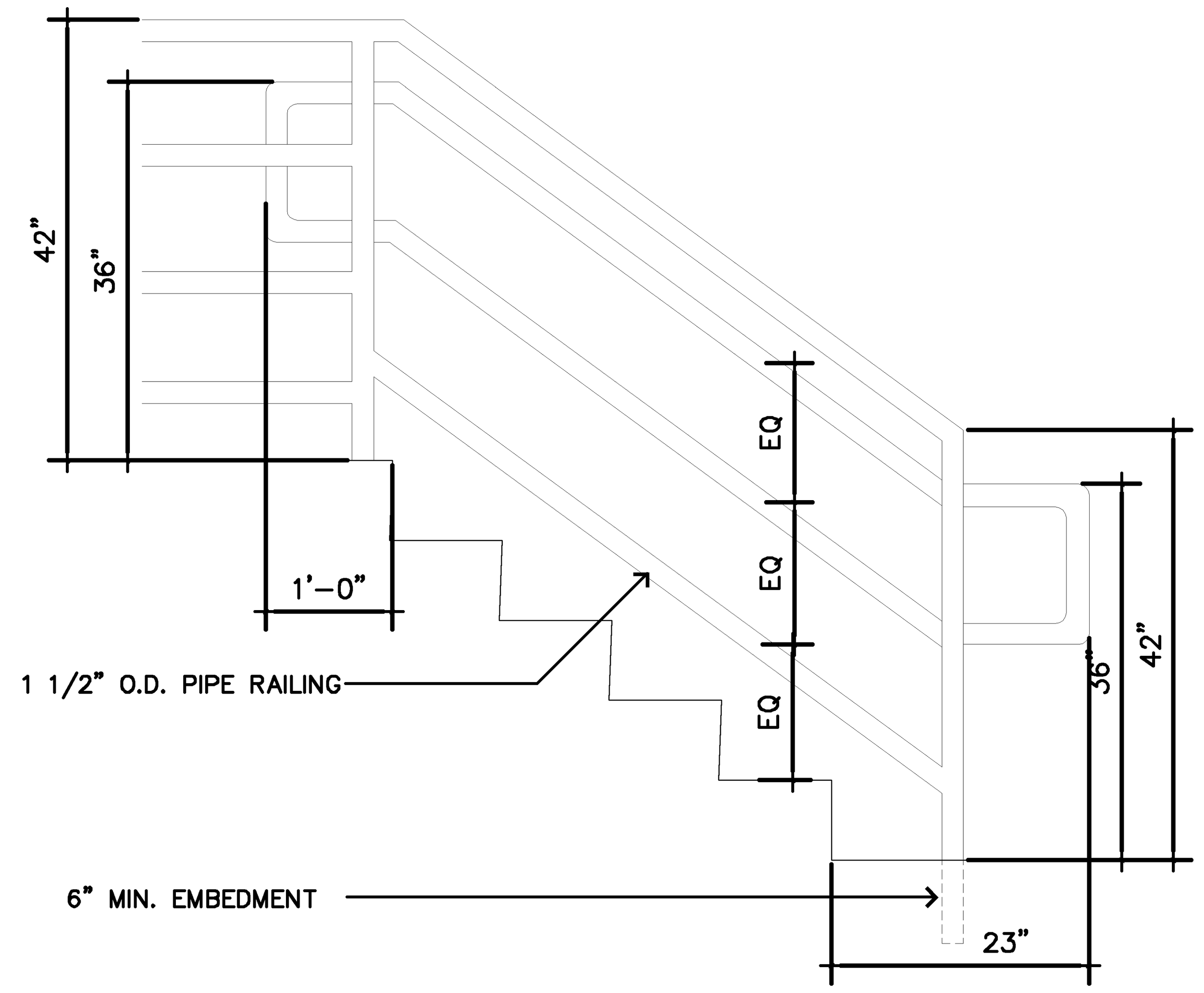
CONFORMED FEB 99
REG. NO. C001431

DETAILS

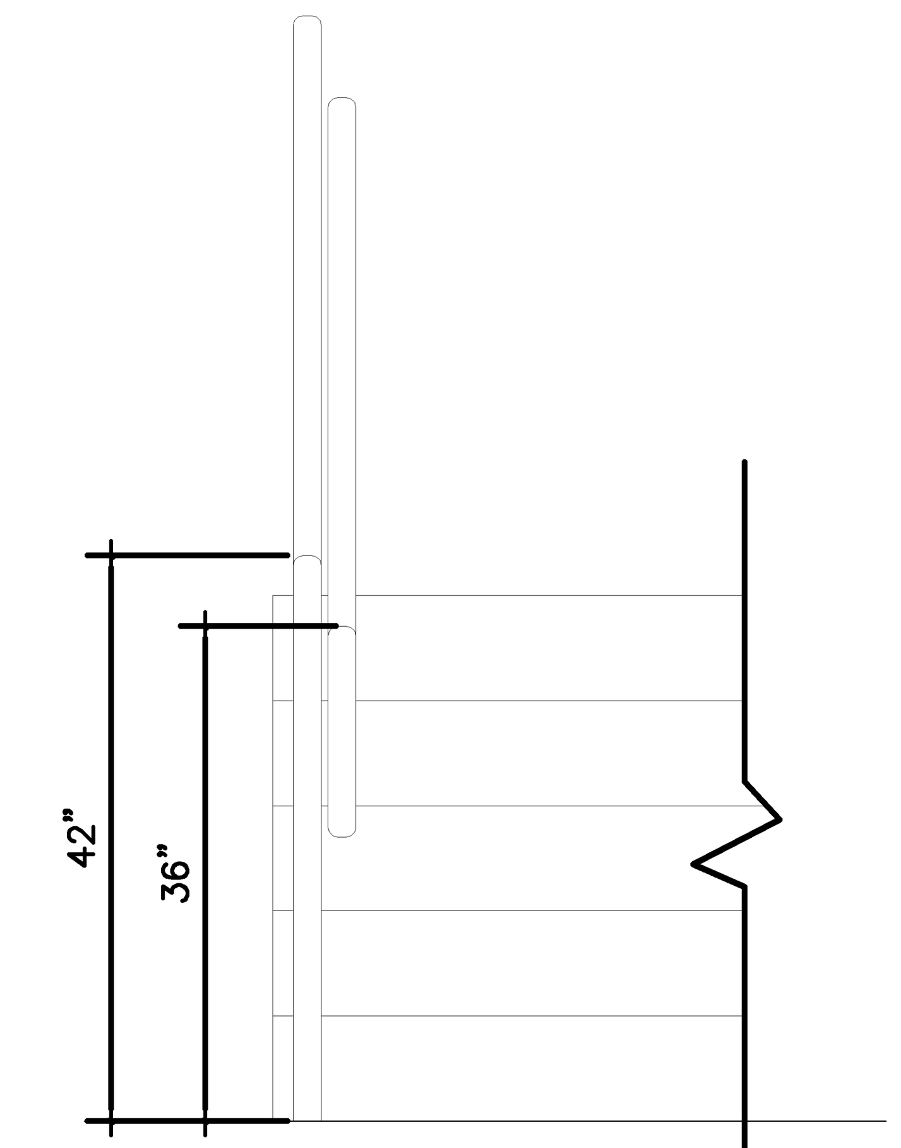
RECORD DRAWINGS

Revised:	
Revised:	
Revised:	REPROCUREMENT JAN. 2003
Revised:	RECORD DRAWING 12/07
Revised:	
	04/20/98
	9507PUMP

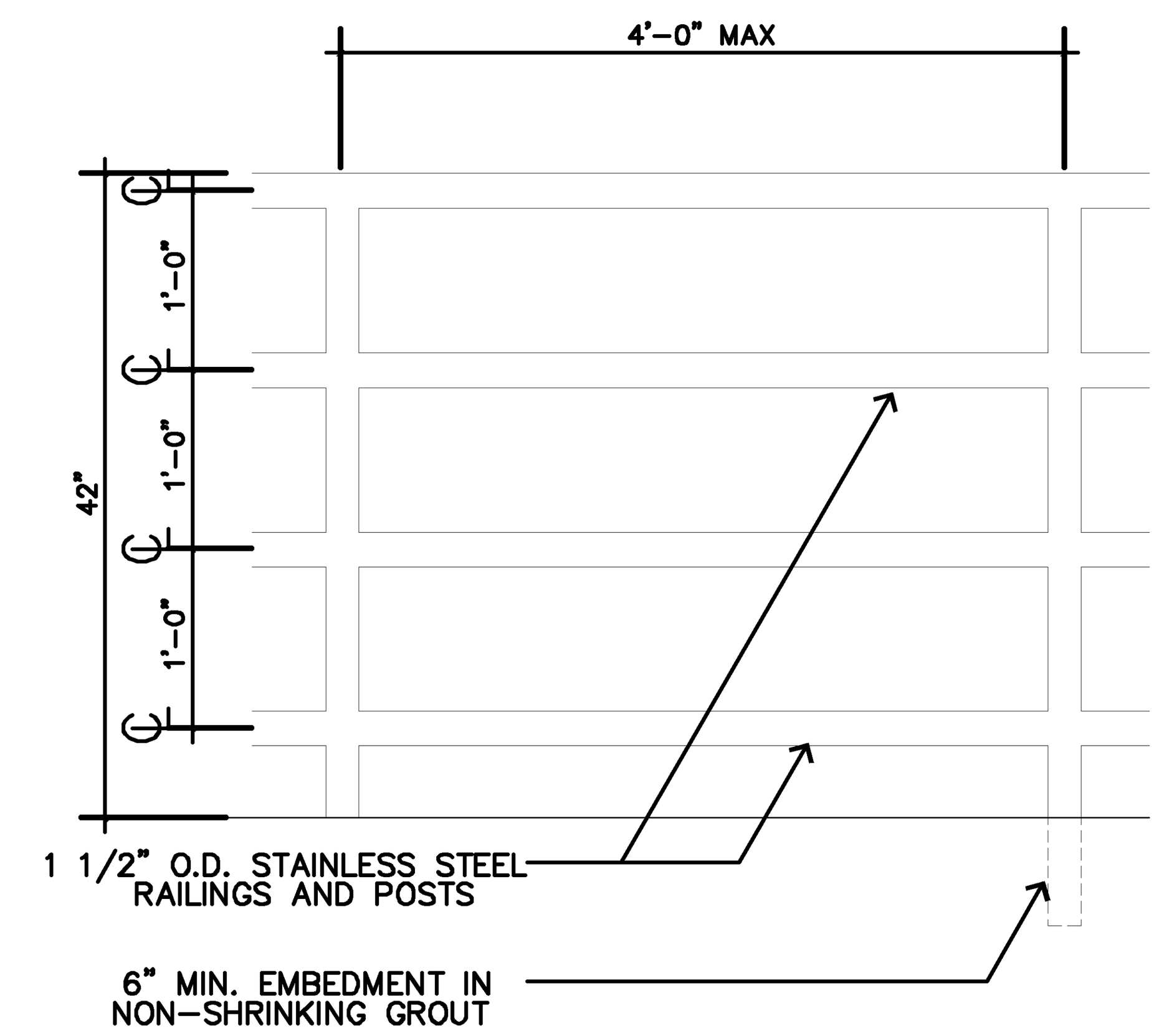
A 21



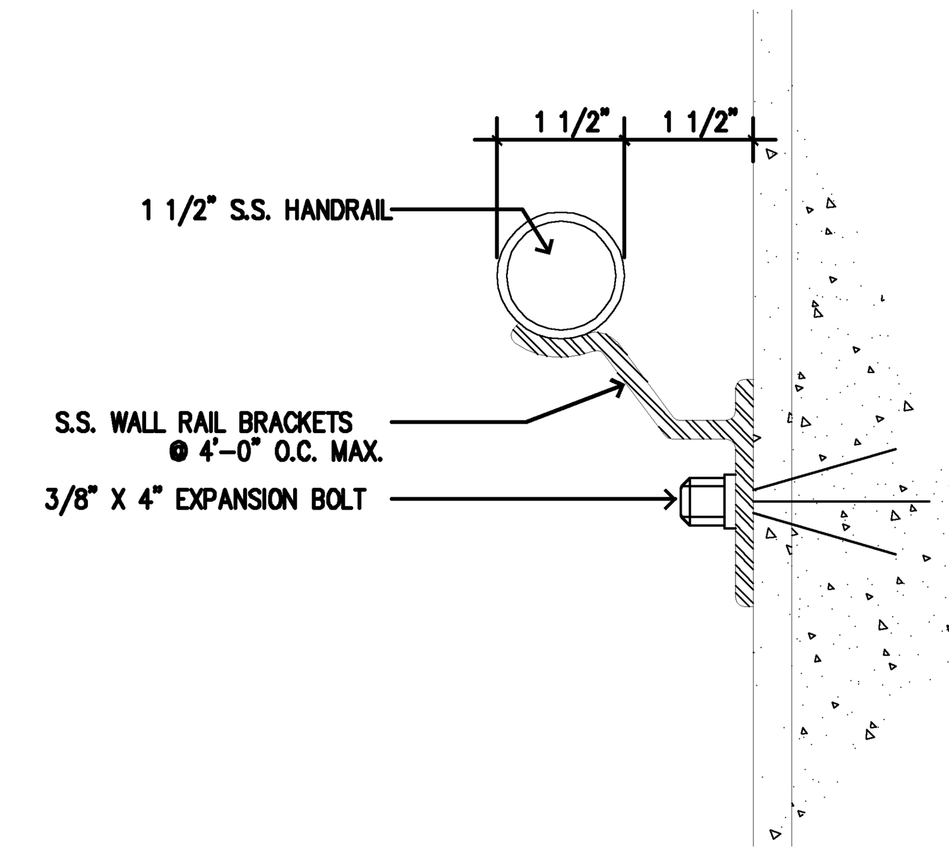
4A STAIR HANDRAIL- SIDE ELEVATION
A22 N.T.S.



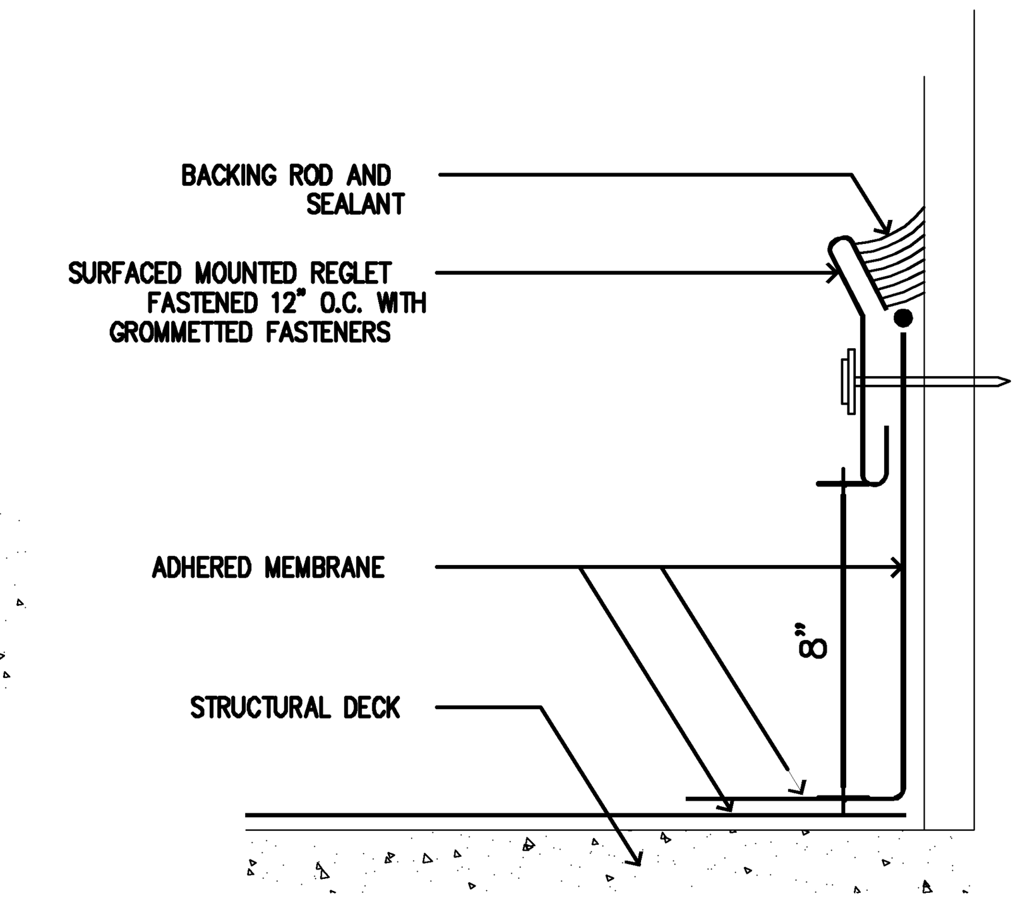
4B STAIR HANDRAIL- FRONT ELEV.
A22 N.T.S.



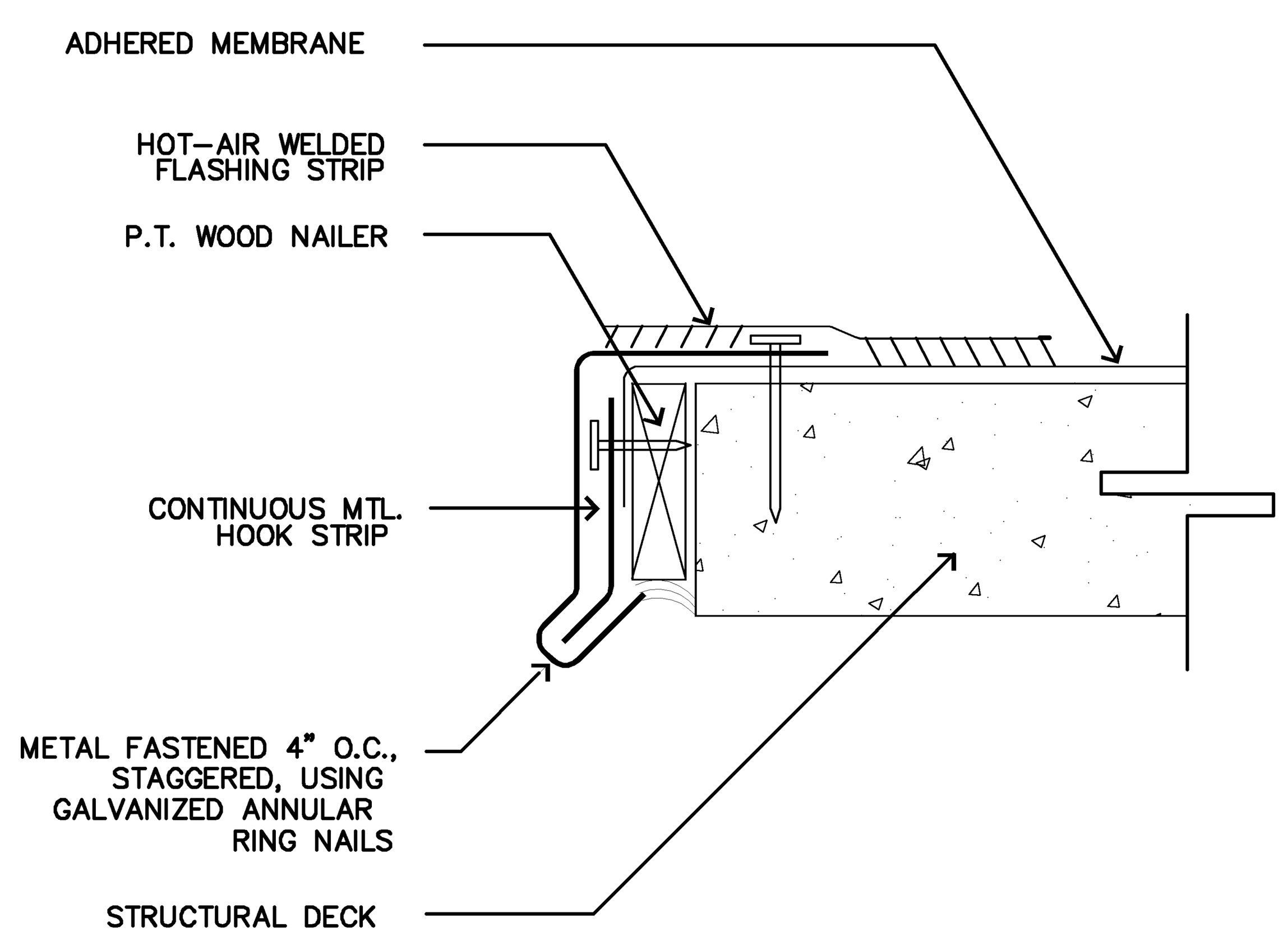
5 RAILING @ PLATFORM
A22 N.T.S.



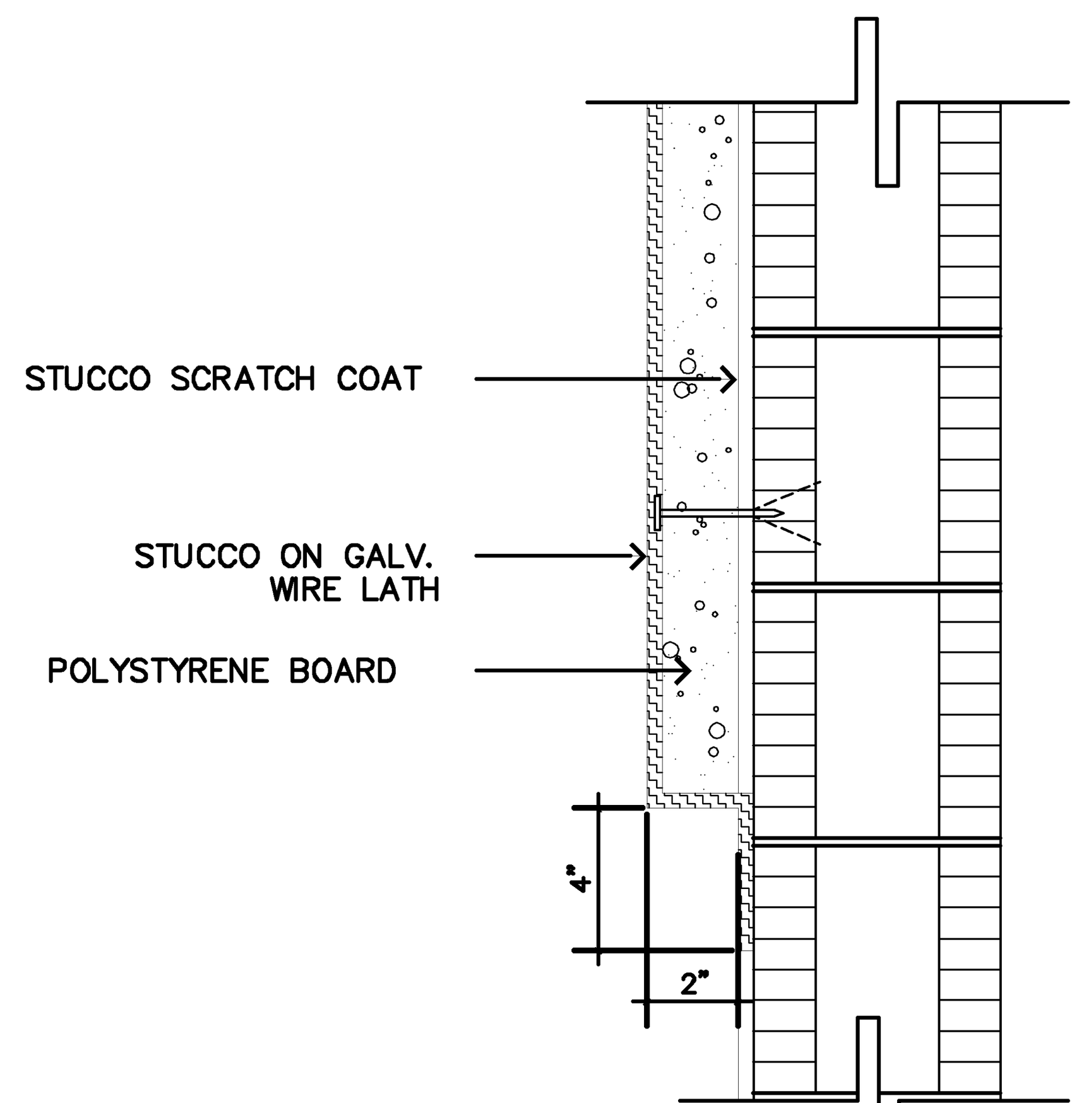
6 HANDRAIL MOUNTING ON WALL
A22 N.T.S.



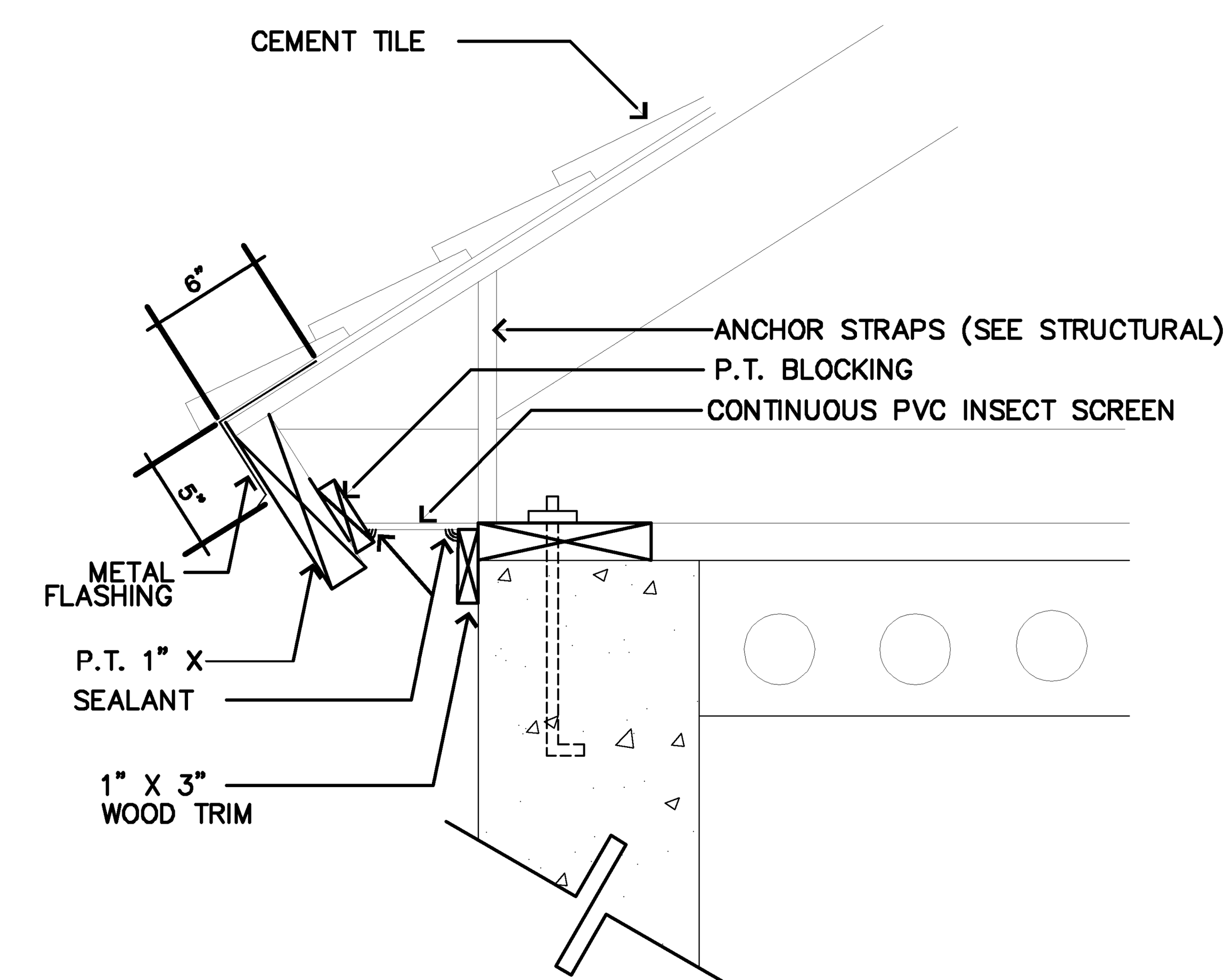
7 FLASHING EDGE
A22 N.T.S.



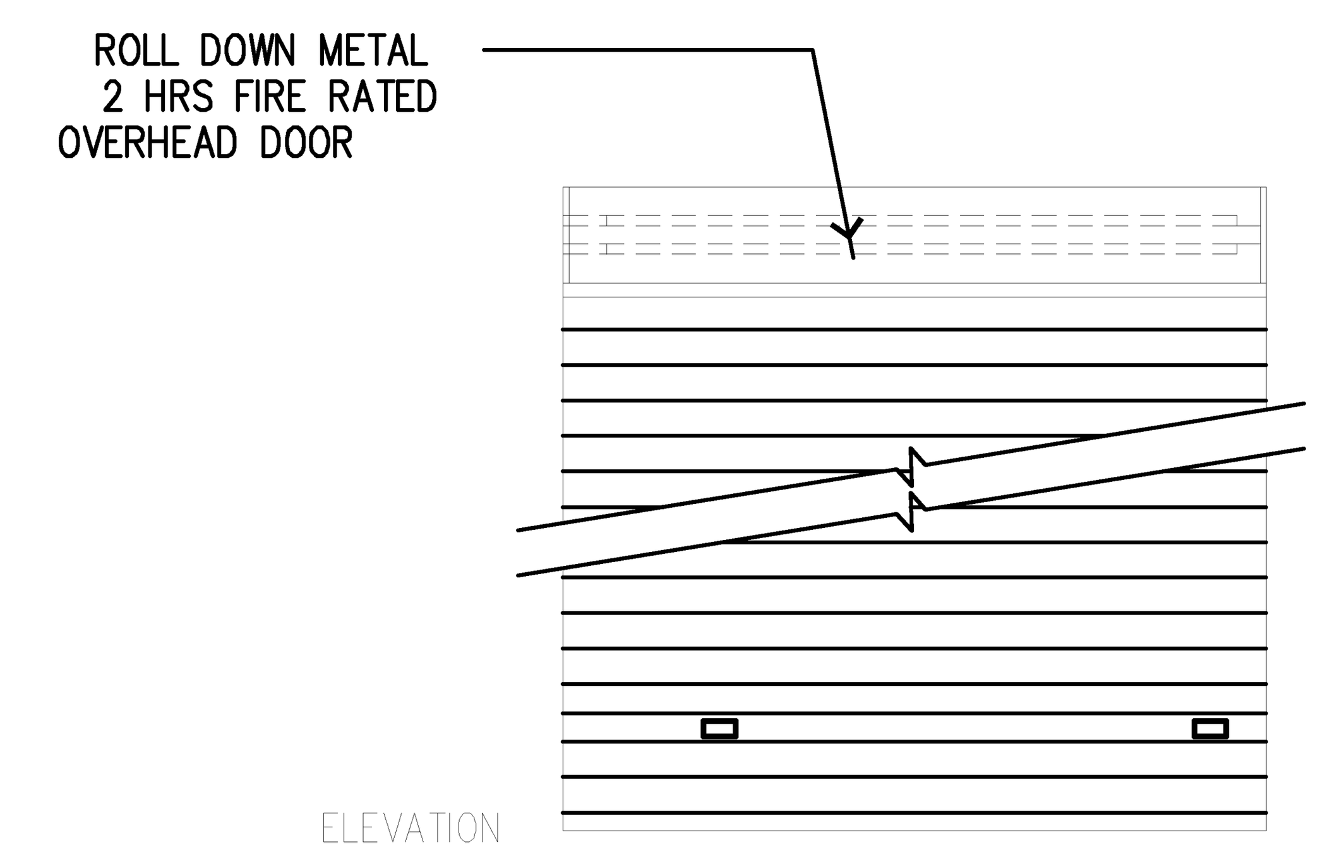
8 EDGE FLASHING
A22 N.T.S.



9 RAISED PANEL DETAIL
A22 N.T.S.



10 SOFFIT
A22 N.T.S.



11 ROLL-UP OVERHEAD DOOR
A22 N.T.S.

DOOR SCHEDULE										
DOOR								FRAME		REMARKS
NO.	LOCATION	TYPE	MAT	WIDTH	HEIGHT	THICK	FIRE RATED	SIZE	HRDWR GRP	
1	PS10	FF	HM	3'-0"	7'-10"	1'-3/4"		3'-4"X8'-0"X5-3/4"	1	180 DEGREE SWINGING
2	PS10	A	ALUM	10'-0"	8'-0"	1'-3/4"		6'-4"X8'-2"X5-3/4"	2	ALUM. GATE
3	PS10	FF	HM	(2)3'-0"	7'-10"	1'-3/4"		6'-4"X8'-0"X5-3/4"	3	180 DEGREE SWINGING
4	PS10	FF	HM	3'-0"	7'-6"	1'-3/4"	1 HOUR	3'-4"X7'-8"X5-3/4"	4	180 DEGREE SWINGING *
5	PS10	FF	HM	3'-0"	7'-0"	1'-3/4"		3'-4"X7'-2"X5-3/4"	5	180 DEGREE SWINGING
6	PS29	FF	HM	3'-0"	7'-10"	1'-3/4"		3'-4"X8'-0"X5-3/4"	1	180 DEGREE SWINGING
7	PS29		HM	(2)3'-0"	7'-10"	1'-3/4"		6'-4"X8'-0"X5-3/4"	3	180 DEGREE SWINGING
8	PS29	FF	HM	3'-0"	7'-6"	1'-3/4"	1 HOUR	3'-4"X7'-8"X5-3/4"	4	180 DEGREE SWINGING *
9	PS29	FF	HM	3'-0"	7'-6"	1'-3/4"		3'-4"X7'-8"X5-3/4"	1	180 DEGREE SWINGING
10	PS29	B	AL	12'-8"	8'-0"			N.A.	2	ALUM. GATE
11	41st. ST.	FF	HM	3'-0"	7'-0"	1'-3/4"		3'-4"X7'-2"X5-3/4"	5	180 DEGREE SWINGING
12	41st. ST.	FF	HM	3'-0"	8'-0"	1'-3/4"	1 HOUR	3'-4"X8'-2"X5-3/4"	4	180 DEGREE SWINGING *
13	41st. ST.	FF	HM	3'-0"	8'-0"	1'-3/4"		3'-4"X8'-2"X5-3/4"	1	180 DEGREE SWINGING
14	41st. ST.	FF	HM	(2)3'-0"	7'-0"	1'-3/4"		6'-4"X7'-2"X5-3/4"	3	180 DEGREE SWINGING
15	PS28	FF	HM	3'-0"	7'-10"	1'-3/4"		3'-4"X8'-0"X5-3/4"	1	180 DEGREE SWINGING
16	PS28	FF	HM	(2)3'-0"	8'-0"	1'-3/4"		6'-4"X8'-2"X5-3/4"	3	180 DEGREE SWINGING
17	PS28	FF	HM	3'-0"	7'-8"	1'-3/4"	1 HOUR	3'-4"X7'-10"X5-3/4"	4	180 DEGREE SWINGING *
18	PS28	FF	HM	3'-0"	8'-0"	1'-3/4"		3'-4"X8'-2"X5-3/4"	1	180 DEGREE SWINGING
19	PS28	A	AL	14'-0"	8'-0"			N.A.	2	ALUM. GATE
20	75th. ST.	FF	HM	3'-0"	8'-0"	1'-3/4"		3'-4"X8'-2"X5-3/4"	1	180 DEGREE SWINGING
21	75th. ST.	FF	HM	3'-0"	7'-8"	1'-3/4"	1 HOUR	3'-4"X7'-10"X5-3/4"	4	180 DEGREE SWINGING *
22	75th. ST.	FF	HM	3'-0"	6'-10"	1'-3/4"		3'-4"X7'-0"X5-3/4"	5	180 DEGREE SWINGING
23	75th. ST.	FF	HM	(2)3'-0"	7'-0"	1'-3/4"		6'-4"X7'-2"X5-3/4"	3	180 DEGREE SWINGING
24	NI	FF	HM	(2)3'-0"	7'-10"	1'-3/4"		6'-4"X8'-0"X5-3/4"	3	180 DEGREE SWINGING
25	NI	FF	HM	3'-0"	7'-10"	1'-3/4"		6'-4"X8'-0"X5-3/4"	1	180 DEGREE SWINGING
26	NI	FF	HM	3'-0"	7'-6"	1'-3/4"		3'-4"X7'-8"X5-3/4"	1	180 DEGREE SWINGING
26A	NI	FF	HM	3'-0"	7'-6"	1'-3/4"	1 HOUR	3'-4"X7'-8"X5-3/4"	4	180 DEGREE SWINGING
27	MBCC	FF	HM	(2)3'-0"	8'-0"	1'-3/4"	1 HOUR	6'-4"X8'-2"X5-3/4"	DOOR CLOSER	180 DEGREE SWINGING
28	MBCC	FF	HM	(2)3'-0"	8'-0"	1'-3/4"	1 HOUR	6'-4"X8'-2"X5-3/4"	DOOR CLOSER	180 DEGREE SWINGING
29	MBCC	FF	HM	3'-0"	8'-0"	1'-3/4"	1 HOUR	3'-4"X8'-2"X5-3/4"	4	180 DEGREE SWINGING
29A	MBCC	FF	HM	3'-0"	8'-0"	1'-3/4"		3'-4"X8'-2"X5-3/4"	1	180 DEGREE SWINGING

NOTE:
PROVIDE 180° SWING WHERE POSSIBLE

* AUTO CLOSERS : PROVIDE CLOSER, ACCEPTABLE MANUFACTURER SARGENT 1230 SERIES, LCN 1460 SERIES X FULL COVER, NORTON 8501 SERIES OR APPROVED MANUFACTURER

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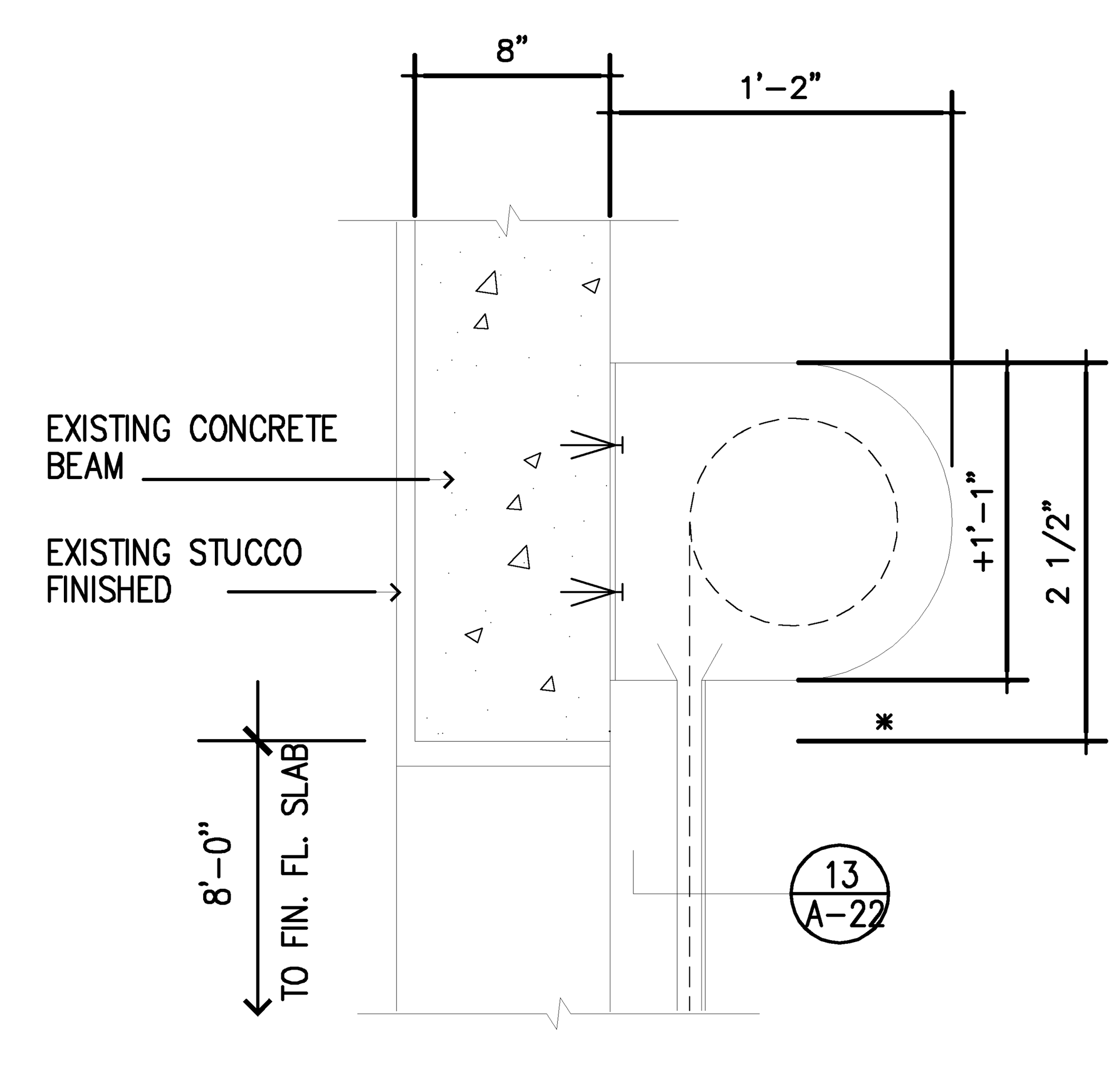
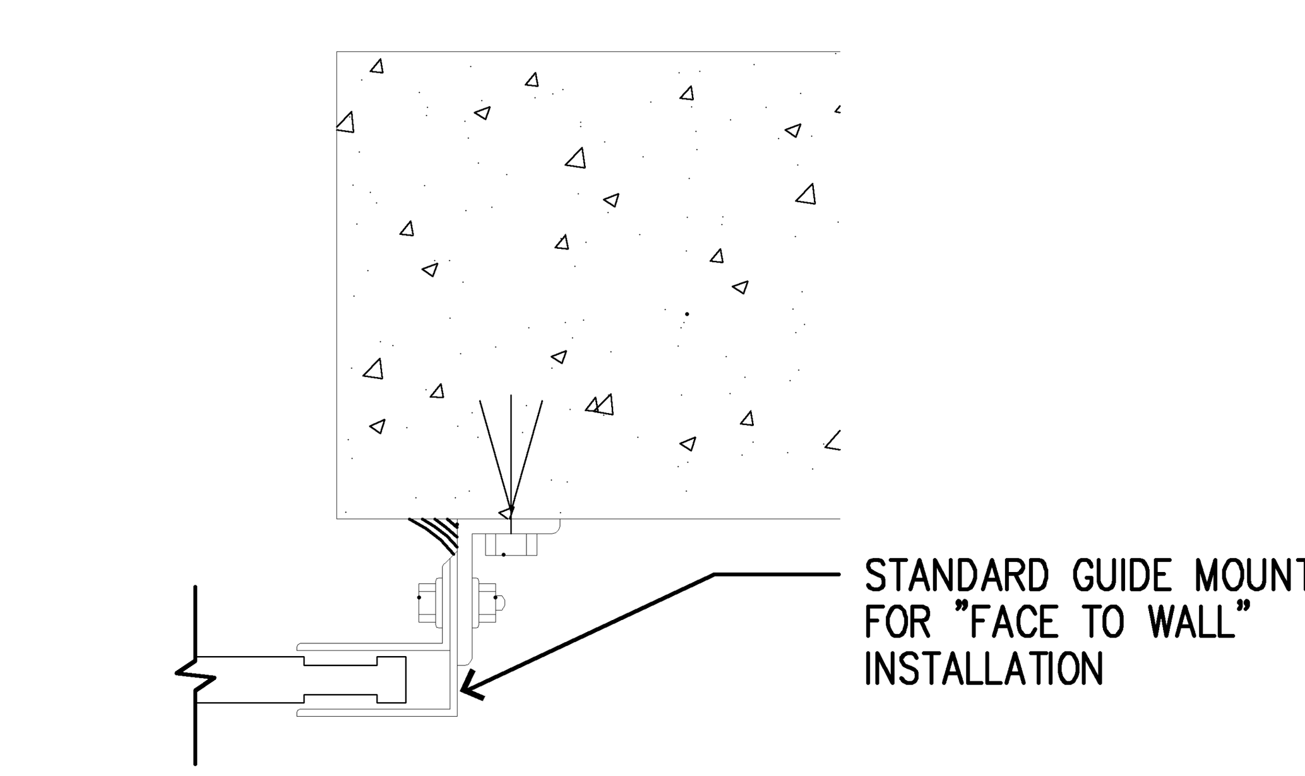


12 ROLL-UP OVERHEAD DOOR
A22 N.T.S.



13 ROLL-UP DOOR GUIDE DETAIL
A22 N.T.S.

RECORD DRAWING

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By ______ Date December 2007

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CDM
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CIS 73527, 2250

ELECTRIC / GENERATOR

City of Miami Beach

Seal:

CONFORMED FEB 99
REG. NO. C001431

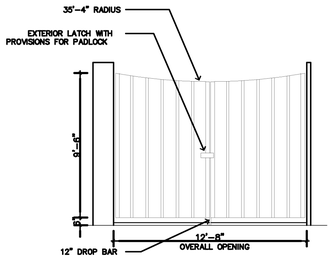
DETAILS

RECORD DRAWINGS

Revised:
Revised:
Revised:
Revised: REPROCUREMENT JAN. 2003
Revised: RECORD DRAWING 12/07

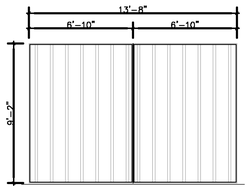
05/22/98
ZYS 9507PUMP

A 22



GATES FOR FUEL ENCLOSURE AT PUMP STATION No. 29

GATE TYPES



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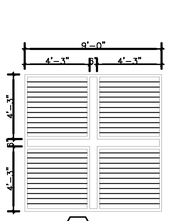
NOTE:
SWING 180^ SEE PLANS

LOUVER TYPES



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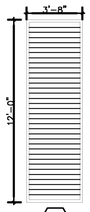

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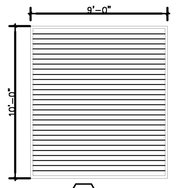

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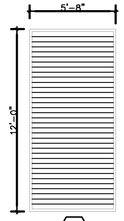

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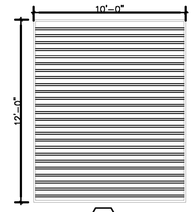

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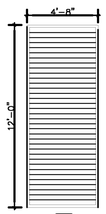

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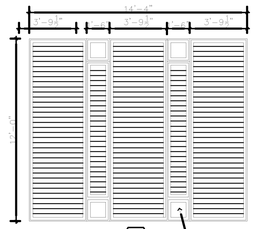

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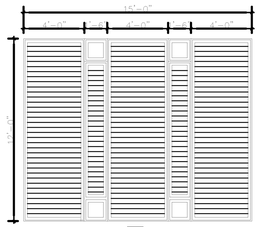
BLANK METAL PANEL (TYP.)



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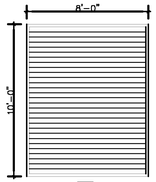

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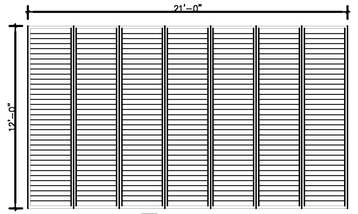

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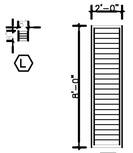
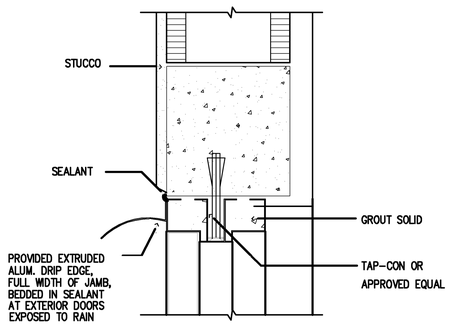


L

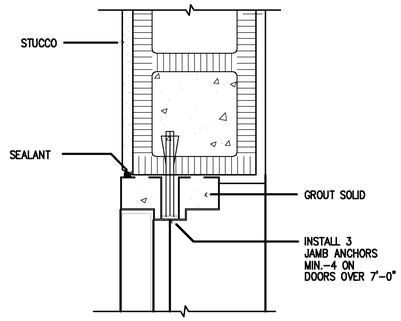
M

NOTE: COORDINATE ALL LOUVERS AT GENERATOR ROOMS WITH GENERATOR REQUIREMENTS

NOTE: LOUVERS WITH SUFFIX "1" ARE STATIONARY AND NOT REMOVABLE, BUT HAVE SAME PROFILE & ELEVATION AS REMOVABLE LOUVERS WHICH ARE NOTED WITHOUT THE "1". SEE PLANS FOR LOCATIONS.



1 TYPICAL DOOR HEAD DETAIL FOR EXTERIOR DOORS
A23 N.T.S.



2 TYPICAL DOOR JAMB DETAIL FOR EXTERIOR DOORS
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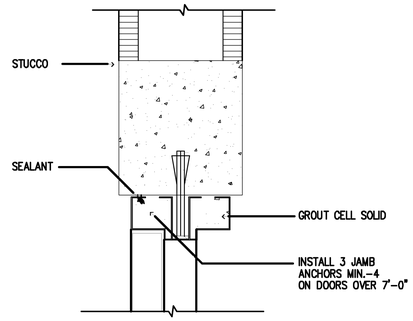

3 TYPICAL DOOR HEAD DETAIL FOR INTERIOR DOORS
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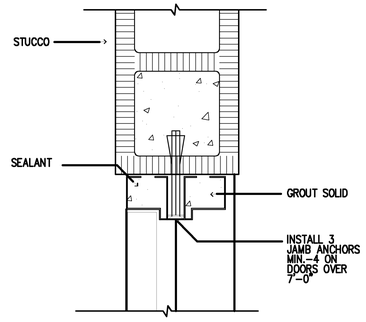

4 TYPICAL DOOR JAMB DETAIL FOR INTERIOR DOORS
A23 N.T.S.

RECORD DRAWING

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By _____ Date December 2007

CDM

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Door & Louver Types

RECORD DRAWINGS

Revised:	
Revised:	
Revised:	REPROCUREMENT JAN. 2003
Revised:	RECORD DRAWING 12/07
Revised:	
	05/22/98
	9507 PUMP
A	23

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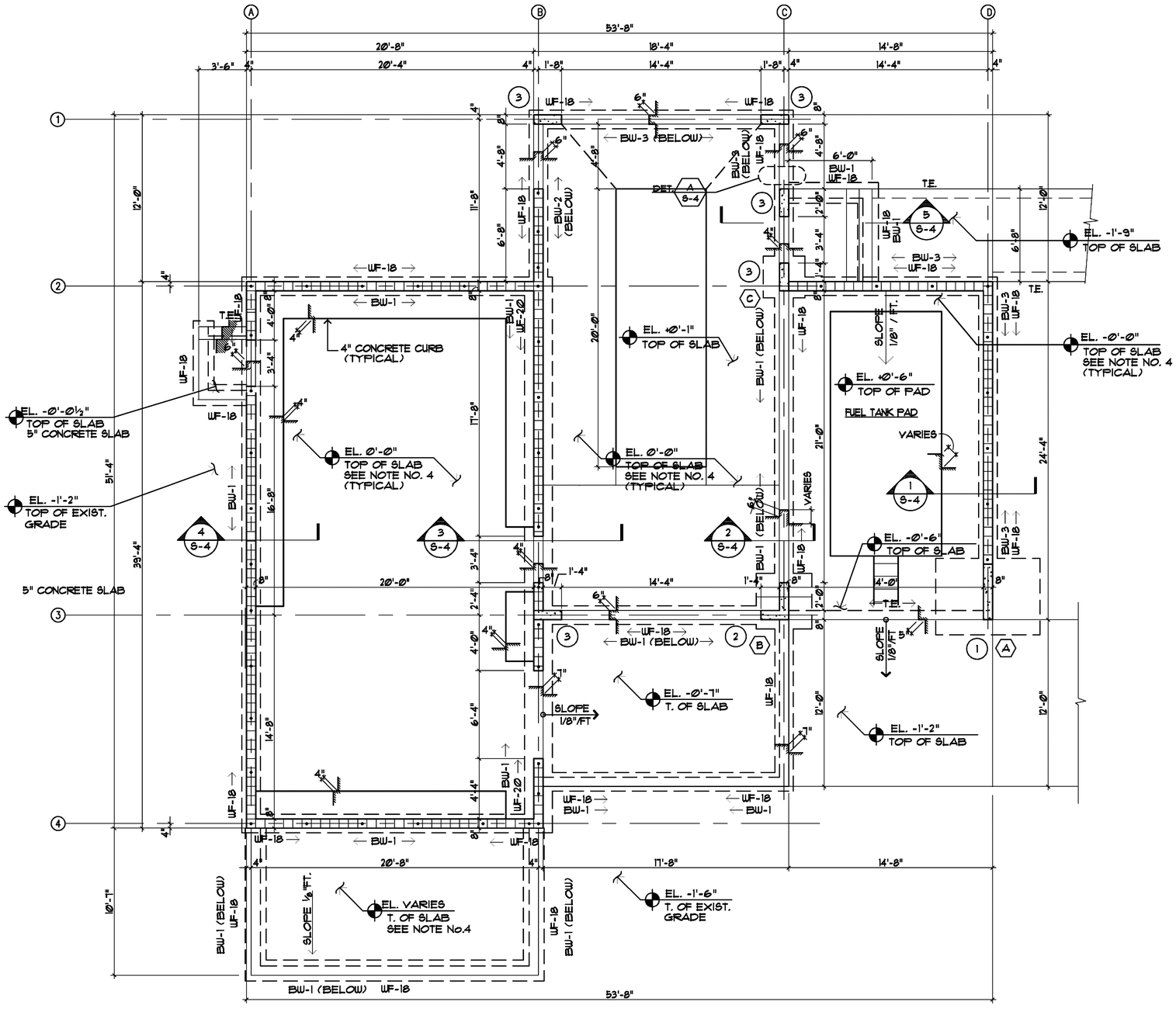

NORTH

FOUNDATION AND GROUND FLOOR PLAN

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

PUMP STATION No. 28

PLAN NOTES: FOUNDATION PLAN

1.- TOP OF SLAB ELEVATION 0'-0" = +8.00 N.V.G.D. TYPICAL UNLESS OTHERWISE NOTED.

2.- TOP OF FOOTING ELEVATION = -2'-6", TYPICAL UNLESS OTHERWISE NOTED AS THUS. ☐

3.- TOP OF SLAB ELEVATION AS SHOWN THUS ⊕ EL. TYPICAL UNLESS NOTED.

4.- SLAB NOTE: 5" CONCRETE SLAB ON VAPOR BARRIER OVER COMPACTED FILL, REINFORCED W/ 6x6 - W2.9 x W2.9 WELDED WIRE FABRIC, TYPICAL UNLESS NOTED.

5.- COORDINATE ALL SLAB OPENINGS AND DEPRESSIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

6.- T.E. DENOTES 8"x12" THICKENED CONCRETE SLAB EDGE REINFORCED W/2-#5 SLAB EDGE REINFORCED W/2-#5 BOTTOM CONT.

7.- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S-3

8.- FOR FOOTING SCHEDULE, SEE SHEET S-3

9.- FOR WALL SCHEDULE, SEE SHEET S-3

10.- ⊓⊓⊓ DENOTES AN 8" MASONRY REINFORCED BLOCK WALL TYPE BW-1, TYPICAL UNLESS OTHERWISE NOTED.

11.- GROUT ALL FIRST CELLS OF CMU AND PROVIDE ONE CONTINUOUS #5 BAR VERTICAL AT ALL JAMBS, FOR ALL BEARING AND NON-BEARING BLOCK WALLS, TYPICAL UNLESS NOTED.

12.- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS.

CONRETE PAD NOTES:

ELECTRICAL EQUIP. CONC. CURBS:
4" CONC. SLAB (SECOND POUR) W/ 6x6-W1.4xW1.4
MID. DEPTH TO BE POURED OVER 5" CONC. SLAB.
ROUGHEN 5" SLAB SURFACE PRIOR TO POURING

FUEL TANK PAD :
6"± MIN. CONC. SLAB (SECOND POUR) W/ #4@12" C/C EA. WAY
MID. DEPTH TO BE POURED OVER 5" CONC. SLAB.
ROUGHEN 5" SLAB SURFACE PRIOR TO POURING

SOIL PREPARATION STATEMENT

1.- SITE PREPARATION:
SITE AREA SHALL BE CLEARED AND GRUBBED TO REMOVE AND DISPOSE OF ALL VEGETATION AND DEBRIS UP TO FIVE (5) FEET BEYOND PERIMETER OF BUILDING.

2.- FILL AND COMPACTION:
A) PLACING FILL:
FILL SHALL BE PLACED IN LIFTS NOT GREATER THAN 12 INCHES LOOSE THICKNESS FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 6 INCHES LOOSE THICKNESS FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS.
FILL MATERIAL TO BE A CLEAN SELECT MATERIAL, CONTAINING NO MORE THAN 5% BY WEIGHT ORGANIC MATTER AND NO MAN-MADE DEBRIS OF ANY DESCRIPTION AS PER ASTM D-2487 UNIFIED CLASSIFICATIONS GW, GP, GP-GM OR SW.
ALL BACKFILL AND FILL MATERIALS SHALL BE FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES OR 50% OF THE COMPACTED LAYER THICKNESS, WHICHEVER IS THE LESSER.

B) COMPACTION:
THE CLEARED SURFACE AND EACH FILL LIFT SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 95%.
RELATIVE COMPACTION IS DETERMINED IN THE FIELD BY ASTM D-2922 (NUCLEAR METHOD) WITH A PROBE DEPTH OF 12 INCHES AND DETERMINED IN THE LABORATORY BY ASTM D-1557 (MODIFIED PROCTOR). COMPACTION SHALL BE VERIFIED BY THE GEOTECHNICAL INSPECTOR TO CONFIRM THAT THE FILL MATERIAL BEING PLACED IS THE SAME MATERIAL AS TESTED IN THE LABORATORY. CANDIDATE FILL MATERIAL SHOULD BE SUPPLIED TO THE GEOTECHNICAL INSPECTOR A MINIMUM OF 72 HOURS PRIOR TO PLACING MATERIAL
COMPACTION OF FILL TO BE ACHIEVED BY THE USE OF VIBRATORY ROLLERS WHEN SPACE ALLOWS. FOR SMALL RESTRICTED AREAS, USE MECHANICAL HAND-OPERATED TAMPERS. PRIOR TO COMMENCING COMPACTION, THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN PLUS/MINUS 2% OF THE OPTIMUM MOISTURE AS PER ASTM D-1557. ATTEMPTING COMPACTION OF FILL MATERIAL WHICH IS MORE THAN 5% BELOW OR 3% ABOVE OPTIMUM MOISTURE SHALL BE REGARDED AS UNSATISFACTORY.
A MINIMUM OF ONE IN-PLACE FIELD DENSITY TEST SHALL BE PERFORMED FOR EACH 2500 SQUARE FEET, OR FRACTION THEREOF, FOR EACH LIFT OF COMPACTED SOIL FOR BUILDING PAD OR SLAB AREA.

RECORD DRAWING

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By _____ Date December 2007

CDM

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Pump Station No. 28

28th Street and Sheridan Avenue, Miami Beach

Seal:

CONFORMED FEB 99

Foundation Plan

RECORD DRAWINGS

Revised:	ADDENDUM No 2 AS APPLICABLE
Revised:	ADDENDUM No 3, CONFORMED
Revised:	REPROCUREMENT JAN. 03
Revised:	RECORD DRAWING 12/07
Revised:	

P28-FDN.DWG	10-18-96
DDA	9610-B
S	1

STATION No. 28

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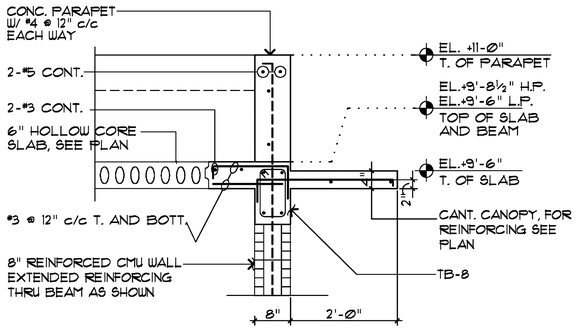

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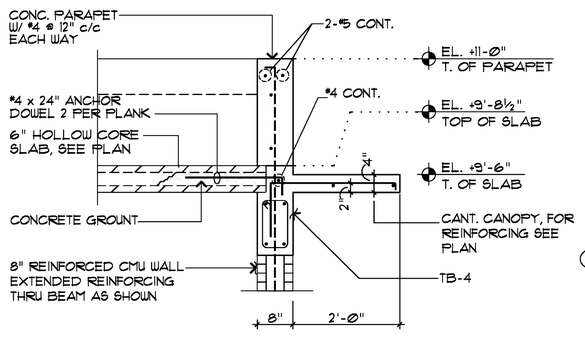

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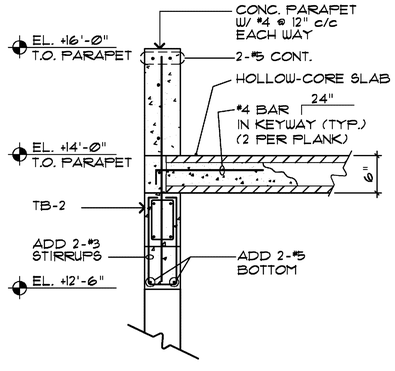

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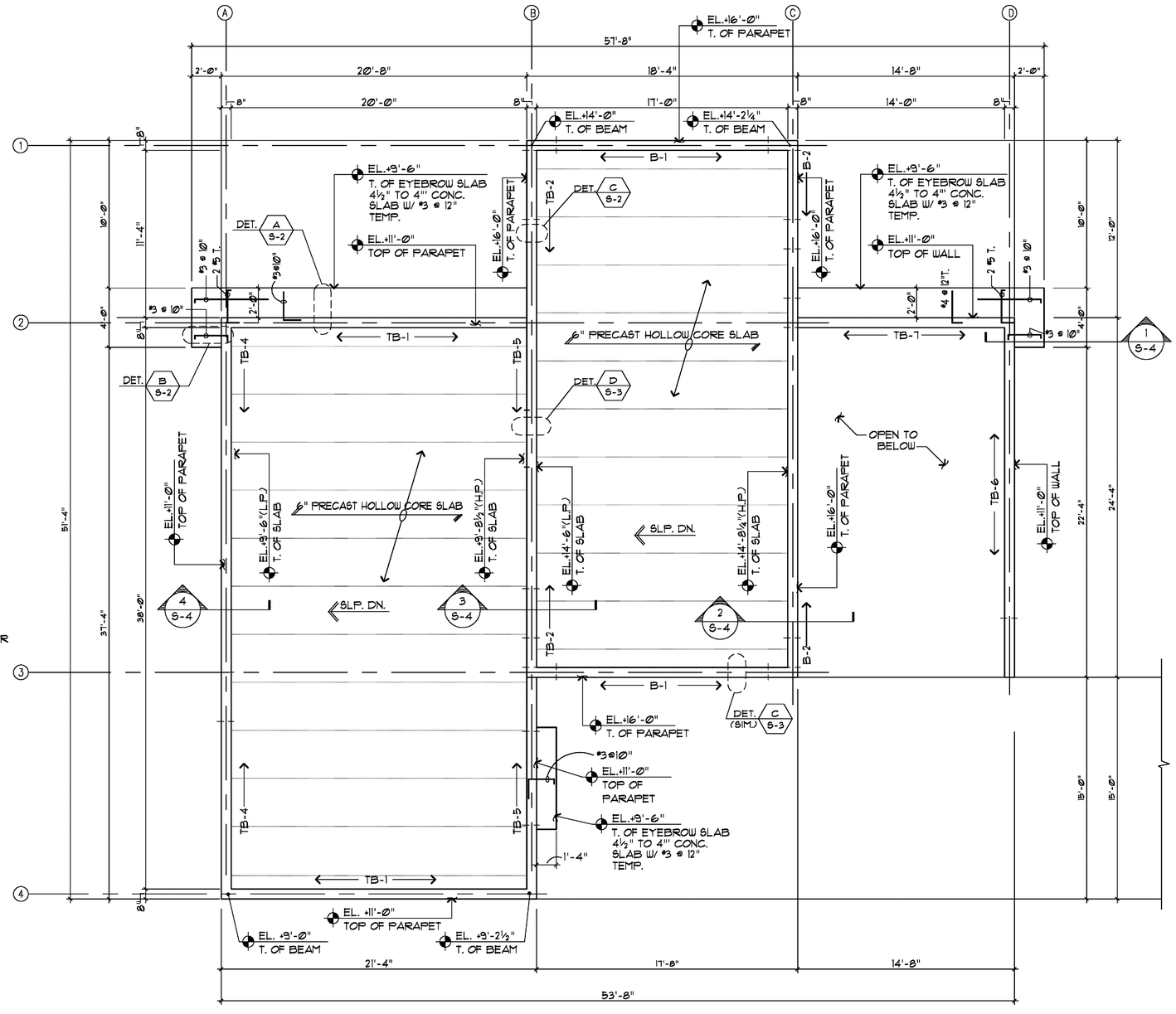

ROOF FRAMING PLAN
SCALE: 1/4"=1'-0" PUMP STATION No. 28

PLAN NOTES: ROOF LEVEL

1.- TOP OF SLAB/ HOLLOW CORE ELEVATION AS SHOWN.
THUS. ◆ EL.

2.- HOLLOW CORE SLAB NOTE:
6" P.C. P.S. PLANKS BY CORESLAB OR APPROVED EQUAL
ALL JOINTS BETWEEN PLANKS AND PLANKS/WALLS SHALL BE FULLY PACKED WITH STIFF GROUT.

3.- FOR GENERAL STRUCTURAL NOTES, SEE SHEET S-3.

4.- FOR BEAM SCHEDULE, SEE SHEET S-3.

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Pump Station No. 28

28th Street and Sheridan Avenue, Miami Beach

Seal:

CONFORMED FEB 99

Roof Plan

RECORD DRAWINGS

Revised:	ADDENDUM No 2 AS APPLICABLE
Revised:	ADDENDUM No 3, CONFORMED
Revised:	REPROCUREMENT JAN. 03
Revised:	RECORD DRAWING 12/07
Revised:	

P28-RF.DWG	10-18-96
DDA	9610-B
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STATION No. 28	

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GENERAL STRUCTURAL NOTES

1 LOAD CRITERIA:
DESIGN FOR EFFECT OF WIND LOADS BASED ON "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", ASCE - 7 , USING:
BASIC WIND SPEED 110 MPH
IMPORTANCE FACTOR 1.11
EXPOSURE "D"
FOR ROOF WIND NET UPLIFT: SEE ROOF PLANS
SUPERIMPOSED LOADS:

	DEAD	LIVE
ROOF	--	30
FLOOR	--	125

2 FOUNDATIONS:
BASED ON SOIL BORINGS AND RECOMMENDATIONS MADE BY WINGERTER LAB. INC. THE FOUNDATIONS HAVE BEEN DESIGNED FOR UN ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF.

TESTING AND SAMPLING MUST BE DONE BY A LICENSED TESTING LABORATORY AT A RATE OF ONE FOR EVERY 50 FEET OF CONTINUOUS FOOTING AND ONE FOR EVERY 2500 SQUARE FEET OF COMPACTED INDIVIDUAL LIFT OF SLAB ON GRADE.
FIELD DESITIES EQUIVALENT TO AT LEAST 95% OF THE MODIFIEDPROCTOR MAXIMUM DRY DENSITY (ASTM D-1557) SHOULD BE ACHIEVED.

3 CONCRETE:
ALL CONCRETE TO ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS AS SHOWN BELOW. AGGREGATES TO BE CLEAN AND WELL GRADED, MAXIMUM SIZE 1". CONCRETE SLUMP 3" MINIMUM TO 5" MAXIMUM. VERTICAL CONCRETE DROP NOT TO EXCEED 6'.

	f'c (PSI)
STRUCTURAL CONCRETE	3000
PS HOLLOW CORE	5000
LT. WT. INSULATION CONCRETE (INSULCEL)	200

4 CONCRETE COVER:
TO BE AS FOLLOWS:

	BOTTOM	TOP	SIDES
FOOTINGS	3"	2"	2"
BEAMS	1-1/2"	1-1/2"	1-1/2"
GRADE BEAMS	3"	2"	2"
COLUMNS	---	---	1-1/2"
SLABS	3"	¾"	1"
WALLS	1-1/2"	1-1/2"	1-1/2"

5 PRECAST HOLLOW CORE SLABS (SHOP DRAWINGS REQUIRED)
SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH ACI 318, ACI 315 AND SOUTH FLORIDA BUILDING CODE. THE CONNECTIONS AS SHOWN IN THESE DRAWINGS ARE "SUGGESTED CONNECTIONS".

THE PC MANUFACTURER MAY SUBMIT OTHER SYSTEMS FOR APPROVAL BY A/E.

SHOP DRAWINGS AND STRUCTURAL CALCULATIONS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER AND SHALL INCLUDE SERVICE LOADS, TEMPORARY BRACING AND ERECTION LOADS.

THE GENERAL CONTRACTOR IS TO COORDINATE THE ERECTION SEQUENCE AND THE LOCATION OF PENETRATIONS, EMBEDMENTS, ETC.

6 STRUCTURAL SLAB:
FILL AND BACKFILL TO BE COMPACTED FOR FORMING PURPOSES ONLY COMPACTION LAYERS NOT TO EXCEED 8".
FILL MATERIAL TO BRING EXISTING GRADE TO FINISHED FLOOR ELEVATION SHALL BE WELL GRADED, CLEAN, FREE OF ORGANIC MATERIALS, ROOTS, MAN MADE MATERIALS ETC., SEE SOILS REPORT FOR ACCEPTABLE FILL MATERIAL.

7 REINFORCING STEEL, (SHOP DRAWINGS REQUIRED):
TO BE NEW HIGH STRENGTH BILLET STEEL DEFORMED AS PER ASTM A-305, AND CONFORMING TO ASTM A-615, GRADE 60. LAP CONTINUOUS BARS 30 BAR DIAMETERS MINIMUM (U.O.N.). HOOK DISCONTINUOUS ENDS OF ALL TOP BARS. ALL REINFORCING STEEL TO BE DETAILED AND FABRICATED IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES", AND THE ACI BUILDING CODE 318-95 AND SFBC 1994 SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER BEFORE FABRICATION.

8 MASONRY NOTES:

A. ALL CONCRETE BLOCK MASONRY WALLS, TO COMPLY WITH "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530-95/ ASCE 5-95/ TMS 402-95) AND "SPECIFICATION FOR MASONRY STRUCTURES" (ACI 530.1-95/ASCE 6-95/ TMS 602-95), OR LATER REVISIONS.

B. THE CONCRETE BLOCK UNITS, TO BE TYPE II-NONMOISTURE CONTROLLED, CONFORMING TO ASTM C-90, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1900 PSI (AVERAGE OF THREE). TESTING AND SAMPLING OF MASONRY UNITS MUST BE DONE BY A LICENSED TESTING LABORATORY AT A RATE OF EVERY 1000 SQUARE FEET OF WALLS ERECTED, AND SHALL COMPLY WITH ASTM C-140, ASTM E-447 AND ACI 530.1, AND ASTM E-447-92b FOR STANDARD TEST METHODS FOR COMPRESSIVE STRENGTH OF MASONRY PRISM.

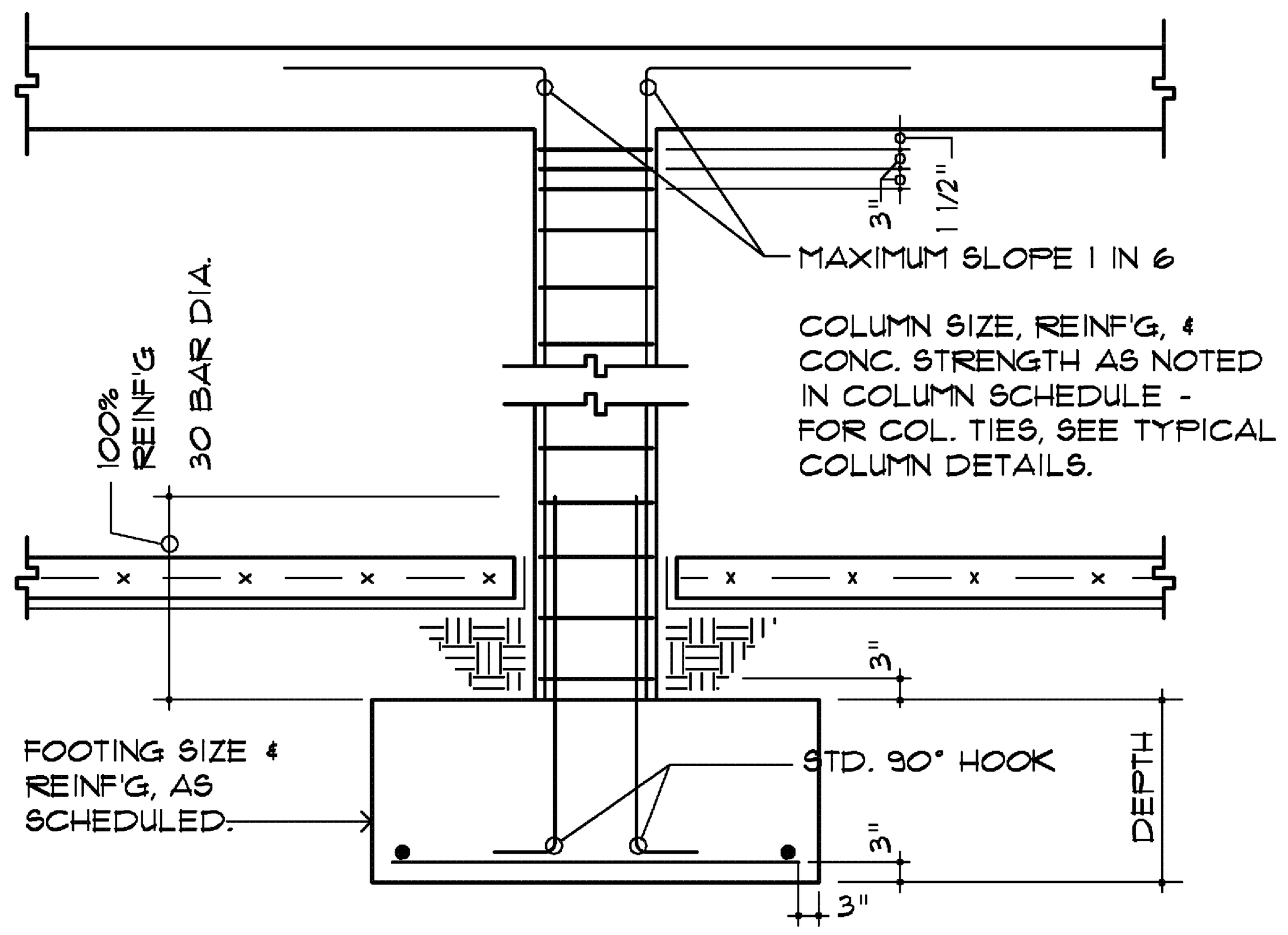
C. THE MORTAR SHALL COMPLY WITH ASTM C-270, AND SHALL BE TYPE "M" WITH MINIMUM COMPRESSIVE STRENGTH OF 2500PSI, AT 28 DAYS± THE MORTAR MUST BE TESTED BY A LICENSED LABORATORY, ACCORDING TO ASTM C-780, AT A RATE OF EVERY 1000 SQUARE FEET OF WALLS ERECTED. PROVIDE FULL BED OF MORTAR FOR ALL REINFORCED MASONRY WALLS.

D. MASONRY WALLS SHALL BE REINFORCED HORIZONTALLY AT EVERY OTHER COURSE, WITH DEFORMED GALVANIZED PREFABRICATED STEEL, "LADDER TYPE" DUR-O-WAL OR EQUAL AS FOLLOWS:
No. 9 GAUGE INTERIOR WALLS AT EVERY OTHER COURSE
No. 8 GAUGE EXTERIOR WALLS AT EVERY COURSE

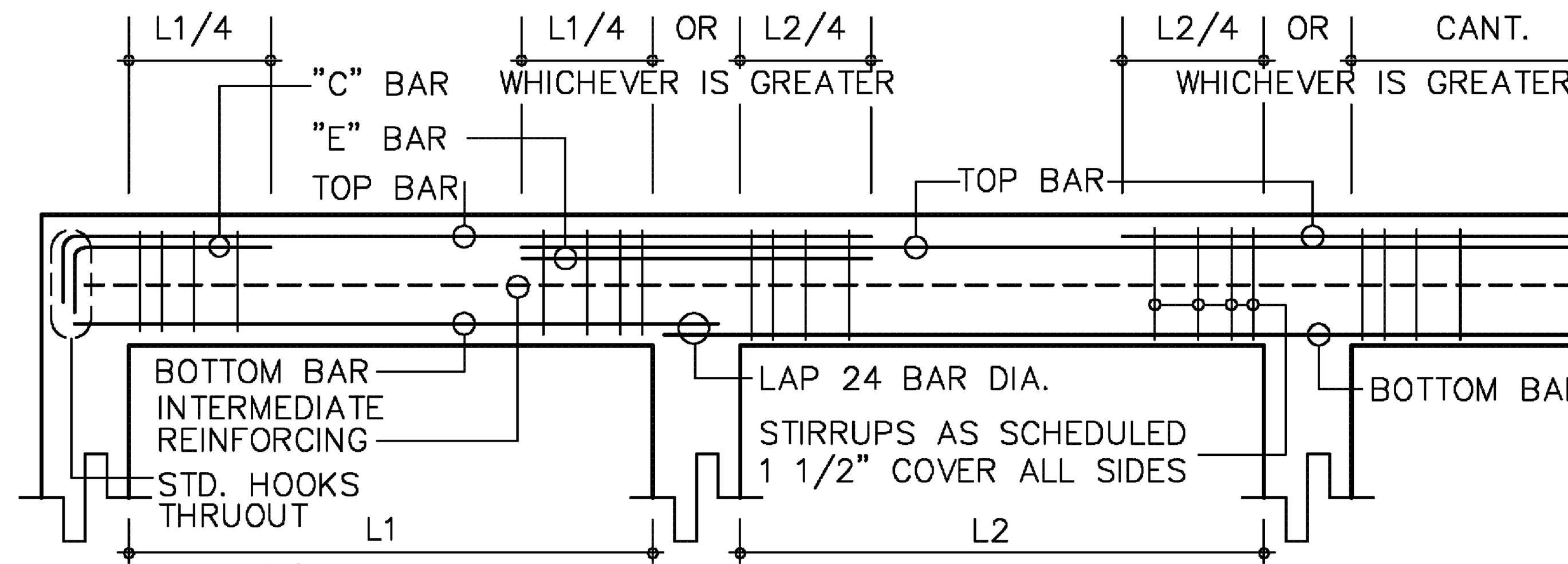
E. ALL INTERIOR NON-BEARING BLOCK WALLS, MUST HAVE AT THE TOP AN 8"X12" TIE-BEAM WITH FOUR #5 CONT. AND #3 TIES AT 48" C/C, TIE BEAMS MUST BE DOWELED INTO WALLS AT EACH END AND INTERSECTIONS. AT ALL CORNER ENDS AND INTERSECTIONS ADD 2#3 TIES AT 12" C/C AND PROVIDE 2 #5 x 5'-0" CORNER BARS BENT 30 " ON EACH DIRECTION.

F. ADDITIONAL NOTES FOR REINFORCED MASONRY WALLS:

1. FILL THE CELLS WITH GROUT ACCORDING TO THE CONTRACT DOCUMENTS: THE GROUTING SHALL COMPLY WITH ACI-ASCE 530-95 AND ASTM C-476, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI, AT 28 DAYS, WITH 8-10 INCHES SLUMP, AND SHALL BE SAMPLED AND TESTED BY A LICENSED LABORATORY ACCORDING TO ASTM C-1019. PROVIDE CLEANOUT HOLES IN REINFORCING CMU CELLS AT THE BOTTOM CELL OF EACH POUR INCLUDING THE CELL DIRECTLY ABOVE THE FOOTING (STEM WALLS). CLEAN CELLS FREE OF BROKEN BLOCK PIECES AND MORTAR DROPPING. MAXIMUM VERTICAL DROP FOR GROUTING NOT TO EXCEED 8'-0".
2. FOR VERTICAL REINFORCEMENT REFER TO THE STRUCTURAL DRAWINGS, LAP SPLICING SHALL BE MINIMUM OF 48 BAR DIAMETERS.
3. WHEN USING DOVE-TAILS THE FIRST BLOCK CELL ADJACENT TO CONCRETE, MUST BE FILLED AND REINFORCED WITH 1-#5 REBAR, UNLESS OTHERWISE NOTED.
4. BOTH SIDES OF ALL OPENINGS WITH NO TIE COLUMNS MUST HAVE A FILLED CELL REINFORCED WITH 1 #5, UNLESS OTHERWISE NOTED.
5. NO PRECAST LINTEL IS ALLOWED UNLESS APPROVED BY THE ENGINEER FOR SPECIFIC LOCATIONS.



TYPICAL CONCRETE COLUMN AND FOOTING DETAIL
N.T.S.



TYPICAL BEAM DIAGRAM

NOTES:
1.– "C" BARS ARE TOP BARS AT NON–CONTINUOUS ENDS.
2.– "E" BARS ARE TOP BARS OVER RIGHT INTERIOR SUPPORTS.
3.– TOP BARS CALLED FOR AS CONTINUOUS, WHEN SPLICED, SHALL BE SPLICED IN THE MIDDLE THIRD OF THE SPAN.
4.– REFER TO INTERMEDIATE BEAM REINFORCING FOR ADDITIONAL REINFORCING.
5.– PROVIDE AT ALL NON–BEARING BLOCK WALLS, A TIE–BEAM 8"x12" (MIN.)WITH 2–#5 TOP AND BOTTOM CONT., #3 TIES, 4 AT 12"c/c EACH END, BAL. AT 48"c/c TIE–BEAMS MUST BE DOWELED INTO WALLS AT EACH END, AT INTERSECTIONS, AT INTERMEDIATE POINTS.
6.– PROVIDE 2–#5 CORNER BARS (EXTEND 30" IN EACH DIRECTION FROM CORNER) AT ALL NON–BEARING BLOCK WALLS.

FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT	REMARKS
WF-18	18"x 12"	2 #5 LONGITUDINAL	
WF-20	20"x 12"	2 #5 LONGITUDINAL	
A	5'-6" x 7'-6" x 1'-6"	6-#6 L.W. TOP & BOTT. (*) 8-#5 S.W. TOP & BOTT.	(*) OUTER LAYER
B	4'-0" x 4'-0" x 1'-0"	4-#5 EACH WAY BOTT.	
C	3'-0" x 3'-0" x 1'-0"	4-#5 EACH WAY BOTT.	

COLUMN SCHEDULE

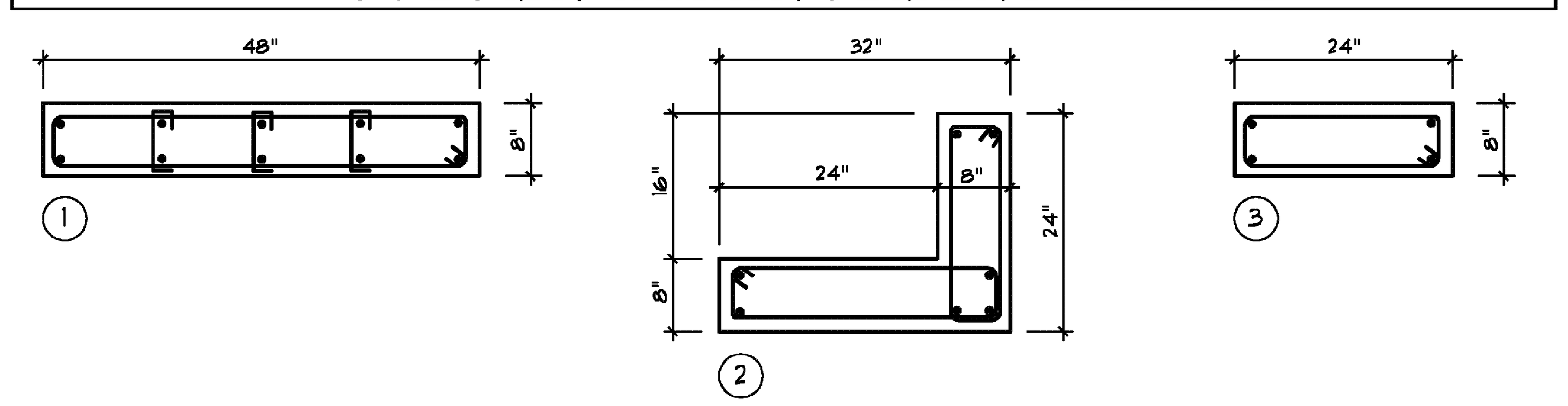
MARK	SIZE	REINFORCING		REMARKS
		VERTICAL	TIES	
1	8 x 48	10-#8	#3 @ 8" c/c	
2	8 x 32 x 24	7-#7	#3 @ 8" c/c	
3	8 x 24	4-#7	#3 @ 8" c/c	

KEY: EE=EACH END RE=RIGHT END LE=LEFT END

BEAM SCHEDULE

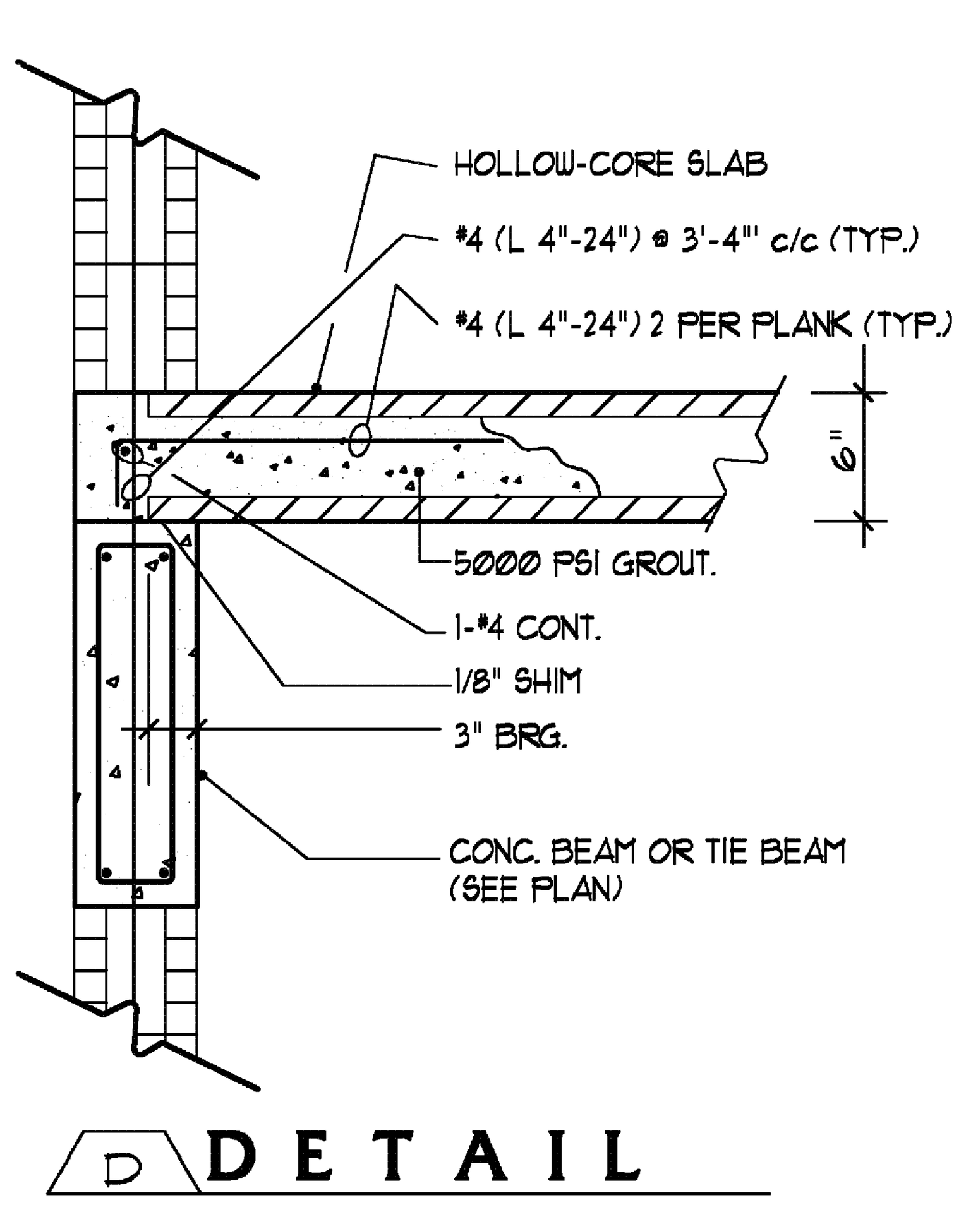
MARK	TOP OF BEAM ELEV	SIZE (IN.)	REINFORCING				STIRRUPS		REMARKS
			B	T	C	E	NO.	SPACING	
TB-1	+9'-8½" H.P. +9'-6" L.P.	8"x12"(MIN.)	2 #5	(*) 2 #5			3	4 @ 12" c/c E.E. BAL. @ 36" c/c.	(*) CONT.
TB-2	+14'-0"	8"x12"(MIN.)	2 #5	(*) 2 #5			3	4 @ 12" c/c E.E. BAL. @ 36" c/c.	(*) CONT.
TB-3	NOT USED								
TB-4	+9'-0"	8"x12"(MIN.)	2 #5	(*) 2 #5			3	4 @ 12" c/c E.E. BAL. @ 36" c/c.	(*) CONT.
TB-5	+9'-2½"	8"x12"(MIN.)	2 #5	(*) 2 #5			3	4 @ 12" c/c E.E. BAL. @ 36" c/c.	(*) CONT.
TB-6	+11'-6"	8"x 34"	2 #7	2 #7			3	4 @ 12" c/c E.E. BAL. @ 18" c/c.	(*) ADD 2-#5 AT MID HT.
TB-7	+11'-6"	8"x 34"	2 #5	(*) 2 #5			3	4 @ 12" c/c E.E. BAL. @ 18" c/c.	(*) ADD 2-#5 AT MID HT.
B-1	VARIES SEE PLAN	(**) 8"x18"(MIN.)	2 #5	(*) 2 #5			3	@ 8" c/c.	(*) CONT. (**) SET BOTTOM EL. AT +12'-6"
B-2	+14'-2¼"	+8'-20¼"	2 #8	(*) 2 #8			3	@ 8" c/c.	(*) CONT.

COLUMN ARRANGEMENT DETAIL

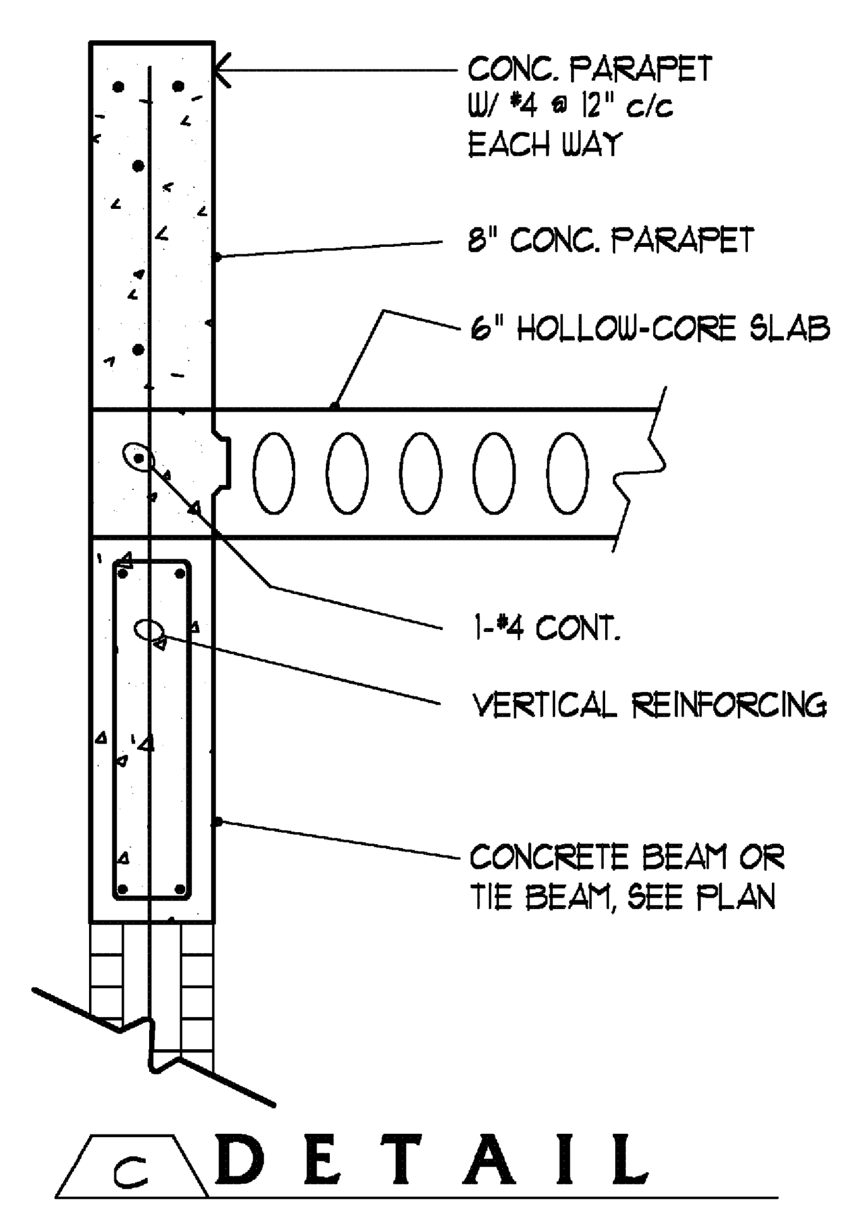


WALL SCHEDULE

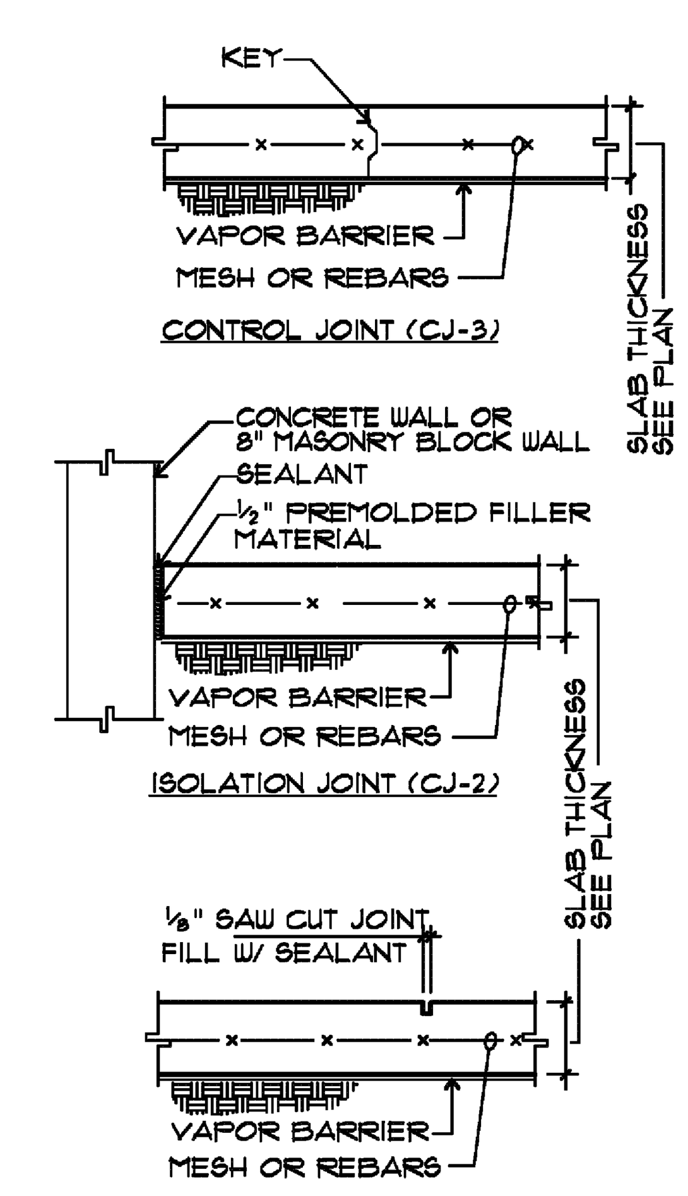
MARK	THICK.	VERT. REINF.	HORZ. REINF.	REMARKS
BW-1	8"	#5 @ 48" c/c	#9 DUR-0-WALL @ 16" c/c	
BW-2	8"	#5 @ 16" c/c	#9 DUR-0-WALL @ 16" c/c	
BW-3	8"	#5 @ 24" c/c	#9 DUR-0-WALL @ 16" c/c	



D DETAIL
S-3 SCALE: ¾"=1'-0"



C DETAIL
S-3 SCALE: ¾"=1'-0"



A DETAIL
S-3 SCALE: ¾"=1'-0"

RECORD DRAWING
THIS RECORD DRAWING HAVE BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CDM. THEREFORE, THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF ALL THE INFORMATION. TO THE BEST OF THE ENGINEER'S BELIEF AND KNOWLEDGE, THE INCLUDED RECORD INFORMATION IS REASONABLY ACCURATE.
By ____ Date December 2007
CDM

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Pump Station No. 28
28th Street and Sheridan Avenue, Miami Beach

Seal:

CONFORMED FEB 99

Schedule Plan

RECORD DRAWINGS

Revised: ADDENDUM No 2 AS APPLICABLE
Revised: ADDENDUM No 3, CONFORMED
Revised: REPROCUREMENT JAN. 03
Revised: RECORD DRAWING 12/07
Revised:

P28-SCH.DWG	10-18-96
DDA	9610-B
S	3

STATION No. 28

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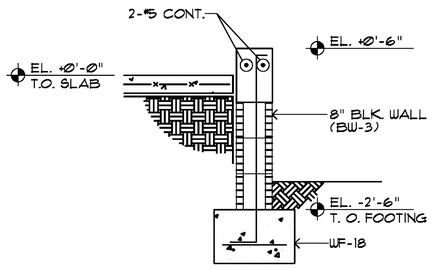

A DETAIL
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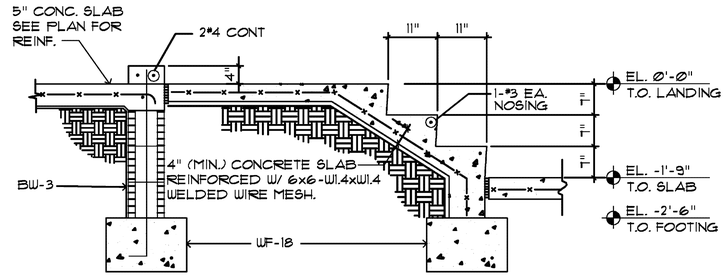
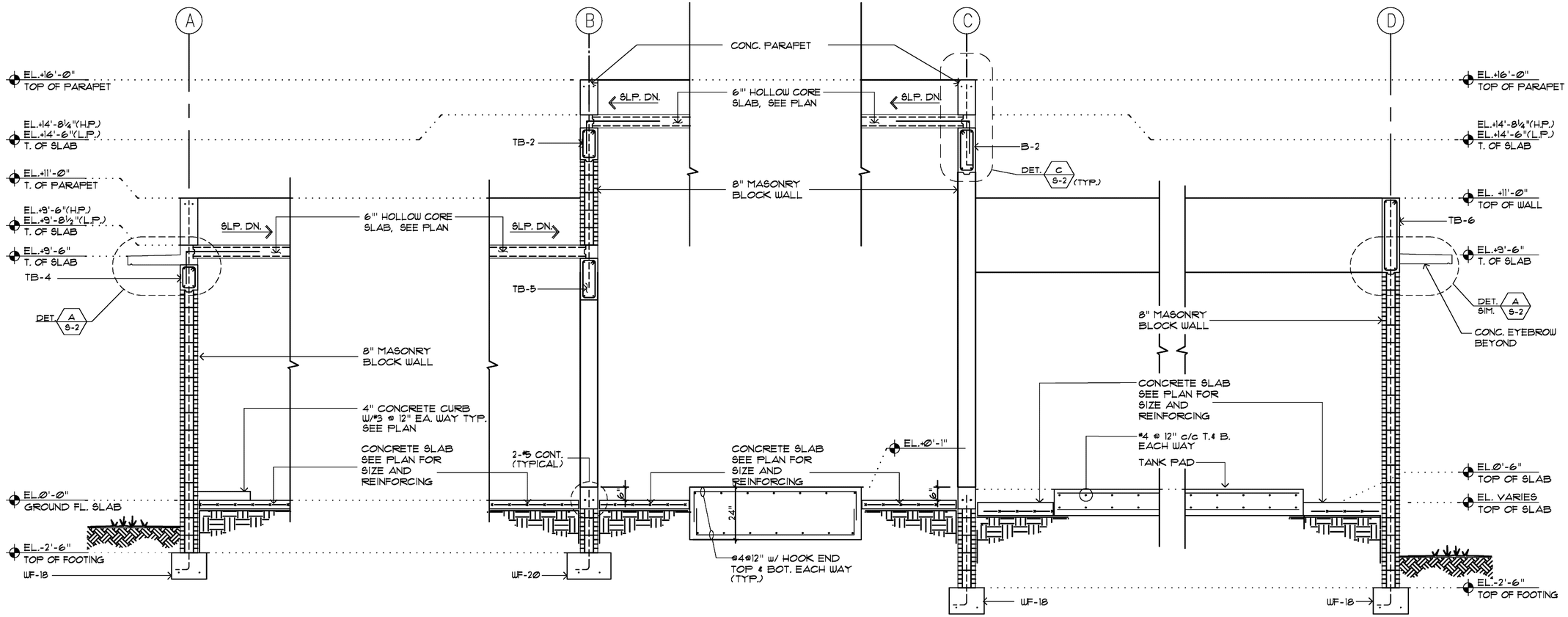


5 SECTION
S-4 SCALE: 3/4"=1'-0"



4 SECTION
S-4 SCALE: 1/2"=1'-0"

3 SECTION
S-4 SCALE: 1/2"=1'-0"

2 SECTION
S-4 SCALE: 1/2"=1'-0"

1 SECTION
S-4 SCALE: 1/2"=1'-0"

RECORD DRAWING

THIS RECORD DRAWING HAVE BEEN PREPARED BASED ON A COMBINATION OF INFORMATION PROVIDED BY OTHERS AND BY CONSTRUCTION OBSERVATIONS. THE ENGINEER HAS NOTED HEREIN THE EXTENT TO WHICH THE INFORMATION IS REASONABLY ACCURATE.

By _____ Date December 2007

CDM

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Pump Station No. 28

28th Street and Sheridan Avenue, Miami Beach

Seal:

CONFORMED FEB 99

Section Plan

RECORD DRAWINGS

Revised:	ADDENDUM No 2 AS APPLICABLE
Revised:	ADDENDUM No 3, CONFORMED
Revised:	REPROCUREMENT JAN. 03
Revised:	RECORD DRAWING 12/07
Revised:	
P28-SEC.DWG	10-18-96
DDA	9610-B

S 4

STATION No. 28

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DATE: Jan 14, 2008 2:47pm REC_DWG_A RECORD_ALT C IMAGES: TS28-S-4.TIF

GENERAL NOTES

DESIGN CRITERIA
CODES:

- SOUTH FLORIDA BUILDING CODE (LATEST EDITION)
- SANITARY STRUCTURES: ACI 350R "CONCRETE SANITARY ENGINEERING STRUCTURES"
- OTHER STRUCTURES: ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
- AISC MANUAL OF STEEL CONSTRUCTION, NINTH EDITION

DESIGN LIVE LOADS:

- PROCESS RELATED STRUCTURES:

STAIRWAYS	150	PSF
PROCESS SLABS	200	PSF
STORAGE AREAS	300	PSF

SUPERIMPOSED DEADLOADS

- ROOFS — AS NOTED
- FLOORS — AS NOTED

WINDLOADS

- BASIC WIND SPEED — 110 MPH
- DESIGN PRESSURES: PER SBCCI SECTION 1205 REQUIREMENTS

EARTHQUAKE — N.A.

CONCRETE 28-DAY STRENGTH

- COLUMNS, BEAMS, SLABS, WALLS, FOOTINGS — 4000 PSI
- MASONRY FILLED CELL GROUT — 3000 PSI

REINFORCING STEEL

- ALL BARS ASTM A615, GRADE 60
- WELDED WIRE FABRIC ASTM A185

STRUCTURAL STEEL

- ALL STRUCTURAL AND MISC. STEEL UNLESS NOTED: A36
- SHOP AND FIELD WELD: E70XX ELECTRODES

FOUNDATIONS

- ALLOWABLE BEARING PRESSURE FOR SPREAD FOOTINGS OVER SUBSURFACE PREPARED AS PER SPECIFICATIONS: 1500 PSF

GENERAL CONDITIONS

ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL, CIVIL, ELECTRICAL, AND SHOP DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL REVIEW AND VERIFY DIMENSIONS SHOWN IN ALL PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FACILITY. SHOULD DISCREPANCIES APPEAR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING TO OBTAIN ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH THE WORK.

FOR ALL ITEMS EMBEDDED IN OR PASSED THROUGH CONCRETE, THE CONTRACTOR SHALL INITIALLY REFER TO MECHANICAL, HEATING, AND VENTILATION DRAWINGS FOR TYPE, SIZE, LOCATION, AND SPECIAL INSTALLATION REQUIREMENTS FOR THESE ITEMS.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY MEASURES TO PROTECT EXISTING STRUCTURES FROM DAMAGE WHEN WORKING IN AND AROUND EXISTING STRUCTURES PERFORMING WORK SUCH AS DEMOLITION, FOUNDATION EXCAVATION, AND OTHERS.

SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE PER EQUIPMENT MANUFACTURERS REQUIREMENTS.

ANY EQUIPMENT THAT MAY INDUCE VIBRATION TO THE STRUCTURE SHALL BE ADEQUATELY ISOLATED FROM THE STRUCTURES.

ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

STANDARD DETAILS (SHOWN ON SD-1) APPLY TO ALL SIMILAR SITUATIONS ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

CONCRETE

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318 REQUIREMENTS.

ALL CONCRETE SHALL BE AIR-ENTRAINED WITH 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

WATER REDUCING AGENT SHALL BE IN ACCORDANCE WITH ASTM C494.

ALL CONCRETE SURFACES EXPOSED TO AIR, UNLESS OTHERWISE NOTED IN SPECIFICATIONS, SHALL BE TREATED WITH AN APPROPRIATE CURING COMPOUND AS SOON AS CEMENT FINISHING IS COMPLETED OR FORMS ARE REMOVED.

ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE A MINIMUM CHAMFER OF 3/4" UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL FOR THE LOCATION OF CONSTRUCTION JOINTS THAT ARE NOT SHOWN ON THE DRAWINGS.

REINFORCING STEEL

REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 REQUIREMENTS.

ALL ACCESSORIES SHALL BE IN CONFORMANCE WITH ACI 315 REQUIREMENTS. REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER UNLESS OTHERWISE NOTED:

- CONCRETE CAST AGAINST EARTH — 3"
- FORMED SURFACES IN CONTACT WITH SOIL, SEWAGE, WATER OR EXPOSED TO WEATHER — 2"
- FORMED SURFACES NOT EXPOSED TO WEATHER OR IN CONTACT WITH SOIL:
  - SLABS, WALLS, AND JOISTS — 3/4"
  - BEAMS AND COLUMNS — 1 1/2"

LAP SPLICES SHALL BE AS SHOWN ON THE DRAWINGS. FOR LAP SPLICES NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN ENGINEERS APPROVAL.

THE CONTRACTOR SHALL PREPARE PLACING DRAWINGS AND SCHEDULES IN CONFORMANCE WITH ACI 315 REQUIREMENTS.

REINFORCED CONCRETE MASONRY UNIT CONSTRUCTION

DESIGN CRITERIA:

- DESIGN COMPRESSIVE STRENGTH OF MASONRY AT 28 DAYS — f'm = 1500 PSI
- ALLOWABLE STEEL STRESS — fs = 24,000 PSI

CONTINUOUS INSPECTION IS REQUIRED FOR ALL MASONRY WORK

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS AND:

- THE NATIONAL CONCRETE MASONRY ASSOCIATION "SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF LOAD BEARING STRUCTURES."
- ACI 531 "BUILDING CODE REQUIREMENTS FOR REINFORCED MASONRY STRUCTURES."

MATERIALS:

- BLOCK: CONFORM TO ASTM C90 – GRADE N, TYPE II TWO-CELL, 8"x8"x16" (COMPRESSIVE STRENGTH, GROSS AREA 1000 PSI)
- MORTAR: CONFORM TO ASTM C270, TYPE S . MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS – 1800 PSI UTILIZE TYPE II CEMENT AND TYPE S LIME. MASONRY CEMENT WILL NOT BE CONSIDERED.
- GROUT: CONFORM TO C476, COARSE GROUT. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS – 2500 PSI
- STEEL: DUR-O-WAL OR EQUAL JOINT REINFORCEMENT AT EVERY THIRD COURSE (24" O.C.) BOND BEAM AND FILLED CELL REINFORCEMENT AS PER DRAWINGS (ASTM A615, GRADE 60).

CONSTRUCTION

- ALL FILLED CELLS AND COLUMNS SHALL BE POURED AT LEAST TWO (2) HOURS PRIOR TO POURING LINTEL BLOCK OR TIE BEAMS.
- MAX. CONSTRUCTION HEIGHT OF MASONRY WALLS WITHOUT FILLED CELL OR COLUMN POURS IS TO BE 8'-0". THE CONCRETE FOR FILLED CELLS SHALL BE RODDED OR PUDDLED DURING PLACEMENT TO INSURE COMPLETE FILLING TO THE BLOCK CORE.
- SEE STANDARD DETAILS AND ARCHITECTURAL DRAWINGS FOR LINTEL REQUIREMENTS OVER OPENINGS.
- PROVIDE CLEAN OUT AND INSPECTION BLOCK OUTS IN CELLS CONTAINING REINF.

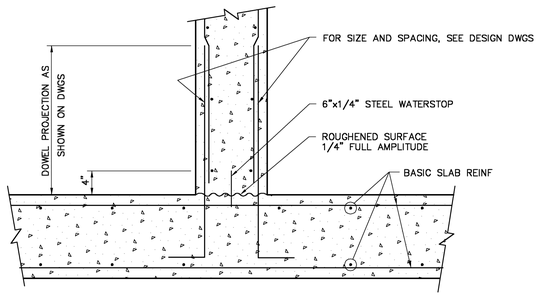
FLOTATION CONSIDERATION:

STRUCTURES WERE DESIGNED TO BE NON-BUOYANT AFTER THE STRUCTURE IS PLACED INTO SERVICE. THEREFORE, THE STRUCTURE MAY BE BUOYANT DURING CONSTRUCTION. GENERAL CONTRACTOR SHALL PROTECT ALL STRUCTURES (NEW AND EXISTING) FROM FLOTATION DURING CONSTRUCTION, REGARDLESS OF GROUND WATER LEVELS, UNTIL STRUCTURES ARE PLACED IN OPERATION.

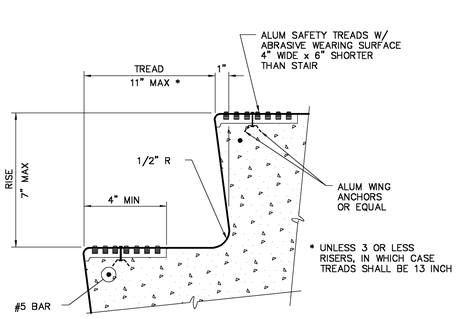
ABBREVIATIONS:

ALUM	ALUMINUM	MAT'L	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BOT	BOTTOM	MIN	MINIMUM
CJ	CONTROL JOINT	MISC	MISCELLANEOUS
CMU	CONCRETE MASONRY UNIT	NF	NEAR FACE
CONC	CONCRETE	NTS	NOT TO SCALE
CONST JT	CONSTRUCTION JOINT	OC	ON CENTER
CONT	CONTINUOUS	PLF	POUNDS PER LINEAR FOOT
DIA	DIAMETER	PROJ	PROJECTION
DWG	DRAWING	PSF	POUNDS PER SQUARE FOOT
EF	EACH FACE	PSI	POUNDS PER SQUARE INCH
EJ	EXPANSION JOINT	SPECS	SPECIFICATIONS
EL	ELEVATION	SS	STAINLESS STEEL
EW	EACH WAY	STD	STANDARD
FF	FAR FACE	REINF	REINFORCEMENT
FTG	FOOTING	T&B	TOP AND BOTTOM
HORIZ	HORIZONTAL	T/STRUCTURE	TOP OF STRUCTURE
HP	HIGH POINT	TYP	TYPICAL
ID	INSIDE DIAMETER	UN	UNLESS NOTED
LP	LOW POINT	VERT	VERTICAL
		WWF	WELDED WIRE FABRIC

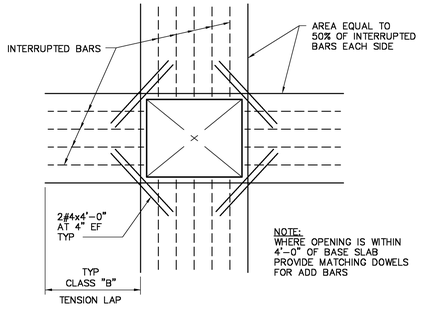
NOTE:
THESE ABBREVIATIONS ARE FOR USE ON STRUCTURAL DRAWINGS ONLY



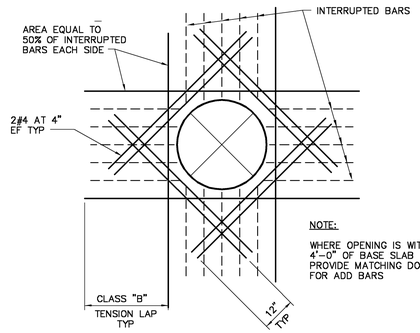
WALL BASE CONSTRUCTION JOINT
DETAIL A — NTS



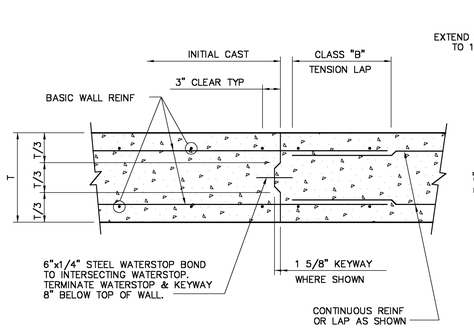
EMBEDDED SAFETY TREAD
DETAIL B — NTS



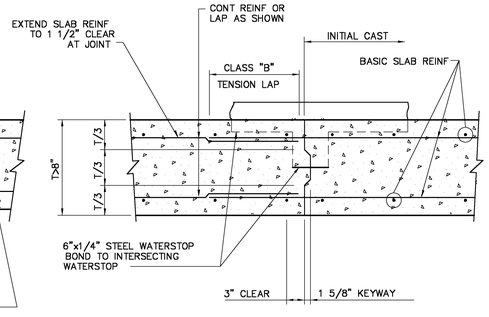
REINF AT RECTANGULAR OPENINGS GREATER THAN 12"
DETAIL C — NTS



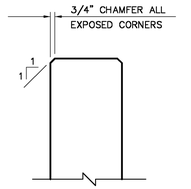
REINFORCING AT CIRCULAR OPENINGS GREATER THAN 12"
DETAIL D — NTS



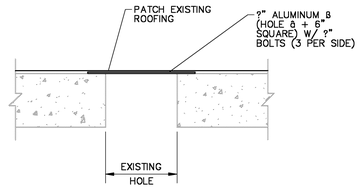
WALL CONSTRUCTION JOINT
DETAIL E — NTS



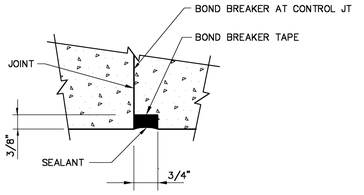
BASE/ELEVATED SLAB CONSTRUCTION JOINT
DETAIL F — NTS



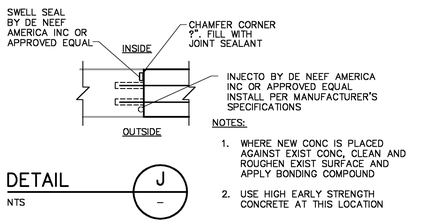
CHAMFER
DETAIL G — NTS



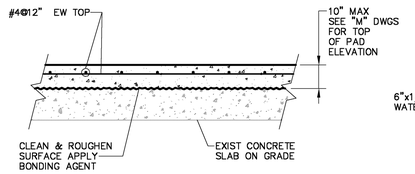
HOLE REPAIR
DETAIL H — NTS



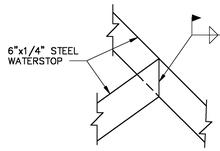
JOINT SEALANT
DETAIL I — NTS



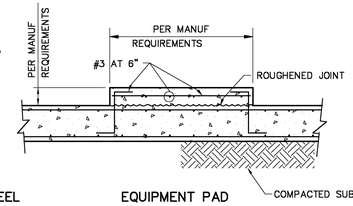
DETAIL J — NTS



NEW CONC TO EXISTING SLAB ON GRADE
DETAIL K — NTS



WATERSTOP SPLICE STEEL TO STEEL
DETAIL L — NTS



EQUIPMENT PAD
DETAIL M — NTS

RECORD DRAWING

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By _____ Date December 2007

CDM

TIMOTHY A. VERWEY, P.E.
NO. 50947

REV. NO.	DATE	DRWN	CHKD	REMARKS
	12/07	PCS	TAV	RECORD DRAWINGS
1	12/02	RAP	TAV	REVISED DETAIL "B"
	3/99	RAP	TAV	CONFORMED

DESIGNED BY: D. PANDELINE
DRAWN BY: D. PANDELINE
SHEET CHK'D BY: B. EREL
CROSS CHK'D BY: J. GOLDMAN
APPROVED BY:
DATE: MAY 1998

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CDM

CITY OF MIAMI BEACH, FLORIDA

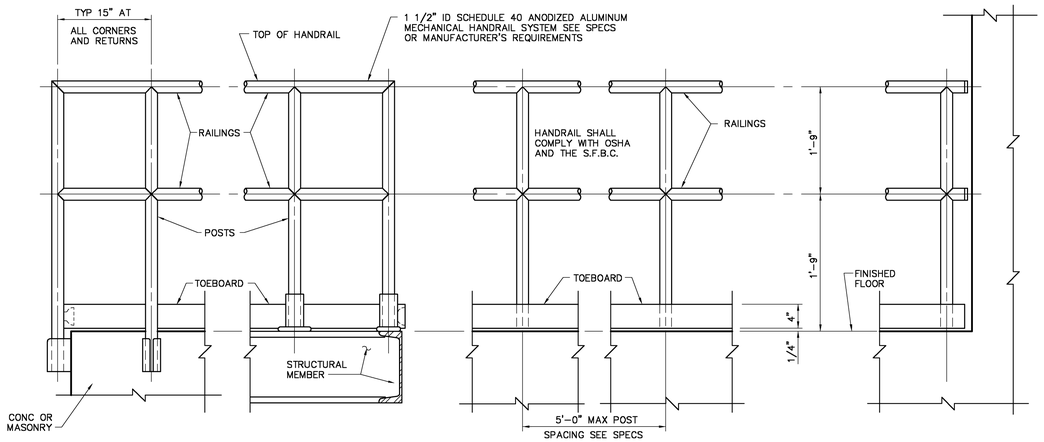
WATER AND WASTEWATER SYSTEM IMPROVEMENTS

STRUCTURAL DETAILS

PROJECT NO. 9381-002R

SHEET NO. SD-1

SHEET 86 OF 311

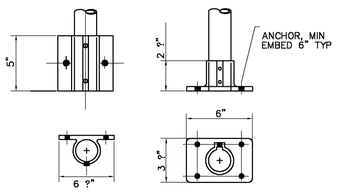


SIDE MOUNTED | SURFACE MOUNTED | RAIL–POST ARRANGEMENT | RAIL TERMINATION

TYPICAL HANDRAIL & GUARDRAIL APPLICATIONS

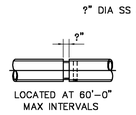
DETAIL A
NTS

NOTE:
INTERIOR OF PUMP STATIONS ONLY. SEE SHEET A-22 FOR EXTERIOR HANDRAILS.



SIDE MOUNT | SURFACE MOUNT

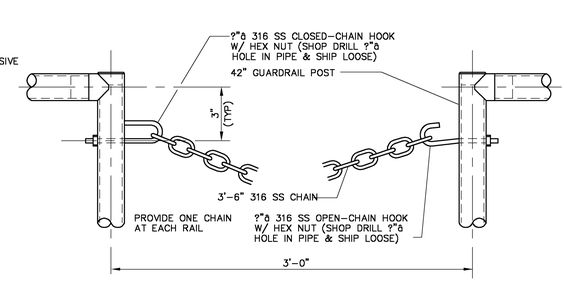
CONNECTIONS



EXPANSION JT

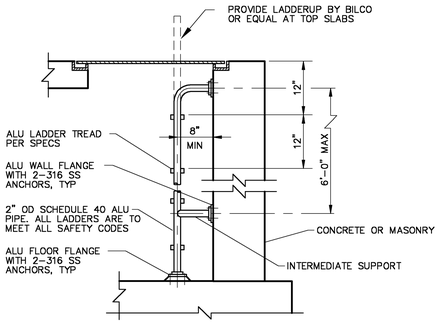
NOTES

1. ALUMINUM EMBEDDED IN CONCRETE MUST BE PAINTED WITH ONE SHOP COAT OF HEAVY BITUMASTIC.
2. ALUMINUM SHAPES IN CONTACT WITH CONCRETE MUST BE SEPARATED BY A 1/32" NEOPRENE GASKET OR ANY CASE WHERE TWO DIFFERENT METALS ARE TO BE IN CONTACT. A NEOPRENE GASKET MUST BE PROVIDED.
3. HANDRAILS, GUARDRAILS, POSTS, BRACKETS AND MOUNTINGS SHALL MEET THE SOUTH FLORIDA BUILDING CODE (S.F.B.C.) AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) LOADING REQUIREMENTS.
4. TOP OF ALL GUARDRAILS SHOULD BE 42" HIGH ABOVE THE FINISH FLOOR OR WALKWAY, THE INTERMEDIATE RAILS SHALL BE EQUALLY SPACED BETWEEN THE TOP RAIL AND THE TOEBOARD.
5. ALL WALKWAYS SHALL USE GRATING UNLESS CHECKERED PLATE IS SHOWN ELSEWHERE ON THE DRAWINGS.



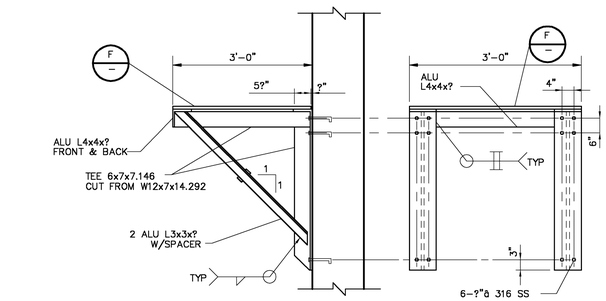
CHAIN OPENING HOOK

DETAIL B
NTS



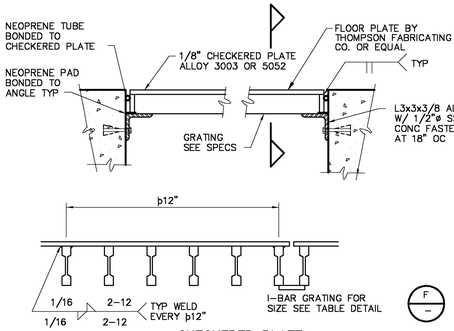
ALUMINUM LADDER

DETAIL C
NTS



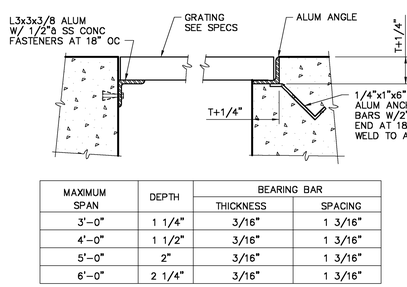
LADDER LANDING PLATFORM

DETAIL D
NTS



CHECKERED PLATE

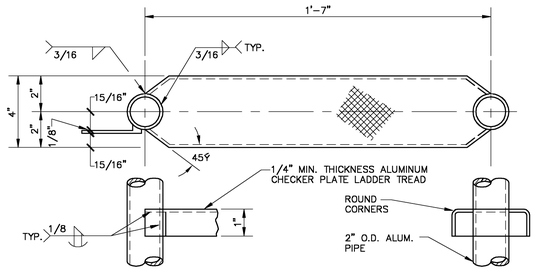
DETAIL E
NTS



MAXIMUM SPAN	DEPTH	BEARING BAR	
		THICKNESS	SPACING
3'-0"	1 1/4"	3/16"	1 3/16"
4'-0"	1 1/2"	3/16"	1 3/16"
5'-0"	2"	3/16"	1 3/16"
6'-0"	2 1/4"	3/16"	1 3/16"

GRATING AND GRATING SUPPORT

DETAIL F
NTS



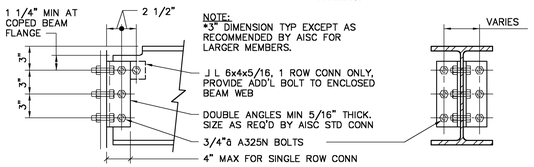
ALUMINUM LADDER TREAD

DETAIL G
N.T.S.

NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS	LENGTH (3) OF ANGLE
36	7	1'-8 1/2"
30-33	6	1'-5 1/2"
24-27	5	1'-2 1/2"
16-21	4	11 1/2"
12-15	3	8 1/2"
8-10	2	5 1/2"
6	1	3"

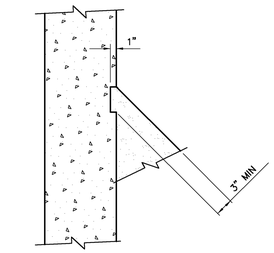
NOTES:

1. NUMBER OF ROWS IS EQUAL TO NUMBER OF BOLTS TO ENCLOSED WEB.
2. ALL FRAMING CONNECTIONS SHALL CONFORM TO SCHEDULE UNLESS DETAILED OTHERWISE ON FRAMING DRAWINGS.
3. ADD 1 1/2" TO ANGLE LENGTH FOR STAGGERED BOLT CONNECTIONS.
4. USE SS BOLTS FOR ALL ALUM FRAMING.



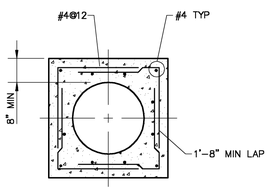
TYPICAL FRAMING CONNECTION

DETAIL H
NTS



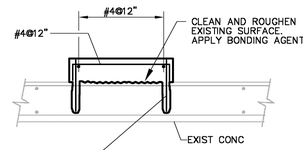
GROUT FILLET

DETAIL I
NTS



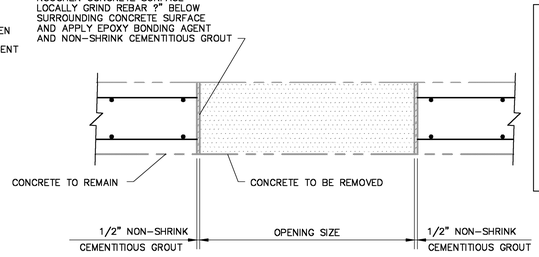
PIPE ENCASEMENT

DETAIL J
NTS



NEW EQUIPMENT PAD ON EXIST SLAB

DETAIL K
NTS



DEMOLITION

PLAN
NTS

DEMOLITION OF EXISTING CONCRETE

DETAIL L
NTS

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PROJECT NO. 9381-002R

SHEET NO. SD-2
SHEET 87 OF 311