HISTORIC AND DESIGN REVIEW COMMISSION

October 05, 2016

Agenda Item No: 10

HDRC CASE NO:	**2016-399**
ADDRESS:	903 W MARTIN ST 211 N PRESA ST
LEGAL DESCRIPTION:	NCB 290 BLK 35 LOT 15 (UHS-DOWNTOWN CAMPUS)
ZONING:	D HE
CITY COUNCIL DIST.:	5
LANDMARK:	Brady Green Hospital
APPLICANT:	Arthur Sosa
OWNER:	Universal Health System
TYPE OF WORK:	Parking lot expansion and improvements

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to improve two existing parking lot and convert an existing gravel parking into a paved parking lot creating 128 parking spaces with improvements. The improvements include:

1. Installing new light fixtures
2. Installing new cameras
3. Installing emergency phones
4. Repairs to existing sidewalks and ramps and installing new sidewalks and ramps in southern parking lot
5. Underground drainage
6. Landscaping and irrigation
7. Replacement of existing electronic gates
8. Remove existing metal fencing and replace in-kind

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 5, Guidelines for Site Elements

3. Landscape Design
D. TREES
i. Preservation—Preserve and protect from damage existing mature trees and heritage trees. See UDC Section 35-523 (Tree Preservation) for specific requirements.

7. Off-Street Parking
A. LOCATION
i. Preferred location—Place parking areas for non-residential and mixed-use structures at the rear of the site, behind primary structures to hide them from the public right-of-way. On corner lots, place parking areas behind the primary structure and set them back as far as possible from the side streets. Parking areas to the side of the primary structure are acceptable when location behind the structure is not feasible. See UDC Section 35-310 for district-specific standards.
ii. Front—Do not add off-street parking areas within the front yard setback as to not disrupt the continuity of the streetscape.
iii. Access—Design off-street parking areas to be accessed from alleys or secondary streets rather than from principal streets whenever possible.
B. DESIGN
i. Screening—Screen off-street parking areas with a landscape buffer, wall, or ornamental fence two to four feet high—or a combination of these methods. Landscape buffers are preferred due to their ability to absorb carbon dioxide. See UDC Section 35-510 for buffer requirements.
ii. Materials—Use permeable parking surfaces when possible to reduce run-off and flooding. See UDC Section 35-526(j) for specific standards.

8. Americans with Disabilities Act (ADA) Compliance
C. DESIGN
iii. Curb cuts—Install new ADA curb cuts on historic sidewalks to be consistent with the existing sidewalk color and texture while minimizing damage to the historical sidewalk.

FINDINGS:

a. There are two structures at 903 W Martin. One structure is a non-historic accessory structure, and the other is the structure known as Brady Green Hospital, which opened in 1917. Brady Green Hospital is a local landmark.
b. The applicant is proposing to make improvements to the existing parking lot located to the south of the landmark. The proposed improvement plans include upgrades to site elements. There are no requests to alter the historic Brady Green Hospital.
c. Staff made a site visit September 28, 2016, and found that the historic structure is surrounded by commercial, non-historic development. The lot at 903 W Martin, which is flanked by new commercial buildings.
d. The site currently features approximately twenty moderately sized trees, all except one 12" dead oak tree, will remain on the site. This is consistent with the Guidelines for Site Elements 3.D.i. The applicant has noted the additional trees proposed comply with the Tree Preservation requirements noted in the UDC.
e. The applicant is proposing to install curbs, sidewalks, ramps, and asphalt paving in an existing gravel parking lot along W Martin, in the rear of the existing parking lot. According to the Guidelines for Site Elements 7.A.i. the preferred location for off street parking is at the rear of the site behind primary structures, and ADA curbs should consistent with historic color. Given the unique nature of this site, stretching the entire length of the block and the status of the existing parking lot, staff finds this placement of parking appropriate. The applicant has not noted the color.
f. The applicant has proposed to install curbing, trees and turf. The applicant has noted that the proposed parking lot will be landscaped to meet the requirements of buffering and screening of off street parking as noted in both the UDC Section 35-510 and the Guidelines for Site Elements 7.B.i. Staff finds the proposed landscaping and fence screening are consistent with the Guidelines.
g. The applicant has provided specifications and product details regarding parking lot lighting and location, and adequate handicap and compact car designated parking. This is consistent with the Guidelines.
h. ARCHAEOLOGY- The property is a designated local historic landmark and is located along San Pedro Creek. Moreover, the proposed development is adjacent to the Cuneo Site and Charles House local historic landmarks which are nineteenth century vernacular structures identified in the SACS Farm and Ranch Survey. The project area is also near to previously recorded archaeological site 41BX1968. Thus, the property may contain sites, some of which may be significant. Therefore, archaeological investigations shall be required for the project areas. The project is within public property and, therefore, is subject to the Antiquities Code of Texas. The archaeology consultant should submit the scope of work to the Office of Historic Preservation (OHP) for review and approval prior to beginning the archaeological investigation.

RECOMMENDATION:

Staff recommends approval based on findings a through h with the following stipulations:

1. That the sidewalk be consistent with the color of the historic sidewalks.
2. ARCHAEOLOGY- Archaeological investigations shall be required for the project areas. The archaeology consultant should submit the scope of work to the Office of Historic Preservation (OHP) for review and approval prior to beginning the archaeological investigation. The project is within public property and, therefore, is subject to the Antiquities Code of Texas. The development project shall comply with all federal, state, and local laws, rules, and regulations regarding archaeology.

CASE MANAGER:

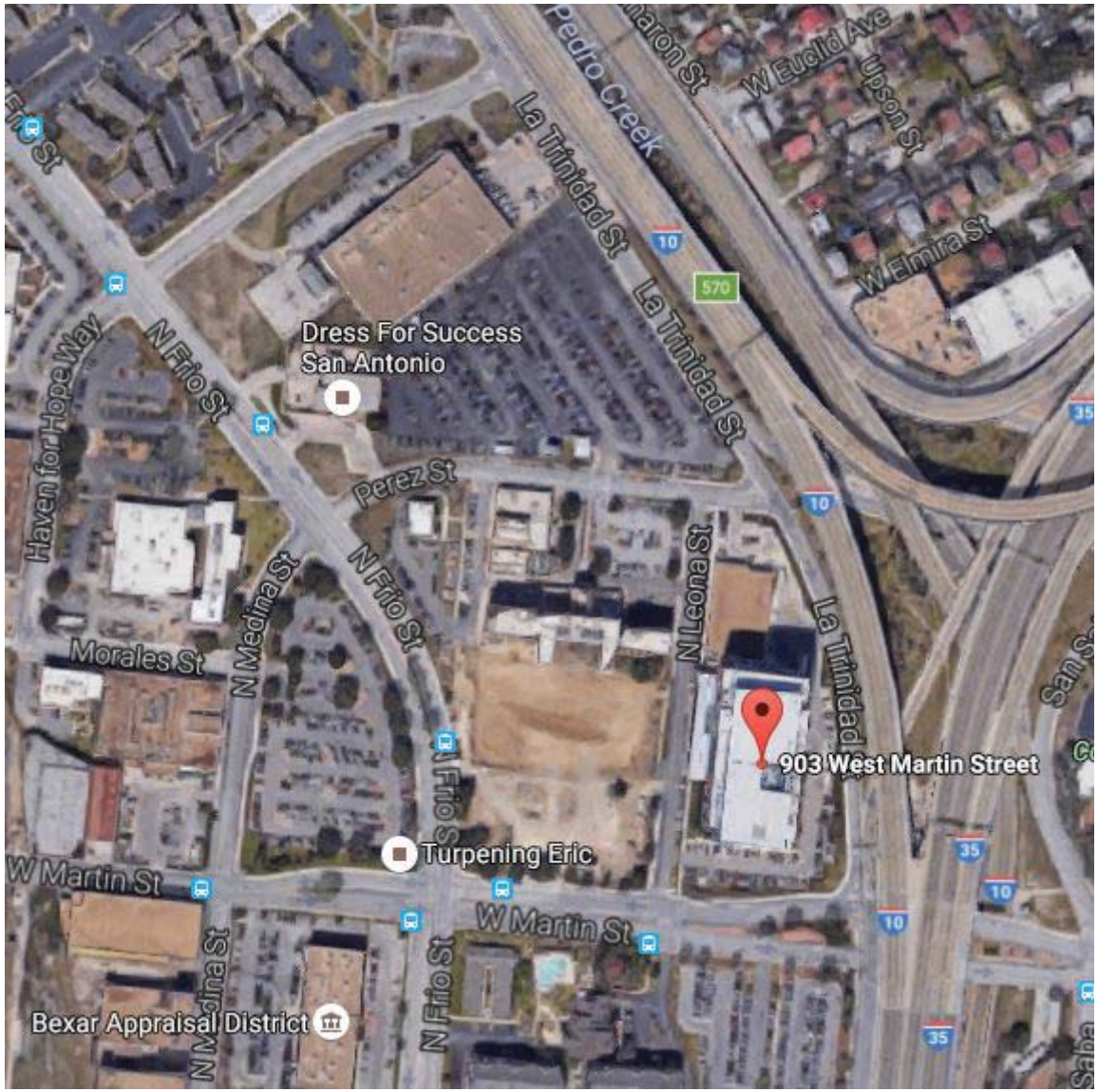
Lauren Sage

N

Flex Viewer

Powered by ArcGIS Server

Printed:Sep 28, 2016


Pedro Creek
W Euclid Ave
Upson St
W Elmira St
La Trinidad St
La Trinidad St
570
10
Dress For Success
San Antonio
Haven for Hope Way
N Frio St
Perez St
N Frio St
N Medina St
N Leona St
La Trinidad St
Morales St
903 West Martin Street
Turpening Eric
W Martin St
W Martin St
N Frio St
N Medina St
Bexar Appraisal District
35
10

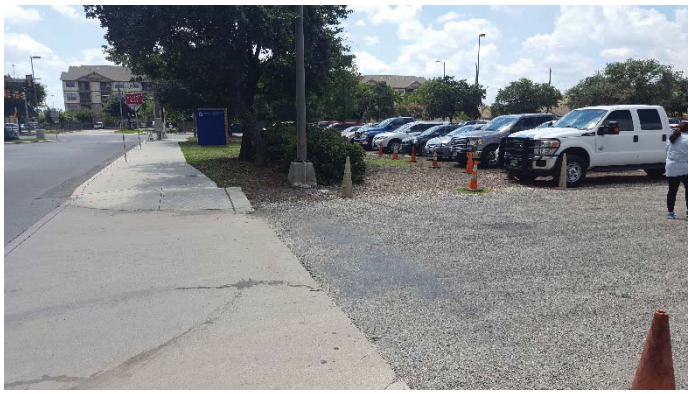

Perez St
Family Focus Aids
Clinical Treatment
Perez St
Perez St
N Frio St
N Leona St
S Pecos St
Ffacts Pharmacy
N Frio St
N Leona St
Pre-Trial Services
Charge Point
Charging Station
Robert B. Green
Campus – University...
La Trinidad St
N Frio St
Turpening Eric
W Martin St
W Martin St
W Martin St
S Frio St
87
10
10


La Trinidad St
10
570
Community
Perez St

N Leona St
W Martin St
N Frio St
Turpening Eric

South Visitor Parking Lot
(Corner of N. Frio and W.Martin)

West end of parking lot facing east.



Northeast corner of parking lot facing south

Southwest corner of parking lot facing Northeast

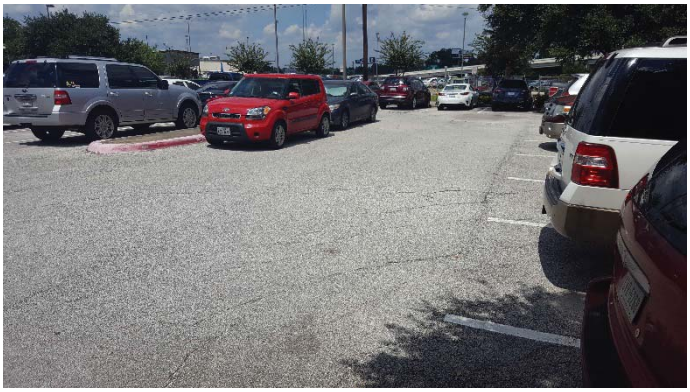
Northeast corner of parking lot facing southwest.

Southeast corner of parking lot facing north.

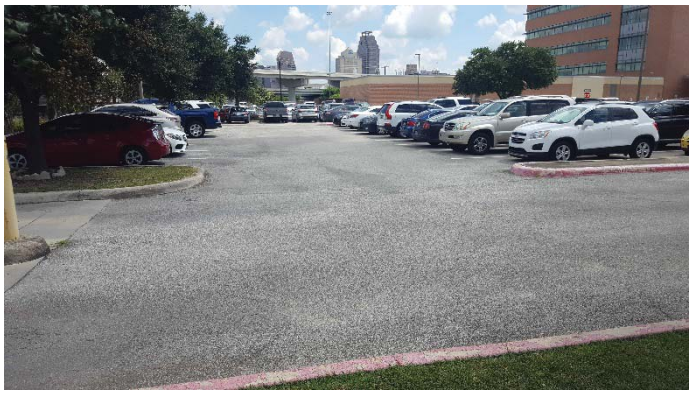
Northeast corner of parking lot facing west along concrete sidewalk.

Permit Parking Lot

Northwest corner of parking lot facing southeast from Perez St.

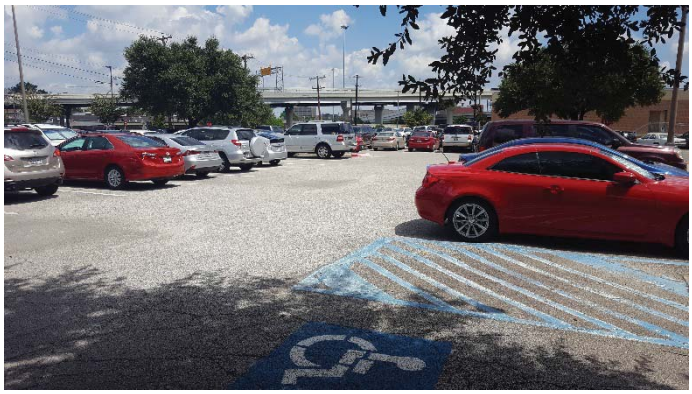


Southeast corner of parking lot along N. Leona St. facing north

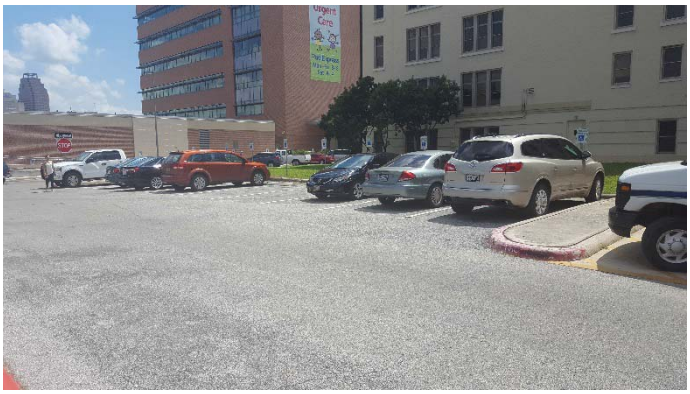


Northwest corner of parking lot facing east.

Northeast corner of parking lot along N. Leona St. facing west.



Southwest corner of parking lot near building entrance facing eastward.



Handicapped parking along south end of parking lot.

North Employee/Visitor Parking Lot

Standing at Perez St. entrance facing Northwest at first row.

North end facing far northeast corner.

South end facing northwest at second row.

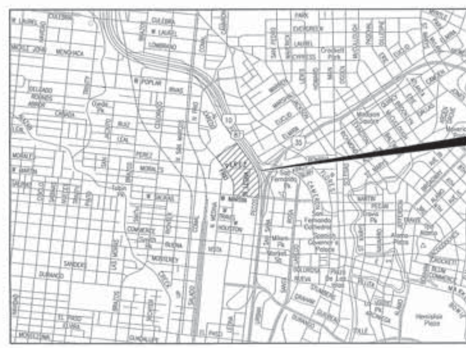
Far northeast corner facing south.

South end facing northwest at third row.

North end facing south.

UNIVERSITY HEALTH SYSTEM
ROBERT B. GREEN DOWNTOWN CAMPUS

PERMIT PARKING LOT IMPROVEMENT
SOUTH VISITOR PARKING LOT EXPANSION AND NORTH EMPLOYEE PARKING LOT REALIGNMENT
SAN ANTONIO, TX



LOCATION MAP

JUNE 2016

ELECTRICAL ENGINEER:

RGM ENGINEERING
700 N. ST. MARY'S Ste. 1225
SAN ANTONIO, TEXAS 78205
(210) 299-4522
FIRM REGISTRATION No. F-10487

LANDSCAPE ARCHITECT:

BENDER WELLS CLARK DESIGN
830 NORTH ALAMO ST.
SAN ANTONIO, TEXAS 78215
(210) 692-9221
FIRM REGISTRATION No. BR 110

CIVIL ENGINEER:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

BMB JOB No: C-1419

STATE OF TEXAS
CARL BAIN
56996
REGISTERED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by
CARL BAIN
P.E. 56996 ON
06/03/2016

INDEX OF DRAWINGS

SITE WORK GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT PLANS, SPECIFICATIONS, AND ADDENDA (IF ISSUED). IF THERE IS NO REFERENCE TO A TASK IN THESE DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR GUIDANCE/ CLARIFICATION IN THE FORM OF A WRITTEN REQUEST FOR INFORMATION (RFI) NUMBERED SEQUENTIALLY.

2. ANY CHANGES IN THE SCOPE OF WORK SHALL BE APPROVED BY THE OWNER AND ENGINEER BEFORE THE CONTRACTOR COMMENCES WITH THE CHANGES.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER CONDITION, ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.

5. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.

6. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

7. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING ALL CONSTRUCTION STAKES, MARKS, ETC. THE ENGINEER SHALL PROVIDE VERTICAL INFORMATION TO BE VERIFIED BY THE CONTRACTOR.

9. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE PLACED PRIOR TO COMMENCING CONSTRUCTION AND REMOVED BY THE CONTRACTOR AFTER FINAL ACCEPTANCE OF THE PROJECT.

10. A SITE SURVEY WAS PERFORMED AND IS INCLUDED AS A PROJECT DRAWING FOR INFORMATION PURPOSES. THIS INFORMATION IS BY NO MEANS COMPLETE AND NO GUARANTEES MADE OR IMPLIED AS TO ITS COMPLETENESS. THE LOCATION, DEPTH, SIZE OR OTHER FEATURE OF THE IMPROVEMENTS DEPICTED HEREON SHALL SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING CONSTRUCTION. UNLESS IDENTIFIED FOR DEMOLITION OR REMOVAL THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAID IMPROVEMENTS OR FEATURES.

11. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE IMMEDIATE WORK AREA AND SHALL PROVIDE SAFETY OF PERSONS AND PROPERTY. EXISTING VEGETATION, PLANTS, SHRUBS, TREES AND GRASS, ETC., SHALL BE PROTECTED AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER CONDITION, ANY DAMAGE DONE TO STREETS, PARKING AREAS, CURBS, WALKS, DRIVES, FENCES, ETC. REPAIRS OR REPLACEMENT SHALL NOT BE CONSIDERED A SEPARATE PAY ITEM.

12. CONSTRUCTION SHALL PASS ALL TESTS/INSPECTIONS BY THE APPROVING AGENCIES BEFORE FINAL PAYMENT. ANY COSTS INCURRED FROM FAILED AND/OR RE-INSPECTIONS WILL BE PAID BY THE CONTRACTOR.

13. ALL DISTURBED AREAS SHALL BE SODDED UPON COMPLETION OF CONSTRUCTION.

14. CONTRACTOR IS REQUIRED TO CLEAN UP DAILY AND MAINTAIN SIDEWALKS AROUND WORK AREAS FREE OF MUD, DIRT, AND DEBRIS.

15. CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND SHALL SUBMIT A NOTICE OF INTENT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NPDES GENERAL PERMIT TO THE EPA.

16. CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER FOR INSPECTION OF WORK BEFORE CONTINUING AND COMPLETION. (IE. CONCRETE POURS, BASE PLACEMENT ETC.)

17. CONTRACTOR TO PROVIDE TEMPORARY CHAIN LINK FENCE AROUND EACH PHASE DURING THAT PHASE OF CONSTRUCTION.

PHASING SEQUENCE:

PHASE 1: SOUTH VISITOR PARKING LOT EXPANSION:

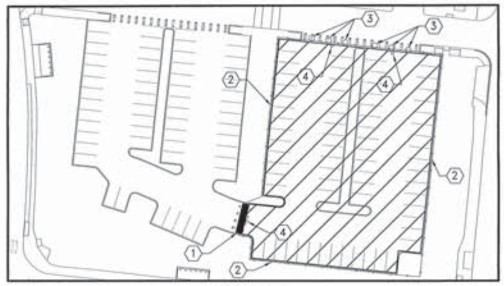
THIS PHASE SHALL CONSIST OF DEMOLITION OF EXISTING GRAVEL PARKING, CONSTRUCTION OF 128 PARKING SPACES. THIS PHASE ALSO INCLUDES NEW LIGHTING, CAMERAS, EMERGENCY PHONE, SIDEWALKS, RAMPS, UNDER GROUND DRAINAGE, LANDSCAPING AND IRRIGATION. AT COMPLETION OF SOUTH VISITOR PARKING LOT, CONTRACTOR WILL BARRICADE SOUTH VISITOR PARKING LOT TO CREATE A SEPARATE PERMIT PARKING AREA. THE BARRICADES SHALL REMAIN UNTIL SUBSTANTIAL COMPLETION OF PHASE 2 (PERMIT PARKING LOT). CONTRACTOR WILL NOT BE PERMITTED TO WORK ON PHASE 2 (PERMIT PARKING LOT) UNTIL SUBSTANTIAL COMPLETION OF PHASE 1.

PHASE 2: PERMIT PARKING LOT IMPROVEMENTS:

THIS PHASE SHALL CONSIST OF DEMOLITION OF EXISTING PARKING FACILITY, CONSTRUCTION OF 85 PARKING SPACES WITH 4 HANDI CAP PARKING SPACES. THIS PHASE ALSO INCLUDES NEW LIGHTING, CAMERAS, ELECTRONIC GATES, LANDSCAPING AND IRRIGATION. CONTRACTOR WILL NOT BE PERMITTED TO WORK ON PHASE 3 (NORTH EMPLOYEE / VISITOR PARKING) UNTIL SUBSTANTIAL COMPLETION OF PHASE 2.

PHASE 3: NORTH EMPLOYEE / VISITOR PARKING: (ADDITIVE ALTERNATE)

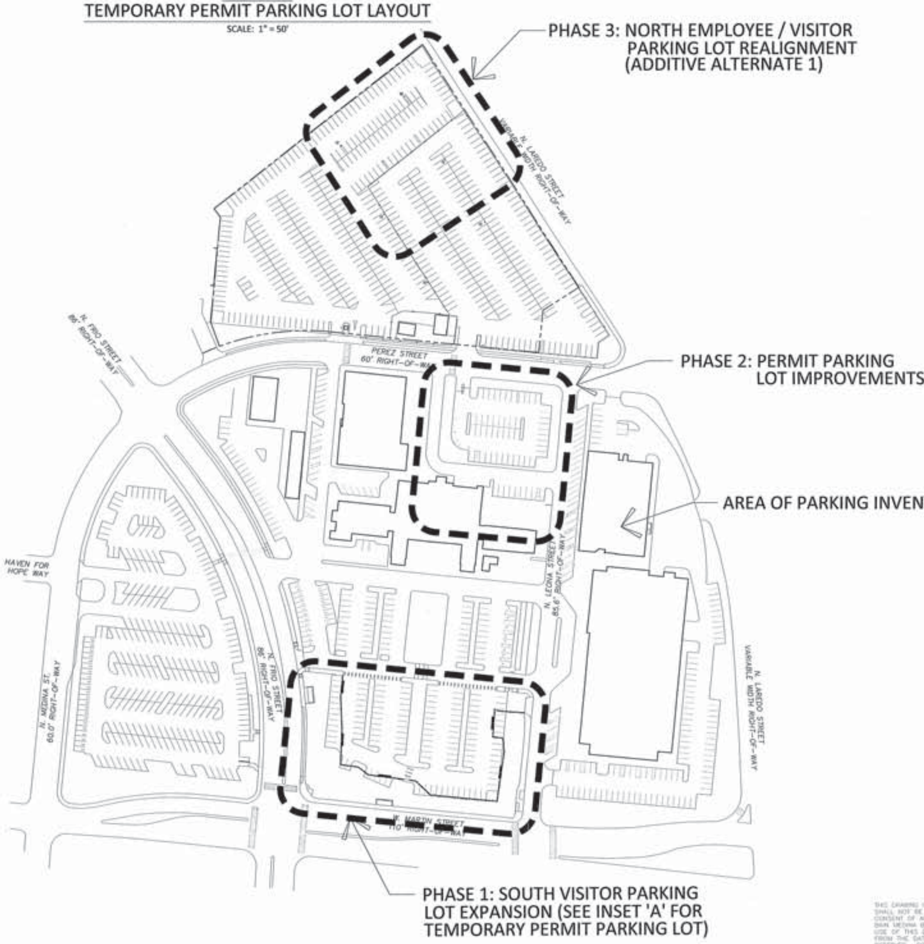
THIS PHASE SHALL CONSIST OF PARTIAL REMOVAL OF EXISTING FENCING, AND CAR STOPS. SALVAGABLE MATERIAL SHALL BE STORED FOR RE-USE. CONSTRUCTION SHALL CONSIST OF CRACK SEALING AREA, SEAL COATING, RE-STRIPING AND INSTALLATION OF NEW FENCING. CONTRACTOR WILL HOLD PRICE FOR ADD ALTERNATE UNTIL SUBSTANTIAL COMPLETION OF PHASE 2 (PERMIT PARKING LOT).



INSET 'A'
TEMPORARY PERMIT PARKING LOT LAYOUT
SCALE: 1" = 50'

TEMPORARY PERMIT PARKING KEY NOTES:

1. INSTALL BARRICADES TO CLOSE SECTION OFF.
2. INSTALL TEMPORARY FENCING AROUND PARKING PERIMETER AS SHOWN.
3. PROVIDE TEMPORARY DRUM CONES AT INGRESS AND EGRESS POINTS.
4. PROVIDE SIGNAGE: "PARKING BY PERMIT ONLY" "VIOLATOR WILL BE TOWED AT OWNERS EXPENSE"



LOCATION MAP

LEGEND:

DENOTES AREA OF PARKING INVENTORY. PARKING COUNTS WERE PERFORMED ON THE GROUND BY BAIN MEDINA BAIN INC. ON JANUARY 28, 2016.

INVENTORY COUNTS:

EXISTING SPACES:	368
EXISTING H/C SPACES:	58
PROPOSED SPACES:	412
PROPOSED H/C SPACES:	53

NORTH VISITOR PARKING AFFECTED PARKING ONLY

EXISTING EMPLOYEE SPACES	97
EXISTING VISITOR SPACES	54
TOTAL SPACES	151
PROPOSED EMPLOYEE SPACES	135
PROPOSED VISITOR SPACES	17
TOTAL SPACES	152
INCREASE OF SPACES	1

PERMIT PARKING LOT:

EXISTING SPACES	52
EXISTING H/C SPACES	9
PROPOSED SPACES	85
PROPOSED H/C SPACES	4

SOUTH VISITOR PARKING LOT:

EXISTING SPACES	102
PROPOSED SPACES	128

LEGAL DESCRIPTION:

LOT 32, BLOCK 38, N.C.B. 258, AND LOT 15 BLOCK 35, N.C.B. 290, UHS-DOWNTOWM CAMPUS SUBDIVISON RECORDED IN VOLUME 9620 PAGE 52, PLAT RECORDES OR BEXAR COUNTY TEXAS.

NORTH

PHASING PLAN
SCALE: 1" = 100'-0"

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS

PHASING PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-1.1

Date: Jun 03, 2016, 11:29am User ID: MLinter
File: M:\Jobs\C-1419 UHC Clinical Building\Design\Civil\Construction Documents\C-1.1 Phasing.dwg

SYMBOLS & ABBREVIATIONS

CIRCUITS

Symbol	Description
	CONDUIT CONCEALED IN WALL OR CEILING WITH PHASE, NEUTRAL AND GROUND CONDUCTOR UNLESS OTHERWISE NOTED
	SWITCH LEG
	CONDUIT UNDERGROUND / UNDER SLAB
	HOME RUN TO PANEL. CIRCUIT NUMBERS, PHASE, NEUTRAL AND GROUND CONDUCTORS INDICATED. ALL CONDUCTORS TO BE #12 EXCEPT WHERE NOTED. CONDUIT TO BE 1/2" OR AS NOTED ON PLANS AND SPECIFICATIONS.
(SC)	SPLIT CIRCUIT

EQUIPMENT

Symbol	Description
	MOTOR, HP AS INDICATED
	CONTROLLER TO BE FURNISHED UNDER DIVISION 15
VFD	VARIABLE FREQUENCY DRIVE CONTROLLER FURNISHED UNDER DIVISION 15
	DISCONNECT SWITCH
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH
IC	INTERCOM J BOX, WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS
IC	INTERCOM J BOX, CEILING MOUNTED
J	JUNCTION BOX, CEILING MOUNTED
J	JUNCTION BOX, WALL MOUNTED
PB	PULL BOX
PC	PULL CORD
S	SPEAKER, CEILING MOUNTED
	EQUIPMENT CONNECTION
PC	PHOTOCELL ON ROOF
	PANELBOARD (SURFACE MOUNTED)
	PANELBOARD (RECESSED MOUNTED)
SWBD	SWITCHBOARD OR DISTRIBUTION BOARD
	PLYWOOD TELEPHONE BACKBOARD
	DUCT TYPE SMOKE DETECTOR WITH SAMPLING TUBES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.

RECEPTACLES

Symbol	Description
	GROUND CONNECTION.
	20 AMP SIMPLEX RECEPTACLE, +16" OR AS NOTED.
	20 AMP DUPLEX RECEPTACLE, +16" OR AS NOTED.
WP,GFCI	20 AMP GROUND FAULT DUPLEX RECEPTACLE, +16" OR AS NOTED.
AC	20 AMP DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER TOP OR AS NOTED ON ARCHITECTURAL DRAWINGS.
T	TAMPER RESISTANT DUPLEX RECEPTACLE, +16" OR AS NOTED.
	20 AMP QUAD PLEX RECEPTACLE, +16" OR AS NOTED.
	GROUND FAULT DUPLEX RECEPTACLE, +16" OR AS NOTED.
	RECEPTACLE ON EMERGENCY CIRCUIT (COLOR RED)
	20 AMP FLOOR MOUNTED DUPLEX RECEPTACLE
	20 AMP CEILING MOUNTED DUPLEX RECEPTACLE
	120V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
	208V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
	208V, 3PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
	480V, 1PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
	480V, 3PH EQUIPMENT CONNECTION RECEPTACLE, +16" OR AS NOTED
T	THERMOSTAT PROVIDED BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND CONDUIT.
	T.V. OUTLET
	DATA OUTLET. PROVIDE 4"X4" J-BOX WITH SINGLE GANG RING AND 3/4" CONDUIT AND PULLSTRING STUBBED ABOVE CEILING, +16" OR AS NOTED.
	PHONE OUTLET. PROVIDE 4"X4" J-BOX WITH SINGLE GANG RING AND 3/4" CONDUIT AND PULLSTRING STUBBED ABOVE CEILING, +16" OR AS NOTED.
	TELE/DATA JACK

LIGHTING

Symbol	Description
	HID SITE LIGHTING FIXTURE MOUNTED ON A POLE
	INCANDESCENT, FLUORESCENT OR HID FIXTURE, RECESSED FIXTURE
	DOWNLIGHT
	INCANDESCENT, FLUORESCENT OR HID FIXTURE, WALL MOUNTED
	FLUSH MOUNT FIXTURE
	PENDANT FIXTURE
	WALL SCONCE FIXTURE
	WALL PACK
X	FLUORESCENT 2x4 FIXTURE, CEILING OR SURFACE MOUNTED,
X	FLUORESCENT 2x4 FIXTURE, WITH EMERGENCY BATTERY PACK
X	FLUORESCENT 2x2 FIXTURE, CEILING OR SURFACE MOUNTED,
X	FLUORESCENT 2x2 FIXTURE, WITH EMERGENCY BATTERY PACK
X	FLUORESCENT 1x4 FIXTURE
X	FLUORESCENT 1x4 FIXTURE, WITH EMERGENCY BATTERY PACK
	FLUORESCENT STRIP FIXTURE
	FLUORESCENT STRIP FIXTURE, WITH EMERGENCY BATTER PACK
	EXIT LIGHT, DIRECTION ARROWS AS INDICATED
	EXIT LIGHT, DIRECTION ARROWS AS INDICATED
	EMERGENCY LIGHT
MS	MOTION SENSOR, WALL MOUNTED
MS	MOTION SENSOR, CEILING MOUNTED
$	SINGLE POLE TOGGLE SWITCH, +3'-10" OR AS NOTED.
$x	SINGLE POLE SWITCH, SUBSCRIPT INDICATES ASSOCIATED CIRCUITRY
$2	DOUBLE-POLE TOGGLE SWITCH, +3'-10" OR AS NOTED.
$3	THREE-WAY SWITCHED, +3'-10" OR AS NOTED.
$D	DIMMER SWITCH
$P	PILOT LIGHT
$OS	SINGLE POLE OCCUPANCY SWITCH
$M,$MT	MANUAL MOTOR STARTER (T=THERMAL OVERLOAD SIZED FOR MOTOR)

SPECIAL SYSTEMS

Symbol	Description
SD D	DUCT MOUNTED SMOKE DETECTOR
SD	CEILING MOUNTED SMOKE DETECTOR
B	DOOR LOCK RELEASE BUTTON
BL	BEACON LIGHT
DL	DOOR LOCKS
AV	AUDIO/VISUAL FIRE ALARM
AV	AUDIO/VISUAL FIRE ALARM, CEILING
V	VISUAL FIRE ALARM
A	AUDIO FIRE ALARM
F	FIRE PULL STATION
F	FIRE PULL STATION HORN
H	HORN
NC	NURSE CALL STATION
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR

DEMOLITION

Symbol	Description
- - - -	CONDUIT, EQUIPMENT, DEVICE TO BE DEMOLISHED.
———	(LIGHT SHADE) EXISTING TO REMAIN.

ABBREVIATIONS

ABV	ABOVE
AC	ABOVE COUNTER
A/C	AIR CONDITIONED
AD	ACCESS DOOR
A.F.	ARC FAULT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION, INC.
AMP	AMPERE(S)
&	AND
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
@	AT
AV	AUTOMATIC AIR VENT ASSEMBLY
AUX	AUXILIARY
BLDG	BUILDING
C	CONDUIT
CA	COMPRESSED AIR
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CI	CAST IRON
CLG	CEILING
CKT	CIRCUIT
CO	CLEANOUT
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CU	CONDENSING UNIT
CU	COPPER
℄	CENTER LINE
D	DRAIN
DB	DRY BULB
DIA	DIAMETER
DIST	DISTRIBUTION
DN	DOWN
DWGS	DRAWINGS
(e)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ELEV	ELEVATION
ELEC	ELECTRICAL
EG	EXHAUST GRILLE
EGC	EQUIPMENT GROUNDING CONDUCTOR
ENT	ENTERING
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMP.
EXH	EXHAUST
EXIST	EXISTING
F	DEGREES FAHRENHEIT
FD	FIRE DAMPER
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET, FOOT
GAL	GALLON
GALV	GALVANIZED
GEC	GROUNDING EQUIPMENT CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HZ	HERTZ
IC	INTERCOM
IE	INVERT ELEVATION
IG	ISOLATED GROUND
IN	INCHES
INC	INCANDESCENT
IN WG	INCHES OF WATER
INSUL	INSULATION
JB	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
LPA	LINE PRESSURE ALARM
LVR	LOUVER
MA	MEDICAL AIR
MAX	MAXIMUM
MD	MANUAL DAMPER
MECH	MECHANICAL
MH	MOUNTING HEIGHT
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTG	MOUNTING
MV	MEDICAL VACUUM
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
N_2	NITROGEN
O_2	OXYGEN
OA	OUTSIDE AIR
OAH	OUTSIDE AIR INTAKE HOOD
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OVERHEAD
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
P	PUMP
P-2	PLBG. FIXTURE DESIGNATION
PCT	PERCENT (%)
PLBG	PLUMBING
PNL	PANELBOARD
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAS
PWR	POWER
RA	RETURN AIR
RE:4P6	REFER TO DETAIL 4 DRAWING P-6
REQ'D	REQUIRED
RET	RETURN
RF	RELIEF FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHD	RELIEF HOOD
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SC	SPLIT CIRCUIT
SD	SMOKE DAMPER
SEC	SECOND
SF	SUPPLY FAN
SMACNA	SHEET METAL AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
SPEC	SPECIFICATION
STD	STANDARD
STL	STEEL
SU	STUB UP FROM FLOOR
SW	SWITCH
SWBD	SWITCHBOARD
T	TELEPHONE
TEMP	TEMPERATURE
TXV	THERMOSTATIC EXPANSION VALVE
TV	TELEVISION
TYP	TYPICAL
UF	UNDER FLOOR
UGSE	UNDERGROUND SECONDAY ELECTRIC
UL	UNDERWRITERS LABORATORIES
UPE	UNDERGROUND PRIMARY ELECTRIC
UON	UNLESS OTHERWISE NOTED
V	VACUUM
V	VOLT(S)
VB	VALVE BOX
VEL	VELOCITY
VENT	VENTILATE
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THRU ROOF
W	WIRE
W/	WITH
W/O	WITHOUT
W.A.G.E.	WASTE ANESTHESIA GAS EVACUATION
WB	WET BULB
WP	WEATHERPROOF
Y.C.O.	YARD CLEANOUT
ZVB	ZONE VALVE BOX
1P	ONE POLE
2P	TWO POLE
3P	THREE POLE
#	PHASE
+44	HEIGHT ABOVE FLOOR TO CENTER LINE OF OUTLET BOX

RGM ENGINEERING

TEXAS REGISTERED ENGINEERING FIRM F-10487
700 N. ST. MARY'S
SUITE 1225
SAN ANTONIO, TX 78205
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 06/03,2016

STATE OF TEXAS
ROGER G. MENDEZ
93809
REGISTERED PROFESSIONAL ENGINEER
[illegible signature]

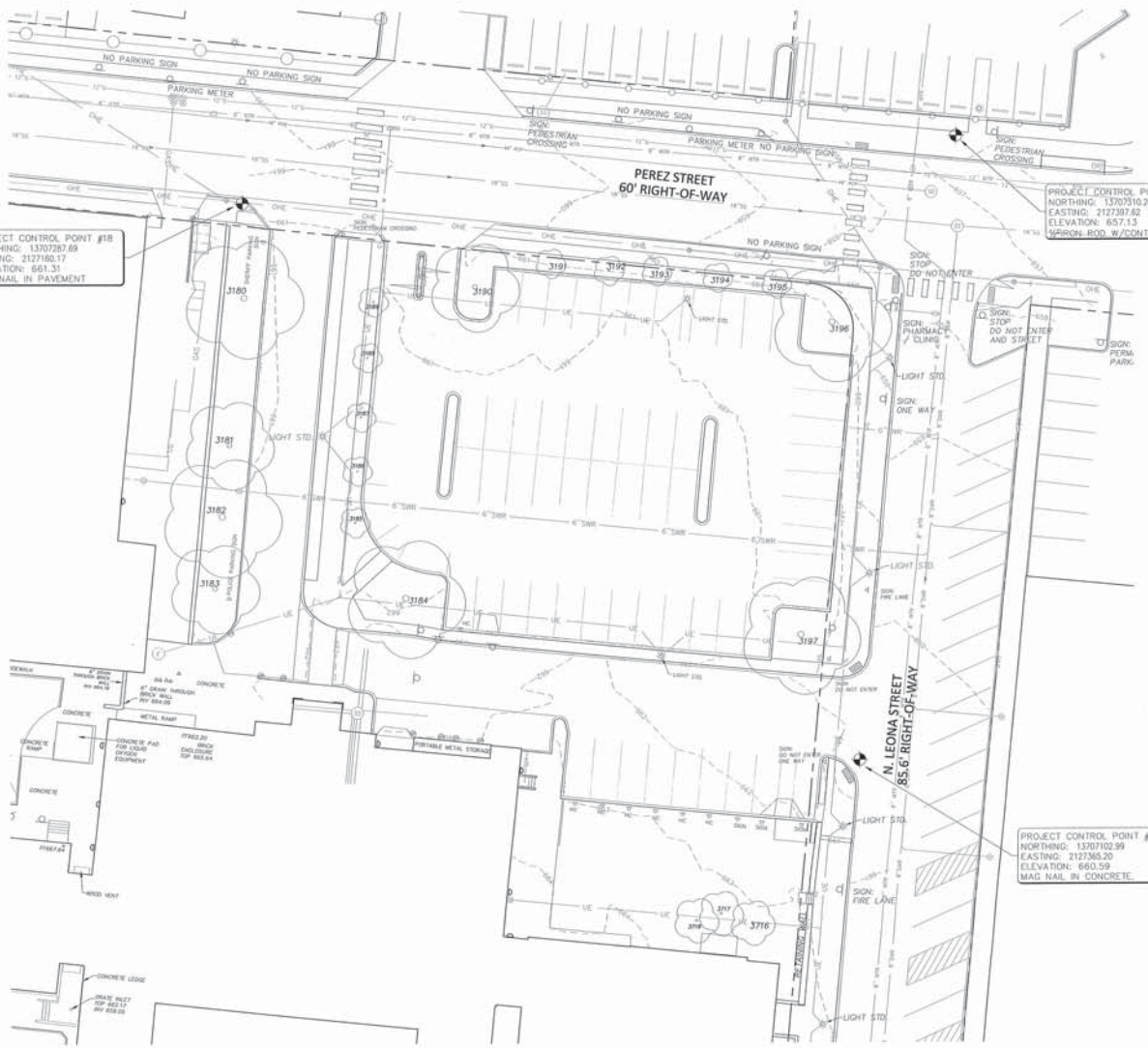
No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
ELECTRICAL SYMBOLS
AND ABBREVIATIONS

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-0

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/HC



TREE LIST			
Point No.	TAG	SIZE / TYPE	DRIP DIA.
3180	727	18"OAK	40'
3181	728	12"OAK	30'
3182	729	15"OAK	40'
3183	730	11"OAK	30'
3184	731	18"OAK	40'
3185	732	10"CREPE MYRTLE	5'
3186	733	10"CREPE MYRTLE	5'
3187	734	10"CREPE MYRTLE	5'
3188	735	10"CREPE MYRTLE	5'
3189	736	8"CREPE MYRTLE	5'
3190	737	10"OAK	30'
3191	738	10"CREPE MYRTLE	5'
3192	739	10"CREPE MYRTLE	5'
3193	740	10"CREPE MYRTLE	5'
3194	741	10"CREPE MYRTLE	5'
3195	742	10"CREPE MYRTLE	5'
3196	743	20"OAK	40'
3197	744	14"OAK	40'
3716	1720	6"WHT. LAUREL	15'
3717	1600	6"WHT. LAUREL	15'
3718	1597	6"WHT. LAUREL	15'

PROJECT LOCATION

LOCATION MAP

SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

GENERAL SITE DEVELOPMENT NOTES

1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. THE INTENT OF THE DEVELOPMENT OF THIS SITE IS TO LEAVE AS MUCH DESIRABLE PLANT MATERIAL AS POSSIBLE IN ITS NATURAL STATE. MAJOR EXISTING TREES WITHIN THE LIMIT OF CONSTRUCTION ARE INDICATED IN THE SITE DRAWINGS. SITE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY TREE OR OTHER VERTICAL VEGETATION EXISTING ON THE SITE. COORDINATE DRAWINGS WITH FIELD CONDITIONS TO VERIFY PRECISE EXTENT OF SITE CLEARING REQUIRED.
3. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE PARKING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO SITE ELEMENTS.
4. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION AREA INDICATED ON THE DRAWINGS.
5. CONSTRUCTION OF SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
6. THIS SITE ADJOINS OTHER DEVELOPED PROPERTY. COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.

NOTE

THE SITE SURVEY IS A PARTIAL AREA OF THE ROBERT B. GREEN DOWNTOWN CAMPUS CLINIC PERMIT PARKING LOT. THE CONTROL DEPICTED HEREON IS AN EXTENSION OF THAT CONTROL ESTABLISHED BY BAIN MEDINA BAIN INC. FOR THIS AREA. THIS AREA SURVEY DEPICTS SURFACE IMPROVEMENTS ONLY. THE LOCATION OF EXISTING UTILITIES DEPICTED, IF ANY, ARE APPROXIMATE ONLY. THE USER SHALL NOTIFY ALL LOCAL UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION IN THIS AREA.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

NORTH

AREA SURVEY
SCALE: 1" = 20'-0"

STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER

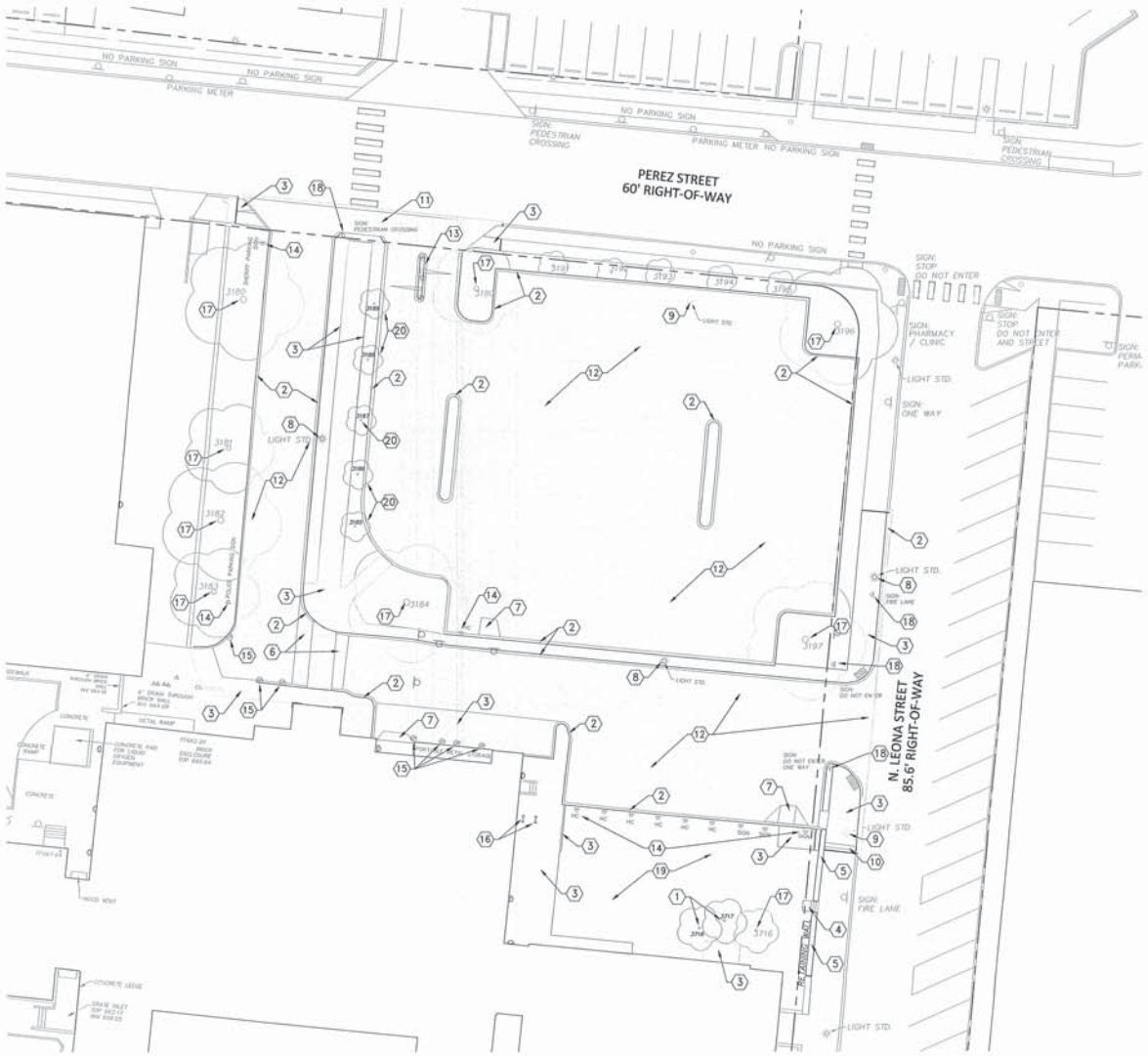
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
AREA SURVEY

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-2

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



TREE LIST			
Point No.	TAG	SIZE / TYPE	DRIP DIA.
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3718	1597	6"MNT. LAUREL	15'

SYMBOLS:

	TREE		MANHOLE STORM
SIGN			CLEAN OUT
	LIGHT POLE		GUARD POST
hyd	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

DEMOLITION NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES. (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING BUILDINGS, FENCES, SIGNAGE, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES." THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
5. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
7. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

   SAN ANTONIO WATER SYSTEM (SAWS) 233-2010
   TEXAS STATE WIDE ONE CALL LOCATOR 1-800-344-8377

9. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITY EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
10. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE REPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW OF NATURAL OR ARTIFICIAL DRAINAGE.
11. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
12. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE CURBS AND ISLANDS (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY THE ENGINEER, LANDSCAPE ARCHITECT, AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, ISLANDS, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO NATURAL SITE ELEMENTS.

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

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KEY NOTES

1. EXISTING TREE TO BE RELOCATED. SEE LANDSCAPE PLANS FOR TREE PRESERVATION AND PROTECTION.
2. EXISTING CURB TO BE SAW CUT AND REMOVED.
3. EXISTING CONCRETE TO BE REMOVED. SAW CUT WHEN ADJACENT TO EXISTING CONCRETE TO REMAIN. SEE CIVIL DETAIL.
4. CONCRETE STEPS TO BE REMOVED.
5. EXISTING RETAINING WALL TO BE REMOVED.
6. EXISTING RAISED CONCRETE CROSSWALK TO BE REMOVED.
7. EXISTING CONCRETE RAMP TO BE REMOVED.
8. EXISTING LIGHT STANDARD TO BE REMOVED. SEE ELECTRICAL PLANS.
9. EXISTING LIGHT STANDARD TO BE REMAIN AND BE PROTECTED DURING CONSTRUCTION. SEE ELECTRICAL PLANS.
10. EXISTING SIDEWALK DRAIN BOX TO BE REMOVED.
11. EXISTING DRIVE APPROACH TO BE REMOVED.
12. EXISTING ASPHALTIC SURFACE AND STRIPING TO BE REMOVED.
13. EXISTING CONCRETE, GUARD POSTS, AND GATE TO BE REMOVED. SEE ELECTRICAL PLANS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
14. EXISTING SIGN TO BE REMOVED.
15. EXISTING GUARD POST TO BE REMOVED.
16. EXISTING IRON BEAMS TO BE CUT 12" BELOW PROPOSED SUBGRADE.
17. EXISTING TREE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.
18. EXISTING SIGN TO BE REMOVED, STORED AND RE-INSTALLED. SEE GRADING PLAN.
19. AREA OF REMOVED BUILDING, ANY COLUMNS, OR FOOTINGS TO BE REMOVED OR CUT 12" BELOW PROPOSED SUBGRADE.
20. EXISTING TREE TO BE REMOVED.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

NORTH

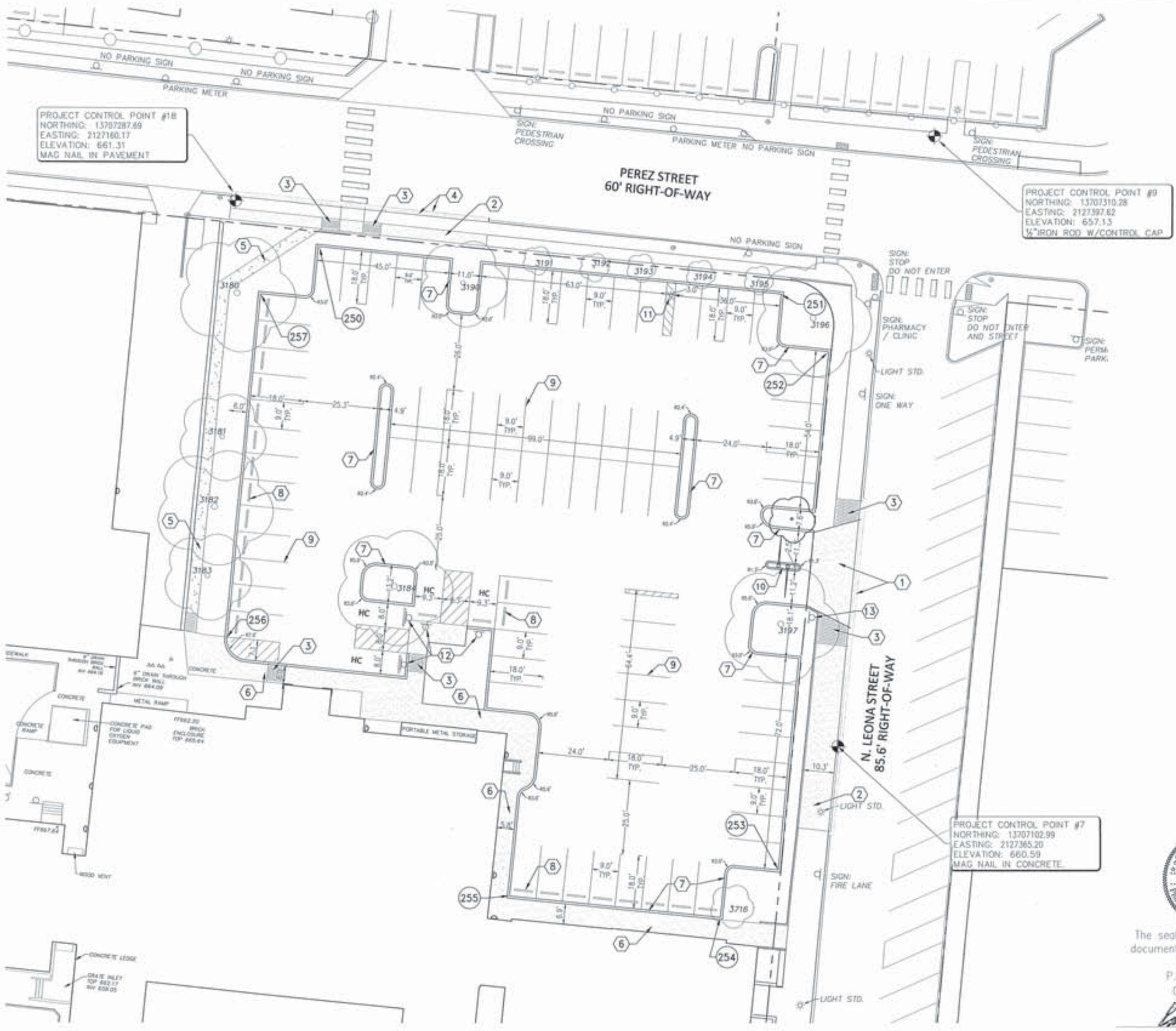
DEMOLITION PLAN
SCALE: 1"= 20'-0"

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
DEMOLITION PLAN

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-3

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



SYMBOLS:

- TREE
- SIGN
- LIGHT POLE
- FIRE HYDRANT
- SEWER MANHOLE
- IRRIGATION CONTROL VALVE
- WATER VALVE
- GAS VALVE
- MANHOLE STORM
- CLEAN OUT
- GUARD POST
- WATER METER
- COLUMN
- MANHOLE TELEPHONE
- TELEPHONE PEDESTAL
- SHRUB

CONTROL COORDINATES

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
7	13707102.99	2127365.20	660.59	TPT MAG
9	13707310.28	2127397.62	657.13	TPT
18	13707287.69	2127160.17	661.31	TPT MAG

FACE OF CURB COORDINATES

POINT	NORTHING	EASTING	DESCRIPTION
250	13707272.28	2127188.32	P-CURB
251	13707256.52	2127345.59	P-CURB
252	13707237.06	2127361.80	P-CURB
253	13707061.21	2127344.95	P-CURB
254	13707045.07	2127325.32	P-CURB
255	13707052.22	2127253.61	P-CURB
256	13707139.58	2127157.62	P-CURB
257	13707256.04	2127168.71	P-CURB

KEY NOTES

1. PROPOSED COMMERCIAL DRIVEWAY. SAW-CUT EXISTING ASPHALT AND MATCH WITH NEW CONSTRUCTION. SEE CIVIL DETAILS SHEET C-18.
2. PROPOSED CONCRETE SIDEWALK ADJACENT TO NEW CITY CURB. SEE CIVIL DETAILS SHEET C-18.
3. PROPOSED NEW CONCRETE SIDEWALK RAMP. SEE CIVIL DETAILS SHEET C-18.
4. PROPOSED NEW CITY CURB. SAW-CUT EXISTING ASPHALT AND MATCH WITH NEW CONSTRUCTION. SEE CIVIL DETAILS SHEET C-18.
5. PROPOSED 4" CONCRETE SIDEWALK. SEE CIVIL DETAIL SHEET C-18.
6. PROPOSED CONCRETE SIDEWALK ADJACENT TO EXISTING BUILDING. SEE CIVIL DETAIL SHEET C-18.
7. PROPOSED PARKING CURB. SEE CIVIL DETAIL SHEET C-18.
8. PROPOSED PRE-CAST CAR STOP (TYPICAL). SEE CIVIL DETAIL SHEET C-18.
9. PROPOSED 4" PARKING STRIPE (TYPICAL). REFER TO SPECIFICATIONS.
10. PROPOSED PERMIT GATE WITH AUTOMATED CROSS ARMS. SEE ELECTRICAL PLAN E-1.
11. EXISTING LIGHT STANDARD TO REMAIN. CONCTRACTOR TO PROTECT DURING CONSTRUCTION. SEE ELECTRICAL PLAN E-1.
12. PROPOSED HANDICAP SIGN. SEE CIVIL DETAIL SHEET C-18.
13. PROPOSED "ONE-WAY" SIGN. SEE CIVIL DETAIL SHEET C-18.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
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NORTH

DIMENSION CONTROL PLAN

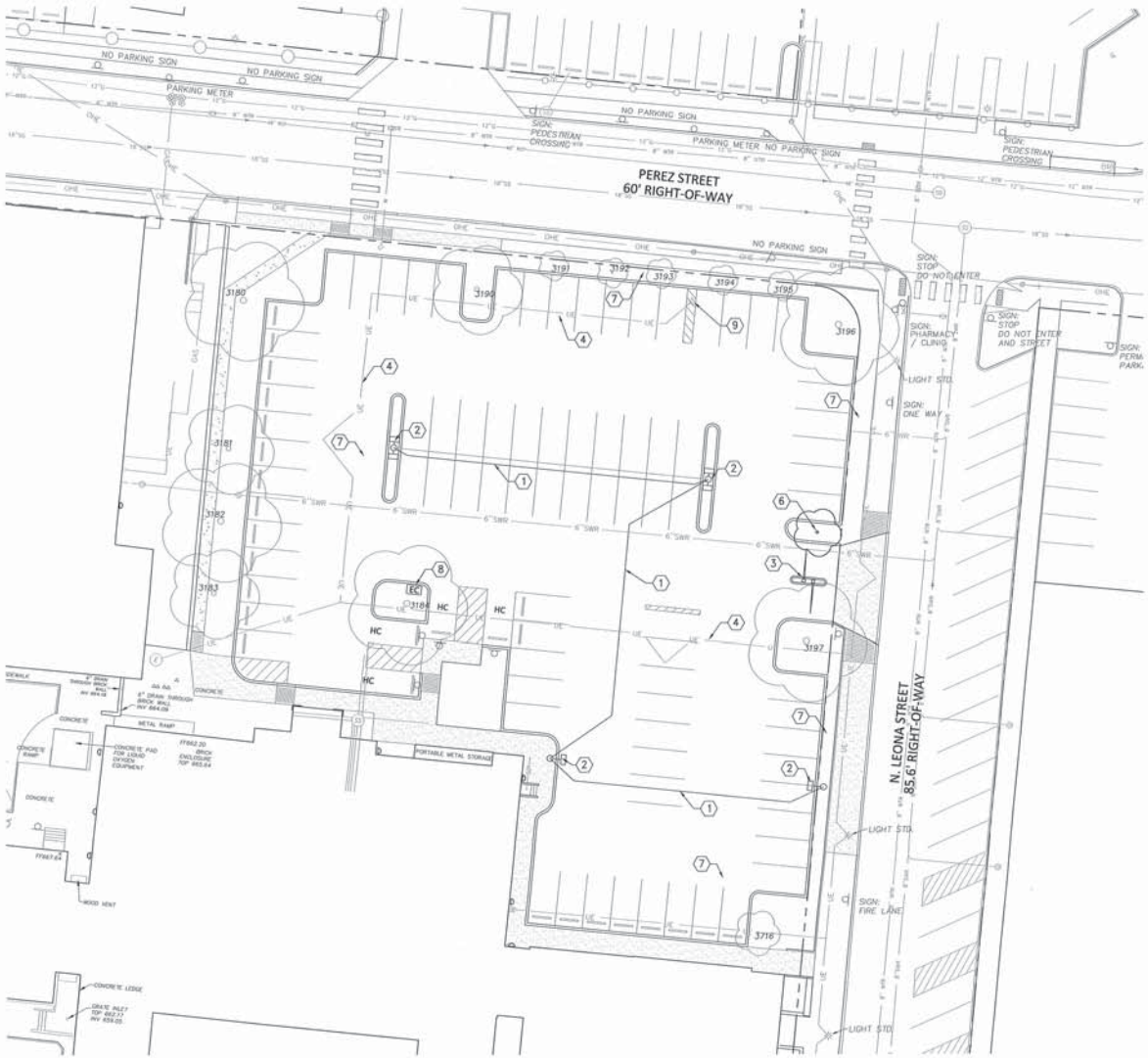
SCALE: 1" = 20'-0"

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
DIMENSION CONTROL PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-4



NORTH

UTILITY PLAN

SCALE: 1" = 20'-0"

SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
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THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.

KEY NOTES

1. PROPOSED ELECTRIC CONDUIT FOR LIGHTING. SEE ELECTRICAL PLANS AND SPECIFICATIONS FOR CONDUIT AND WIRE.
2. PROPOSED LIGHT STANDARD. SEE ELECTRICAL PLANS FOR DETAILS.
3. PROPOSED RELOCATED ELECTRIC GATE. SEE ELECTRICAL PLANS FOR DETAILS.
4. EXISTING ELECTRICAL POWER TO BE RELOCATED OR RE-ROUTED. SEE ELECTRIC PLANS.
5. PROPOSED EMERGENCY CALL BOX. SEE ELECTRICAL PLANS.
6. PROPOSED NEW 6" CEDAR ELM TREE. SEE LANDSCAPE PLANS FOR DETAILS.
7. EXISTING IRRIGATION LINES AND APPURTENCES TO BE RELOCATED OR RE-ROUTED. SEE LANDSCAPE AND IRRIGATION PLANS.
8. EMERGENCY CALL BOX.
9. EXISTING LIGHT STANDARD TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS,
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

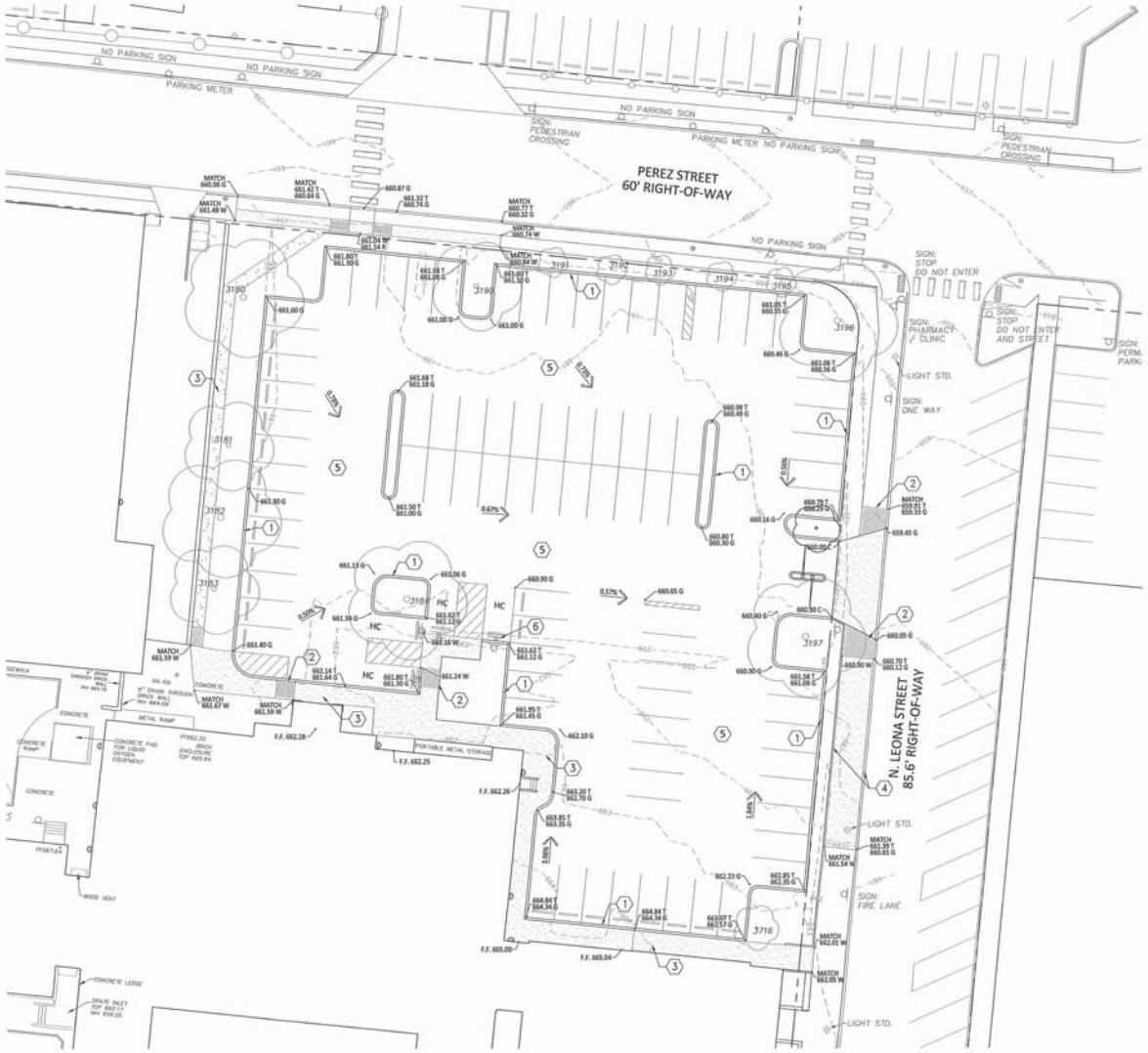
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
UTILITY PLAN

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-5

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



NORTH

GRADING PLAN

SCALE: 1" = 20'-0"

TREE LIST			
Point No.	TAG	SIZE / TYPE	DRIP DIA.
3180	727	18"OAK	40'
3181	728	12"OAK	30'
3182	729	15"OAK	40'
3183	730	11"OAK	30'
3184	731	18"OAK	40'
3185	732	10"CREPE MYRTLE	5'
3186	733	10"CREPE MYRTLE	5'
3187	734	10"CREPE MYRTLE	5'
3188	735	10"CREPE MYRTLE	5'
3189	736	8"CREPE MYRTLE	5'
3190	737	10"OAK	30'
3191	738	10"CREPE MYRTLE	5'
3192	739	10"CREPE MYRTLE	5'
3193	740	10"CREPE MYRTLE	5'
3194	741	10"CREPE MYRTLE	5'
3195	742	10"CREPE MYRTLE	5'
3196	743	20"OAK	40'
3197	744	14"OAK	40'
3716	1720	6"MNT. LAUREL	15'
3717	1600	6"MNT. LAUREL	15'
3718	1597	6"MNT. LAUREL	15'

SYMBOLS:

- TREE
- SIGN
- LIGHT POLE
- FIRE HYDRANT
- SEWER MANHOLE
- IRRIGATION CONTROL VALVE
- WATER VALVE
- GAS VALVE
- MANHOLE STORM
- CLEAN OUT
- GUARD POST
- WATER METER
- COLUMN
- MANHOLE TELEPHONE
- TELEPHONE PEDESTAL
- SHRUB

LEGEND

660.90 T	CURB ELEVATION
660.40 G	GUTTER ELEVATION
660.90 R	RETAINING WALL ELEVATION
660.40 D	GROUND ELEVATION
660.90 W	SIDEWALK ELEVATION
660.40 C	CONCRETE ELEVATION
←	DIRECTION OF FLOW

KEY NOTES

1. PROPOSED 6" PARKING CURB. SEE CIVIL DETAILS SHEET C-18.
2. PROPOSED HANDI-CAP RAMP. SEE CIVIL DETAILS SHEET C-18.
3. PROPOSED CONCRETE SIDEWALK. SEE CIVIL DETAILS SHEET C-18.
4. PROPOSED COMBINATION SIDEWALK AND RETAINING WALL. SEE CIVIL DETAILS SHEET C-18.
5. PROPOSED ASPHALTIC PAVEMENT. SEE CIVIL DETAILS SHEET C-18.
6. PROPOSED HANDI-CAP PARKING SIGN. FOUR (4) REQUIRED THIS SITE. SEE CIVIL DETAIL SHEET C-18.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.

2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
GRADING PLAN

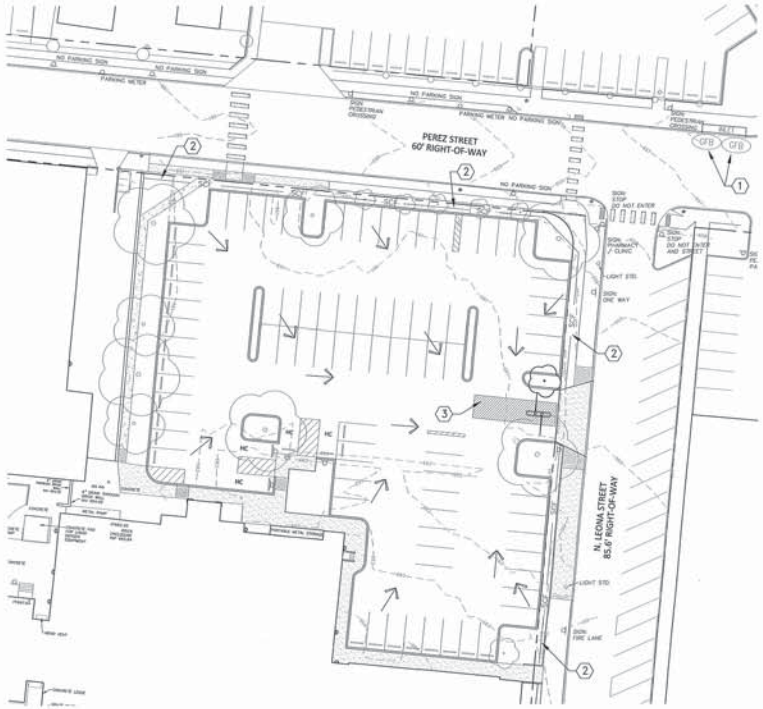
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-6

LOCATION MAP

SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB



GENERAL SITE DEVELOPMENT NOTES

1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. THE INTENT OF THE DEVELOPMENT OF THIS SITE IS TO LEAVE AS MUCH DESIRABLE PLANT MATERIAL AS POSSIBLE IN ITS NATURAL STATE. MAJOR EXISTING TREES WITHIN THE LIMIT OF CONSTRUCTION ARE INDICATED IN THE SITE DRAWINGS. SITE DRAWINGS ARE DIAGRAMATIC AND DO NOT SHOW EVERY TREE OR OTHER VERTICAL VEGETATION EXISTING ON THE SITE. COORDINATE DRAWINGS WITH FIELD CONDITIONS TO VERIFY PRECISE EXTENT OF SITE CLEARING REQUIRED.
3. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO SITE ELEMENTS.
4. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION AREA INDICATED ON THE DRAWINGS.
5. CONSTRUCTION SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
6. THIS SITE ADJOINS OTHER DEVELOPED PROPERTY. COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.

NORTH

STORM WATER POLLUTION PREVENTION PLAN

SCALE: 1" = 30'-0"

EROSION AND SEDIMENT CONTROLS

SITE DESCRIPTION

PROJECT LIMITS: University Health System- New Clinic Permit Parking Lot

PROJECT DESCRIPTION: Construction of new parking lot including: curb, sidewalk, lighting, irrigation, and meter gate improvements.

MAJOR SOIL DISTURBING ACTIVITIES: Soil disturbing activities will include prepping site clearing and grubbing, grading and excavation, for parking lot and sidewalk construction. Erosion and sediment controls to be installed.

TOTAL PROJECT AREA: 1.04 Acres

TOTAL AREA TO BE DISTURBED: 0.88 Acres

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.68

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: The existing topsoil is Branyon Clay (HSB). 1 to 3 percent slopes.

NAME OF RECEIVING WATERS: The storm water will flow into the San Pedro Creek.

SOIL STABILIZATION PRACTICES:

- ___ TEMPORARY SEEDING
- ✓ PERMANENT PLANTING, SODDING, OR SEEDING
- ___ MULCHING
- ___ SOIL RETENTION BLANKET
- ___ BUFFER ZONES
- ✓ PRESERVATION OF NATURAL RESOURCES

OTHER: DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DO WITHIN 21 DAYS.

STRUCTURAL PRACTICES:

- ✓ SILT FENCES
- ___ HAY BALES
- ___ ROCK FILTER DAMS
- ___ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- ___ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ___ DIVERSION DIKE AND SWALE COMBINATIONS
- ___ PIPE SLOPE DRAINS
- ___ PAVED FLUMES
- ✓ ROCK BEDDING AT CONSTRUCTION EXIT
- ___ TIMBER MATTING AT CONSTRUCTION EXIT
- ___ CHANNEL LINERS
- ___ SEDIMENT TRAPS
- ___ SEDIMENT BASINS
- ___ STORM INLET SEDIMENT TRAP
- ___ STONE OUTLET STRUCTURES
- ✓ CURBS AND GUTTERS
- ___ STORM SEWERS
- ___ VELOCITY CONTROL DEVICES

OTHER: GRAVEL FILTER BAGS

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification plan.

SIGNATURE (CONTRACTOR) DATE

LEGEND

- CONTRUCTION EXIT (TYPE 1)
- SCF — SEDIMENT CONTROL FENCE
- GFB — GRAVEL FILTER BAGS
- DIRECTION OF FLOW

KEYNOTES

1. GRAVEL FILTER BAGS
2. SEDIMENT CONTROL FENCE
3. CONSTRUCTION EXIT. (TYPE 1)

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.

2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

NARRATIVE – SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES: THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. Install controls.
2. Clear, grub and excavate.
3. Construct utility runs and conduits.
4. Construct parking areas, drives and sidewalks.
5. Install landscaping.
6. When all construction activity is complete and the site is stabilized and approved by the project engineer, remove all temporary structural controls and reseed any areas disturbed by their removal.
7. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

STORM WATER MANAGEMENT: STORM WATER DRAINAGE WILL BE CONVEYED BY NEW AND EXISTING DRAINAGE STRUCTURES, CHANNELS, STORM SEWERS, AND STREETS.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT.

INSPECTION: AN INSPECTION WILL BE PERFORMED BY THE CONTRACTOR PERIODICALLY AND AFTER EVERY HALF INCH OR MORE OF RAIN (AS RECORDED ON A NON-FREEZING RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE). AN INSPECTION AND MAINTENANCE REPORT WILL BE MADE PER EACH INSPECTION, BASED ON THE INSPECTION RESULTS, THE CONTROLS WILL BE REVISED PER THE INSPECTION REPORT.

WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATIONS AND THE TRASH WILL BE HAULED TO A LOCAL DUMP. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS, ACIDS FOR CLEANING, MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION OR CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENTS OF A HAZARDOUS MATERIAL SPILL, THE TxDOT SPILL COORDINATOR SHALL BE CONTACTED IMMEDIATELY.

SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS AS NECESSARY, OR AS REQUIRED BY LOCAL REGULATIONS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

OFFSITE VEHICLE TRACKING:

- ___ HAUL ROADS DAMPENED FOR DUST CONTROL
- ✓ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- ✓ EXCESS DIRT ON ROAD REMOVED DAILY
- ✓ STABILIZED CONSTRUCTION ENTRANCE

PERMITS: NOTICE OF INTENT TO BE SUBMITTED TO THE TEXAS COUNCIL OF GOVERNMENT QUALITY.

REMARKS: DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAM-BEND. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

CITY OF SAN ANTONIO CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY ENGINEER DATE

OWNERS CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE DATE

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
SW3P

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-7

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PRINTED: 6/3/2016 @ 11:37AM
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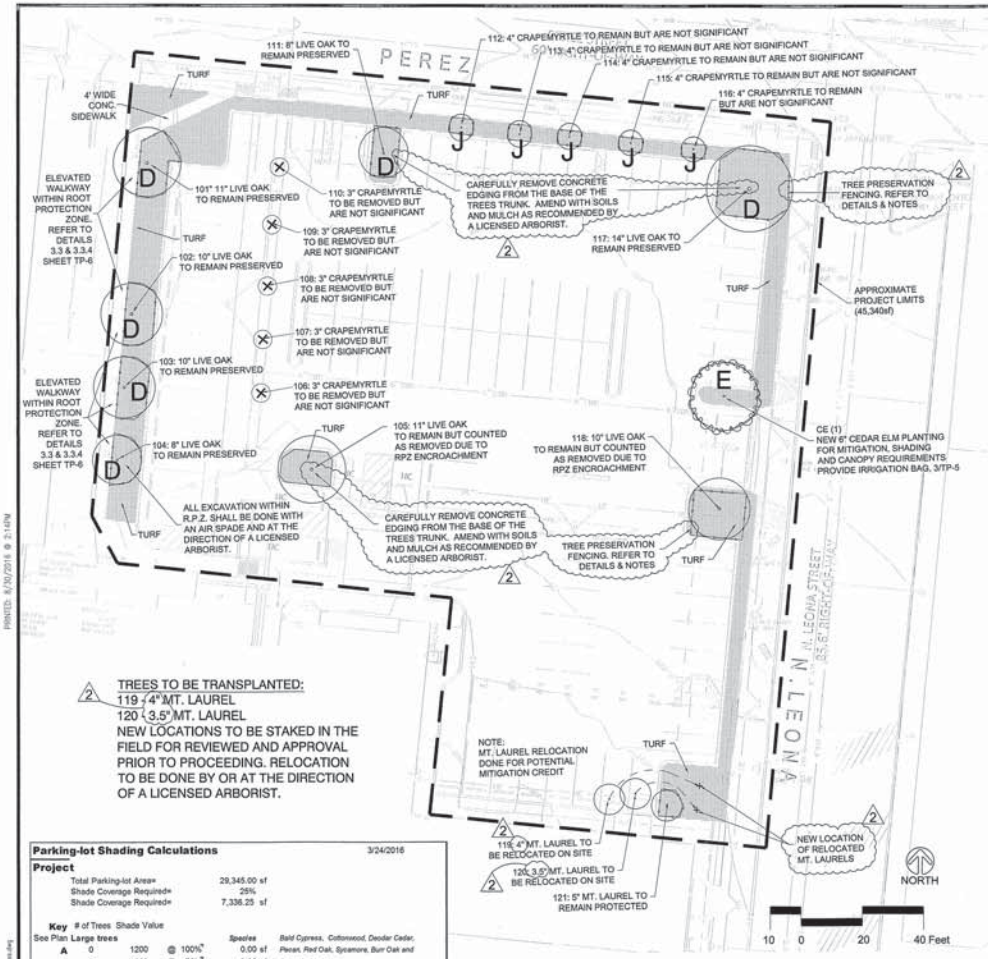


TREES TO BE TRANSPLANTED:
119 - 4" MT. LAUREL
120 - 3.5" MT. LAUREL
NEW LOCATIONS TO BE STAKED IN THE FIELD FOR REVIEWED AND APPROVAL PRIOR TO PROCEEDING. RELOCATION TO BE DONE BY OR AT THE DIRECTION OF A LICENSED ARBORIST.

Parking-lot Shading Calculations 3/24/2016

Project

Total Parking-lot Area=	29,345.00 sf
Shade Coverage Required=	25%
Shade Coverage Required=	7,336.25 sf

Key	See Plan	# of Trees	Large trees	Shade Value		Species	
A		0	1200	@ 100%	0.00 sf	Bald Cypress, Cottonwood, Deodar Cedar,	
B		0	1200	@ 75%	0.00 sf	Pecan, Red Oak, Sycamore, Burr Oak and	
C		0	1200	@ 50%	0.00 sf	Texas Sycamore	
			Medium/Large trees		Species	Anaqua, Arizona Cypress, Live Oak,	
D		6	875	@ 100%	5,250.00 sf	Texas Grn. Ash, Blk. Willow, Cedar	
E		1	875	@ 75%	656.25 sf	Elm, Chinkapin Oak, Esc. Blk. Cherry,	
F		0	875	@ 50%	0.00 sf	Ashe Juniper, Hackberry,	
						Eve's Necklace, and Western Soapberry	
			Medium trees		Species	Honey Locust, Huisache & Lacey Oak	
G		0	550	@ 100%	0.00 sf		
H		0	550	@ 75%	0.00 sf		
I		0	550	@ 50%	0.00 sf		
			Medium/Small trees		Species	Anacacho Orchid Tree, Ashe Juniper,	
J		5	275	@ 100%	1,375.00 sf	Carolina Buckthorne, Yaupon, Condalia,	
K		0	275	@ 75%	0.00 sf	Condalia, Crabapple, Goldenball Lead	
L		0	275	@ 50%	0.00 sf	Tree, Mesquite, Persimmon, Possumhaw,	
						Redbud, Retama, Wild Olive, and Vitex	

Total Shade Coverage Provided=	7,281.25 sf
Total Shade Coverage Provided=	24.81%

100% shade value for existing trees meeting RPZ criteria
75% shade value for trees in islands or peninsulas
50% shade value for trees within 12' of a parking surface

TREE PRESERVATION PLAN: UHC CLINIC PERMIT PARKING LOT

SCALE - 1"=20'

SITE CANOPY CALCULATION

45,340sf (site area) x 15% (within CRAG)= 6,801sf (canopy required)

EXISTING TREE CANOPY: (EC)

1,200sf x _ (existing large trees)	=0sf (existing large tree canopy)
875sf x 6 (existing medium/large trees)	=5,250sf (existing medium large tree canopy)
550sf x _ (existing medium trees)	=0sf (existing medium tree canopy)
275sf x 5 (existing small tree)	=1,375sf (existing small tree canopy)
Total Canopy Provided	=6,625sf (existing tree canopy)

NEW TREE CANOPY: (NC)

1080sf x _ (new large trees)	=0sf (new large tree canopy)
788sf x 1 (new medium/large trees)	=788sf (new medium/large tree canopy)
495sf x _ (new medium trees)	=0sf (new medium tree canopy)
248sf x _ (new small trees)	=0sf (new small tree canopy)
Total New Canopy Provided	=788sf (new tree canopy)

SUMMARY

Canopy Required	=	6,801sf (site within CRAG)
Canopy Provided	=	6,625sf (existing canopy)
Canopy Provided	=	788sf (new canopy)
Total Canopy Provided	=	7,413sf

NOTE:
ALL TREES TO REMAIN SHALL HAVE TREE PROTECTION FENCING PER COSA REQUIREMENTS. REFER TO DETAIL SHEET & NOTES

STREET TREE NOTE:
EXISTING TREES TO BE UTILIZED AS STREET TREES. REFER TO UDC SECTION 35-512(b)(3)

ELECTIVE REQUIREMENTS

70 points required

Tree Preservation - 40 points, maximum		Qty.	Points
4 to 6 inch trees	3 points each	5	15
6 to 12 inch trees	4 points each	5	20
12 to 18 inch trees	6 points each	1	6
18 inch trees and larger	8 points each	-	-
Inside Streetyard:			
full credit up to 30 points			-
1/2 credit for total above 30 points			-
Outside Streetyard:			
1/2 credit up to a maximum of 15 points			-
Total Points: Tree Preservation			41
	(40 Points, max.)		40

Parking Lot Shading	
Percent Shaded	Points
25%	20 ✓
35%	25
50%	35

Total Points: Parking Lot Shading	20
Screening of Surface Parking - 25 points	-
Street Trees - 25 Points	25
Understory Preservation or Restoration - 15 Pnts.	-
Infill or Retrofit Use Pattern - 25 pnts.	-
Total Points - Elective Criteria	85

TREE INVENTORY

Tag #	Species	Understory Species* 5.0" - 11.5" Removed	Understory Species* 5.0" - 11.5" Preserved	Significant ee 6" - 23.5" Removed	Significant ee 6" - 23.5" Preserved	Significant ee** 10.0" - 23.5" Removed	Significant ee** 10.0" - 23.5" Preserved	Heritage 3:1 Removed	Heritage 3:1 Preserved	Heritage 1:1 Removed	Heritage 1:1 Preserved	Additional Inches Preserved for Mitigation *** Preserved
101	11" oak				11							
102	10" oak				10							
103	10" oak				10							
104	8" oak				8							
105	11" oak (to remain but counted as removed)			11								
106	3" crapemyrtle											
107	3" crapemyrtle											
108	3" crapemyrtle											
109	3" crapemyrtle											
110	3" crapemyrtle											
111	8" oak				8							
112	4" crapemyrtle											
113	4" crapemyrtle											
114	4" crapemyrtle											
115	4" crapemyrtle											
116	4" crapemyrtle											
117	14" oak				14							
118	10" oak (to remain but counted as removed)			10								
119	4" mt laurel (to be relocated)											
120	3.5" mt laurel (to be relocated)											
121	5" mt laurel (tpz compromised)	5										
Sub. Tot. Inches=		5	0	21	61	0	0	0	0	0	0	0
Total Inches by category=		5		82		0		0		0		0
Preservation percentage=		0%		Significant Preservation		74%		Heritage Preservation		#DIV/0!		0
Mitigation required (Commercial) =		2		Commercial (inches)		-28.2						
Mitigation required (Residential) =		1.75		Residential (inches)		-32.3		Heritage Mitigation (inches)		0		

No category to fall below 10% preservation;
Preserved- ee to remain that meets root protection zone requirements described in section 35-523 of the UDC.
Mitigation 1:1 for significant ees below minimum preservation requirements; 2:1 for heritage ees below 100% preservation
** Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hawthorn, Possumhaw - these are mitigated at 1:1 for Heritage ees*
*** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage ees*
**** Mitigation ees: Unprotected-sized ees to be used for mitigation calculations; subact inches from mitigation owed*

TREE SCHEDULE (CPP)

Qty.	Key	Common Name	Botanical Name	Size / Remarks
1	CE	Cedar Elm	*Ulmus crassifolia*	6" cal., 18' ht., 8-10' spread, container grown, full upright form required for mitigation

TURF GRASS

TURF • Solid Sod: TIFWAY 419 Bermuda or approved substitution (*at all disturbed areas)

SEED Seed: HABITURF or approved substitution
Contractor shall determine quantity required in the field. (Approx._____sf) (*at all disturbed areas)
Bermuda (May-Sept.) and Fescue (Oct.-April) Seed: 3-4(lbs) per 1,000(sf) / Seed Source Reference - Douglass King Seed 210-661-41-91 (www.dkseeds.com) Seeded areas shall be provided with temp. irrigation.

IRRIGATION NOTE:
ALL TURF, NEW TREES AND RELOCATED TREES SHALL BE PROVIDED WITH A TEMPORARY IRRIGATION SYSTEM UNTIL PROPERLY ESTABLISHED OR UNTIL THE MAINTENANCE AND WARRANTY PERIOD HAS EXPIRED.

BENDER WELLS CLARK DESIGN
LANDSCAPE ARCHITECTURE
830 North Alamo
San Antonio, Texas 78210
T 210 692 5221 F 210 223 6592

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS
2	8/30/16	TREE PRESERVATION REVISIONS FOR PERMIT

ROBERT B. GREEN
DOWNTOWN CAMPUS
PERMIT PARKING LOT
TREE PRESERVATION PLAN

DESIGNED BY: LCC & BW
DRAWN BY: BV
APPROVED BY: LCC & BW
DATE: MAY 2016
JOB NO.: C-1419
SHEET: TP-1

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
TX REGISTRATION NO.
2016-05-23
DATE

SITE CANOPY CALCULATION

86,938sf (site area) x 15% (within CRAG)= 13,041sf (canopy required)

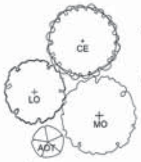
EXISTING TREE CANOPY: (EC)

1,200sf x _ (existing large trees)	=0sf (existing large tree canopy)
875sf x 18 (existing medium/large trees)	=15,750sf (existing medium large tree canopy)
550sf x _ (existing medium trees)	=0sf (existing medium tree canopy)
275sf x _ (existing small tree)	=0sf (existing small tree canopy)
Total Canopy Provided	=15,750sf (existing tree canopy)

SUMMARY

Canopy Required = 13,041sf (site within CRAG)
Canopy Provided = 15,750sf (existing canopy)
Total Canopy Provided = 15,750sf

TREE SCHEDULE (SVP)



Qty. (2)	Key	Common Name	Botanical Name	Size / Remarks
7	CE	Cedar Elm	*Ulmus crassifolia*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
2	LO	Live Oak	*Quercus virginiana*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
4	MO	Monterrey Oak	*Quercus polymorpha*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
6	AOT	Anacacho Orchid Tree	*Bauhinia congesta*	45 gal., full upright form

ELECTIVE REQUIREMENTS

70 points required

Tree Preservation - 40 points, maximum		Qty.	Points
4 to 6 inch trees	3 points each	-	-
6 to 12 inch trees	4 points each	9	36
12 to 18 inch trees	6 points each	5	30
18 inch trees and larger	8 points each	3	24
Inside Streetyard:			
full credit up to 30 points			-
1/2 credit for total above 30 points			-
Outside Streetyard:			
1/2 credit up to a maximum of 15 points			-
Total Points: Tree Preservation			90
(40 Points, max.)			40

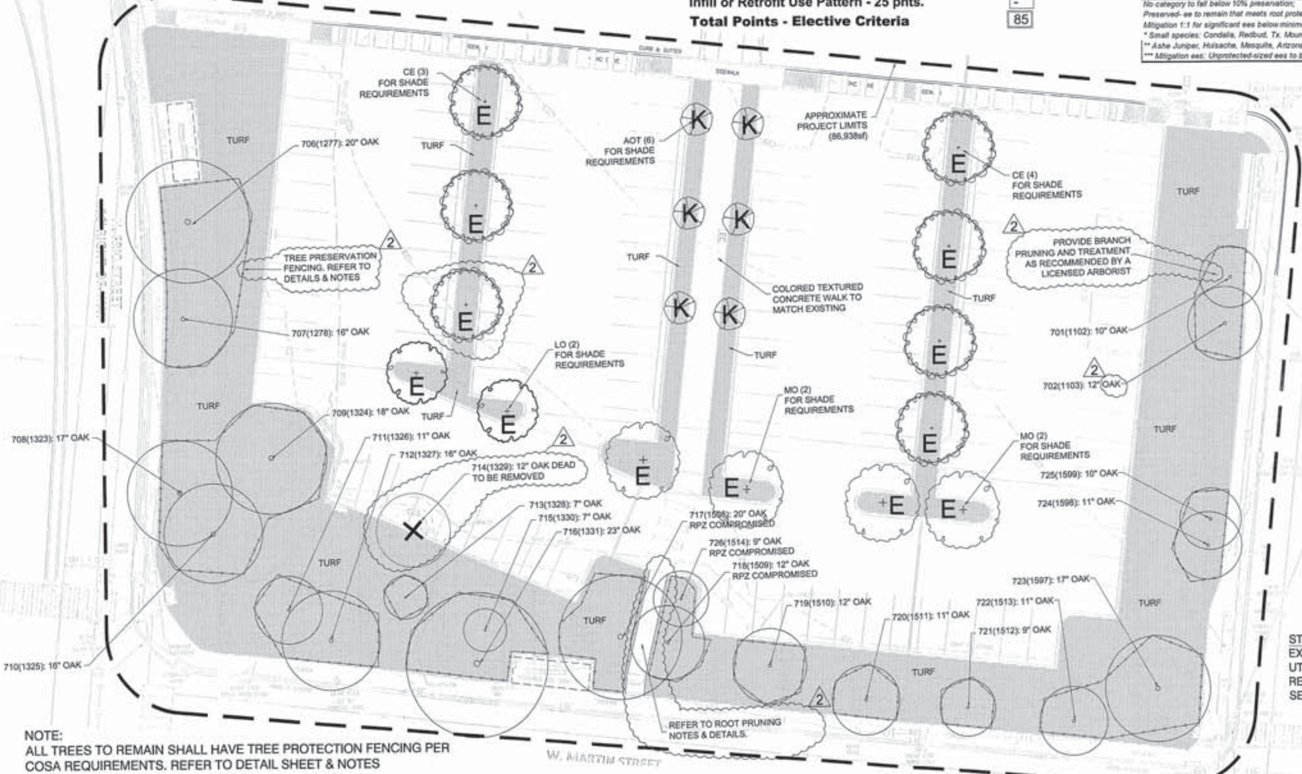
Parking Lot Shading	
Percent Shaded	Points
25%	20 ✓
35%	25
50%	35

Total Points: Parking Lot Shading	20
Screening of Surface Parking - 25 points	-
Street Trees - 25 Points	25
Understory Preservation or Restoration - 15 Pnts.	-
Infill or Retrofit Use Pattern - 25 pnts.	-
Total Points - Elective Criteria	85

TREE INVENTORY

Tag #	Species	Understory Species* 5.0" - 11.5" Removed	Understory Species* Preserved	Significant ee 6" - 23.5" Removed	Significant ee Preserved	Significant ee** 10.0" - 23.5" Removed	Significant ee** Preserved	Heritage 3:1 Removed	Heritage 3:1 Preserved	Heritage 1:1 Removed	Heritage 1:1 Preserved	Additional Inches Preserved for Mitigation *** Preserved
701 (1102)	18" oak (2)				18							
702 (1103	12" oak				12							
706 (1277)	20" oak				20							
707 (1278)	16" oak				16							
708 (1323)	17" oak				17							
709 (1324)	18" oak				18							
710(1325)	16" oak				16							
711 (1326)	11" oak				11							
712 (1327)	16" oak				16							
713 (1328)	7" oak (2)				7							
714 (1329)	12" oak DEAD			(2) 12								
715 (1330)	7" oak				7							
716 (1331)	23" oak				23							
717 (1508)	20" oak, rpz compromised, to remain			20								
718 (1509)	12" oak, rpz compromised, to remain			12								
719 (1510)	12" oak				12							
720 (1511)	11" oak				11							
721 (1512)	9" oak				9							
722 (1513)	11" oak				11							
723 (1597)	17" oak				17							
724 (1598)	11" oak				11							
725 (1599)	10" oak				10							
126 (1514)	9" oak, rpz compromised, to remain			9								
Sub. Tot. inches=		0	0	53	262	0	(2) 0	0	0	0	0	0
Total inches by category=			0		315		0		0		0	
Preservation percentage=		#DIV/0!		Significant Preservation		83%		Heritage Preservation		#DIV/0!		0
Mitigation required (Commercial) =		0		Commercial (inches)		-136						
Mitigation required (Residential) =		0		Residential (inches)		-151.75		Heritage Mitigation (inches)		0		

No category to fall below 10% preservation;
Preserved- ee to remain that meets root protection zone requirements described in section 35-523 of the UDC.
Mitigation 1:1 for significant ees below minimum preservation requirements; 3:1 for heritage ees below 100% preservation
** Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hawthorn, Possumhaw - these are mitigated at 1:1 for Heritage ees*
*** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage ees*
**** Mitigation ees: Unprotected-sized ees to be used for mitigation calculations; subact inches from mitigation owed*



NOTE:
ALL TREES TO REMAIN SHALL HAVE TREE PROTECTION FENCING PER COSA REQUIREMENTS. REFER TO DETAIL SHEET & NOTES

(1) TREE PRESERVATION PLAN: UHC SOUTH PARKING LOT
SCALE - 1"=20'

NORTH 10 0 20 40 Feet

Parking-lot Shading Calculations

8/29/2016

Project

Total Parking-lot Area=	39,081.00 sf
Shade Coverage Required=	25%
Shade Coverage Required=	9,770.25 sf

Key See Plan	# of Trees	Shade Value			Species
Large trees				**Species**	*Bald Cypress, Cottonwood, Deodar Cedar, Pecan, Red Oak, Sycamore, Burr Oak and Texas Sycamore*
A	0	1200	@ 100%	0.00 sf	
B	0	1200	@ 75%	0.00 sf	
C	0	1200	@ 50%	0.00 sf	
Medium/Large trees				**Species**	*Anaqua, Arizona Cypress, Live Oak, Texas Grn. Ash, Blk. Willow, Cedar Elm, Chinkapin Oak, Esc. Blk. Cherry, Ashe Juniper, Hackberry, Eve's Necklace, and Western Soapberry*
D	0 (2)	875	@ 100%	0.00 sf	
E	13	875	@ 75%	8,531.25 sf	
F	0	875	@ 50%	0.00 sf	
Medium trees				**Species**	*Honey Locust, Huisache & Lacey Oak*
G	0	550	@ 100%	0.00 sf	
H	0	550	@ 75%	0.00 sf	
I	0	550	@ 50%	0.00 sf	
Medium/Small trees				**Species**	*Anacacho Orchid Tree, Ashe Juniper, Caroline Buckthorne, Yaupon, Condalia, Condalia, Crabapple, Goldenball Lead Tree, Mesquite, Persimmon, Possumhaw, Redbud, Retama, Wild Olive, and Vitex*
J	0	275	@ 100%	0.00 sf	
K	6	275	@ 75%	1,237.50 sf	
L	0	275	@ 50%	0.00 sf	

Total Shade Coverage Provided= 9,768.75 sf (2)
Total Shade Coverage Provided= 25.00%

100% shade value for existing trees meeting RPZ criteria
75% shade value for trees in islands or peninsulas
50% shade value for trees within 12' of a parking surface

CONCRETE WALK

COLOR & TEXTURE CONCRETE PAVING

INTEGRAL COLOR CONCRETE LIQUID GEL PIGMENT AS MNFG. BY CONTRUCOLOR CONCRETE SURFACE RETARDER - GRADE 25 BEIGE AS MNFG. BY WR GRACE CONSTRUCTION

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
2016-05-23
DATE

TURF GRASS

TURF • Solid Sod: TIFWAY 419 Bermuda or approved substitution (*at all disturbed areas)

SEED Seed: HABITURF or approved substitution
Contractor shall determine quantity required in the field. (Approx._____sf) (*at all disturbed areas)
Bermuda (May-Sept.) and Fescue (Oct.-April) Seed: 3-4(lbs) per 1,000(sf) / Seed Source Reference - Douglass King Seed 210-661-41-91 (www.dkseeds.com) Seeded areas shall be provided with temp. irrigation.

STREET TREE NOTE:
EXISTING TREES TO BE UTILIZED AS STREET TREES. REFER TO UDC SECTION 35-512(b)(3)

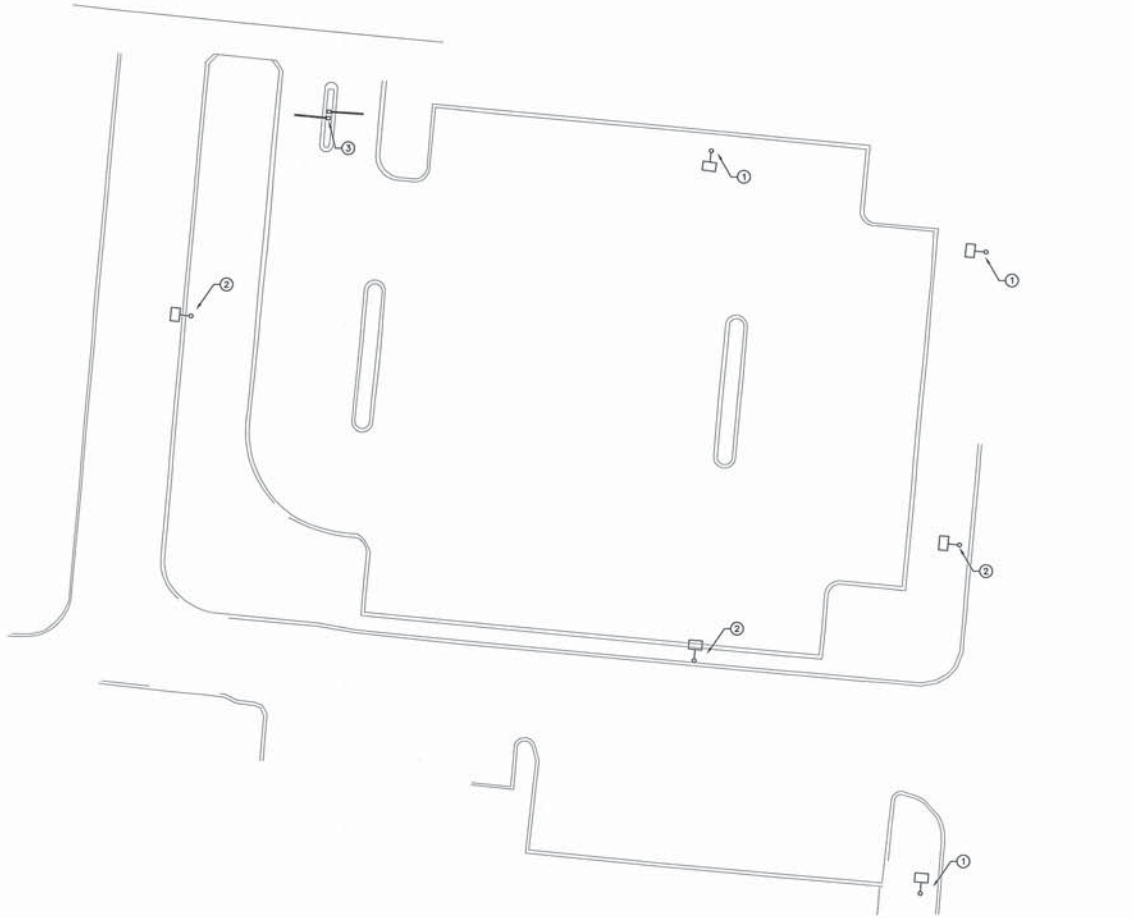
BENDER WELLS CLARK DESIGN
BENDER WELLS CLARK DESIGN
830 North Alamo
San Antonio, Texas 78215
T 210 892 9221 F 210 223 8582

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS
2	8/30/16	TREE PRESERVATION REVISIONS FOR PERMIT

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH PARKING LOT
TREE PRESERVATION PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	LCC & BW
DRAWN BY:	BV
APPROVED BY:	LCC & BW
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	TP-2



1 DEMOLITION ELECTRICAL PLAN

SCALE: 1/20"=1'-0"

POWER GENERAL DEMOLITION NOTES:

1. DRAWINGS INDICATE APPROXIMATE LOCATION AND QUANTITY OF RECEPTACLES, ETC. TO BE REMOVED. THE CONTRACTOR SHALL VERIFY LOCATION AND QUANTITY OF ITEMS TO BE REMOVED. AS NO ALLOWANCE WILL BE MADE BECAUSE OF THE CONTRACTORS UNFAMILIARITY WITH THESE DETAILS.
2. VERIFY IF SALVAGE ITEMS AND MATERIALS SHALL REMAIN THE PROPERTY OF THE OWNER
3. UNLESS NOTED OTHERWISE, ALL EQUIPMENT, RECEPTACLES, SPEAKERS, TELEPHONE OUTLETS, ETC. SCHEDULED FOR DEMOLITION SHALL HAVE THEIR ASSOCIATED CIRCUITRY REMOVED BACK TO THE PROTECTIVE DEVICE IN A PANELBOARD, LOAD CENTER, SWITCHBOARD, OR MOTOR CONTROL CENTER. THE PROTECTIVE DEVICE SHALL REMAIN AN INTEGRAL PART OF THE HOUSING AND BE SHOWN AS A SPARE OR REUSED FOR NEW CIRCUITRY.

   3.1 ASSOCIATED CIRCUITRY IS DEFINED AS ALL WIRE, CONDUIT, J-BOXES, DEVICE BOXES, WIRING DEVICES, COVER PLATES, WIRING GUTTERS, FUSES, DISCONNECT SWITCHES, MOTOR STARTERS, ETC. ASSOCIATED WITH THE ITEM SCHEDULED FOR REMOVAL.

   3.2 ITEMS SCHEDULED FOR REMOVAL WITH CONDUIT IN INACCESSIBLE AREAS SHALL HAVE THIS INACCESSIBLE AREA CONDUIT ONLY EMPTIED AND SEALED, CAPPED, OR OTHERWISE TERMINATED IN A SAFE MANNER ACCEPTABLE TO THE OWNER.
4. ELECTRICAL CIRCUITS WITH A PORTION OF THE LOAD REMOVED SHALL HAVE THE REMOVED LOADS ASSOCIATED CIRCUITRY TERMINATED ONLY TO A POINT OR IN SUCH A MANNER THAT THE REMAINING LOAD IS ACTIVE AND IN FIRST CLASS OPERATING CONDITION.
5. ITEMS SCHEDULED TO HAVE CIRCUITRY EXTENDED SHALL HAVE WIRE AND CONDUIT EXTENDED FROM THE ITEMS' EXISTING LOCATION TO THE ITEMS' NEW LOCATION. THE CONDUIT AND WIRE SHALL BE ROUTED TO THE NEW LOCATION SO AS NOT TO INTERFERE WITH THE USE OR ESTHETICS OF ANY AREA IN WHICH THE CONDUIT IS ROUTED. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE AND CONNECT ANY SWITCHGEAR ASSOCIATED WITH THE RELOCATION OF THE ITEM.

POWER KEYED NOTES:

① EXISTING FIXTURE TO REMAIN

② EXISTING FIXTURE TO BE REMOVE. MAINTAIN CIRCUIT, PROVIDE 12"x12" NOMINAL, FIBER GLASS HAND HOLE IN AREA FOR FUTURE ACCESS.

③ GATES AND ASSOCIATE HARDWARE ARE TO BE SALVAGED FOR RELOCATION. SALVAGE CIRCUITRY FOR RE-USE.

RGM ENGINEERING

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FAX: 210.299.4525

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 06/03/2016

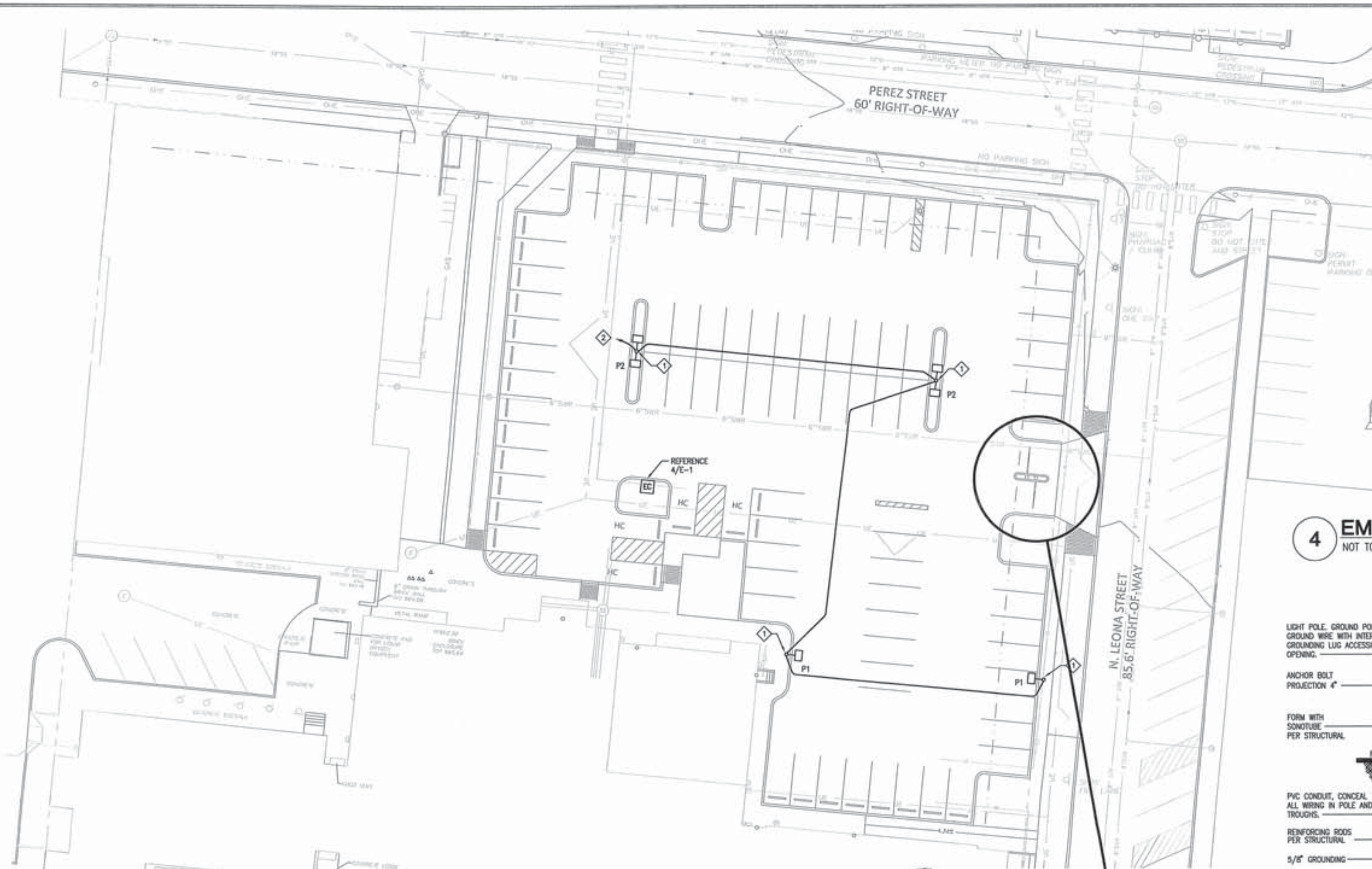
No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
DEMOLITION ELECTRICAL
FLOOR PLAN

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	DE-1

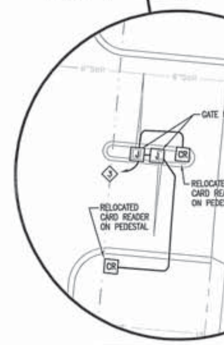
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/NG



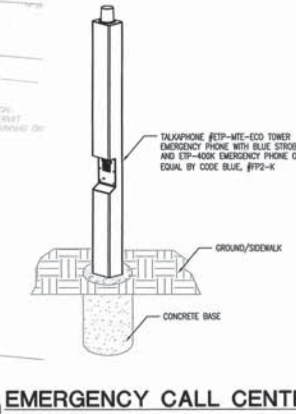
1 PERMIT PARKING SITE PLAN

SCALE: 1/20"=1'-0"



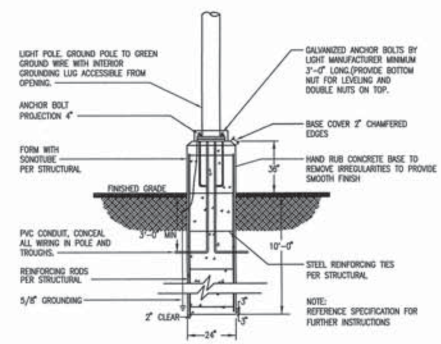
POWER KEYED NOTES:

1. COORDINATE SECURITY CAMERAS ON POLE, WITH OWNER.
2. CONNECT TO EXISTING LIGHTING CIRCUIT IN AREA SALVAGED FROM DEMOLITION. MAINTAIN CONTROL SCHEME. REPLACE ANY PORTION DEEMED COMPROMISED.
3. EXTEND GATE CIRCUITS SALVAGED FROM DEMOLITION OR ORIGINAL GATE TO NEW LOCATION FROM GATES. PROVIDE NEW CONTROL ARMS WITH NEW BOTTOM EDGE CUSHIONS.



4 EMERGENCY CALL CENTER POLE EC

NOT TO SCALE



3 TYPICAL POLE BASE

NOT TO SCALE

RGM ENGINEERING

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FAX: 210.299.4525

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
CLINIC PERMIT NORTH
PARKING PLAN

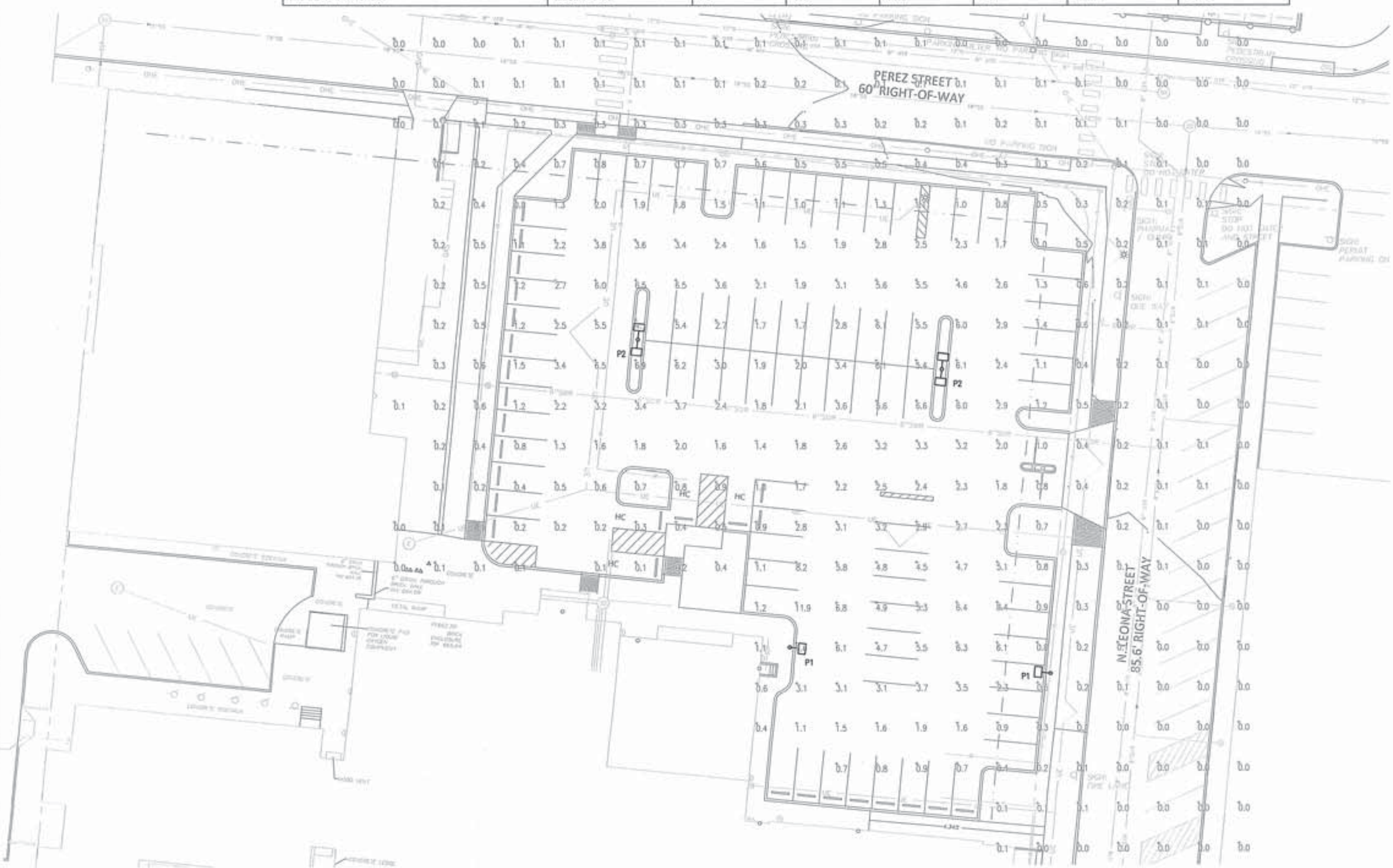
DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-1

PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/HG

CALCULATION SUMMARY							
LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
ALL POINTS AT GRADE	ILLUMINANCE	FC	1.12	11.9	0.0	N.A.	N.A.
INSIDE PARKING LOT	ILLUMINANCE	FC	3.07	11.9	0.2	15.35	59.50



1 PERMIT PARKING SITE PLAN
SCALE: 1/20"=1'-0"

NORTH

RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
700 N. ST. MARY'S
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SAN ANTONIO, TX 78205
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ROGER G. MENDEZ, P.E. 93809
ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
NORTH PERMIT
PARKING PLAN

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-4

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

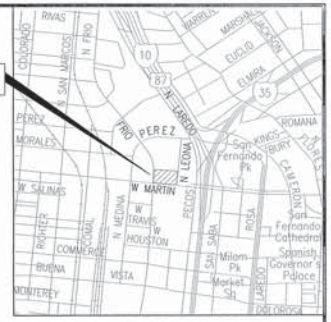
PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/HG

NORTH

AREA SURVEY

SCALE: 1" = 20'-0"

PROJECT LOCATION



LOCATION MAP

TREE LIST			
POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'
1103	702	12" ELM	30'
1277	706	20" OAK	40'
1278	707	16" OAK	30'
1323	708	17" OAK	30'
1324	709	18" OAK	40'
1325	710	16" OAK	30'
1326	711	11" OAK	30'
1327	712	16" OAK	40'
1328	713	7" OAK	20'
1329	714	12" OAK	40'
1330	715	7" OAK	20'
1331	716	23" OAK	40'
1508	717	20" OAK	40'
1509	718	12" OAK	30'
1510	719	12" OAK	30'
1511	720	11" OAK	30'
1512	721	9" OAK	20'
1513	722	11" OAK	30'
1514	726	9" OAK	20'
1597	723	17" OAK	40'
1598	724	11" OAK	30'
1599	725	10" OAK	30'

SYMBOLS:

- TREE
- SIGN
- LIGHT POLE
- FIRE HYDRANT
- SEWER MANHOLE
- IRRIGATION CONTROL VALVE
- WATER VALVE
- GAS VALVE
- MANHOLE STORM
- CLEAN OUT
- GUARD POST
- WATER METER
- COLUMN
- MANHOLE TELEPHONE
- TELEPHONE PEDESTAL
- SHRUB

GENERAL SITE DEVELOPMENT NOTES

1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. THE INTENT OF THE DEVELOPMENT OF THIS SITE IS TO LEAVE AS MUCH DESIRABLE PLANT MATERIAL AS POSSIBLE IN ITS NATURAL STATE. MAJOR EXISTING TREES WITHIN THE LIMIT OF CONSTRUCTION ARE INDICATED IN THE SITE DRAWINGS. SITE DRAWINGS ARE DIAGRAMATIC AND DO NOT SHOW EVERY TREE OR OTHER VERTICAL VEGETATION EXISTING ON THE SITE. COORDINATE DRAWINGS WITH FIELD CONDITIONS TO VERIFY PRECISE EXTENT OF SITE CLEARING REQUIRED.
3. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO SITE ELEMENTS.
4. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION AREA INDICATED ON THE DRAWINGS.
5. CONSTRUCTION SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
6. THIS SITE ADJOINS OTHER DEVELOPED PROPERTY. COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.

NOTE

THE SITE SURVEY IS A PARTIAL AREA OF THE ROBERT B. GREEN DOWNTOWN CAMPUS SOUTH VISITOR PARKING. THE CONTROL DEPICTED HEREON IS AN EXTENSION OF THAT CONTROL ESTABLISHED BY BAIN MEDINA BAIN INC. FOR THIS AREA. THIS AREA SURVEY DEPICTS SURFACE IMPROVEMENTS ONLY. THE LOCATION OF EXISTING UTILITIES DEPICTED, IF ANY, ARE APPROXIMATE ONLY. THE USER SHALL NOTIFY ALL LOCAL UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION IN THIS AREA.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

Carl B. Pe

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
AREA SURVEY

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
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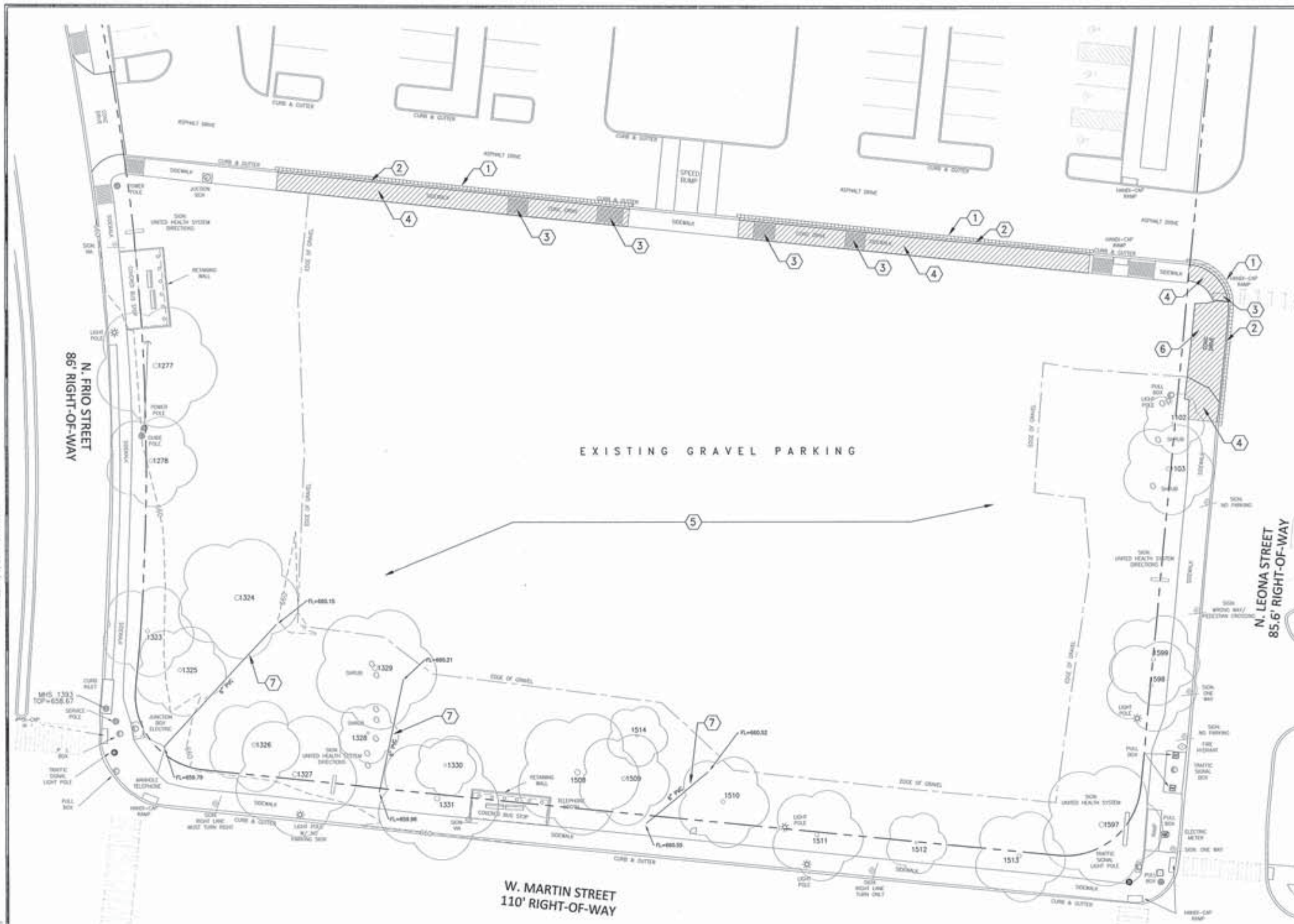
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-8



NORTH

DEMOLITION PLAN

SCALE: 1" = 20'-0"

TREE LIST				TREE LIST			
POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.	POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'	1331	716	23" OAK	40'
1103	702	12" ELM	30'	1508	717	20" OAK	40'
1277	706	20" OAK	40'	1509	718	12" OAK	30'
1278	707	16" OAK	30'	1510	719	12" OAK	30'
1323	708	17" OAK	30'	1511	720	11" OAK	30'
1324	709	18" OAK	40'	1512	721	9" OAK	20'
1325	710	16" OAK	30'	1513	722	11" OAK	30'
1326	711	11" OAK	30'	1514	726	9" OAK	20'
1327	712	16" OAK	40'	1597	723	17" OAK	40'
1328	713	7" OAK	20'	1598	724	11" OAK	30'
1329	714	12" OAK	40'	1599	725	10" OAK	30'
1330	715	7" OAK	20'				

SYMBOLS:

- TREE
- SIGN
- LIGHT POLE
- FIRE HYDRANT
- SEWER MANHOLE
- IRRIGATION CONTROL VALVE
- WATER VALVE
- GAS VALVE
- MANHOLE STORM
- CLEAN OUT
- GUARD POST
- WATER METER
- COLUMN
- MANHOLE TELEPHONE
- TELEPHONE PEDESTAL
- SHRUB

GENERAL SITE DEVELOPMENT NOTES

1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. THE INTENT OF THE DEVELOPMENT OF THIS SITE IS TO LEAVE AS MUCH DESIRABLE PLANT MATERIAL AS POSSIBLE IN ITS NATURAL STATE. MAJOR EXISTING TREES WITHIN THE LIMIT OF CONSTRUCTION ARE INDICATED IN THE SITE DRAWINGS. SITE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY TREE OR OTHER VERTICAL VEGETATION EXISTING ON THE SITE. COORDINATE DRAWINGS WITH FIELD CONDITIONS TO VERIFY PRECISE EXTENT OF SITE CLEARING REQUIRED.
3. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO SITE ELEMENTS.
4. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION AREA INDICATED ON THE DRAWINGS.
5. CONSTRUCTION SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
6. THIS SITE ADJOINS OTHER DEVELOPED PROPERTY. COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.

KEY NOTES

1. SAW-CUT EXISTING ASPHALT AND MATCH WITH NEW CONSTRUCTION.
2. CONCRETE CURB AND GUTTER TO BE REMOVED.
3. EXISTING HANDI-CAP RAMP TO BE REMOVED.
4. EXISTING SIDEWALK TO BE SAW CUT AND REMOVED. SEE SIDEWALK DETAILS.
5. UNCLASSIFIED EXCAVATION FOR THE CONSTRUCTION OF PARKING OR ROADWAY IN ACCORDANCE WITH ITEM 104.
6. EXISTING CONCRETE DRIVE TO BE REMOVED.
7. EXISTING STORM DRAIN PIPE TO BE REMOVED.

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

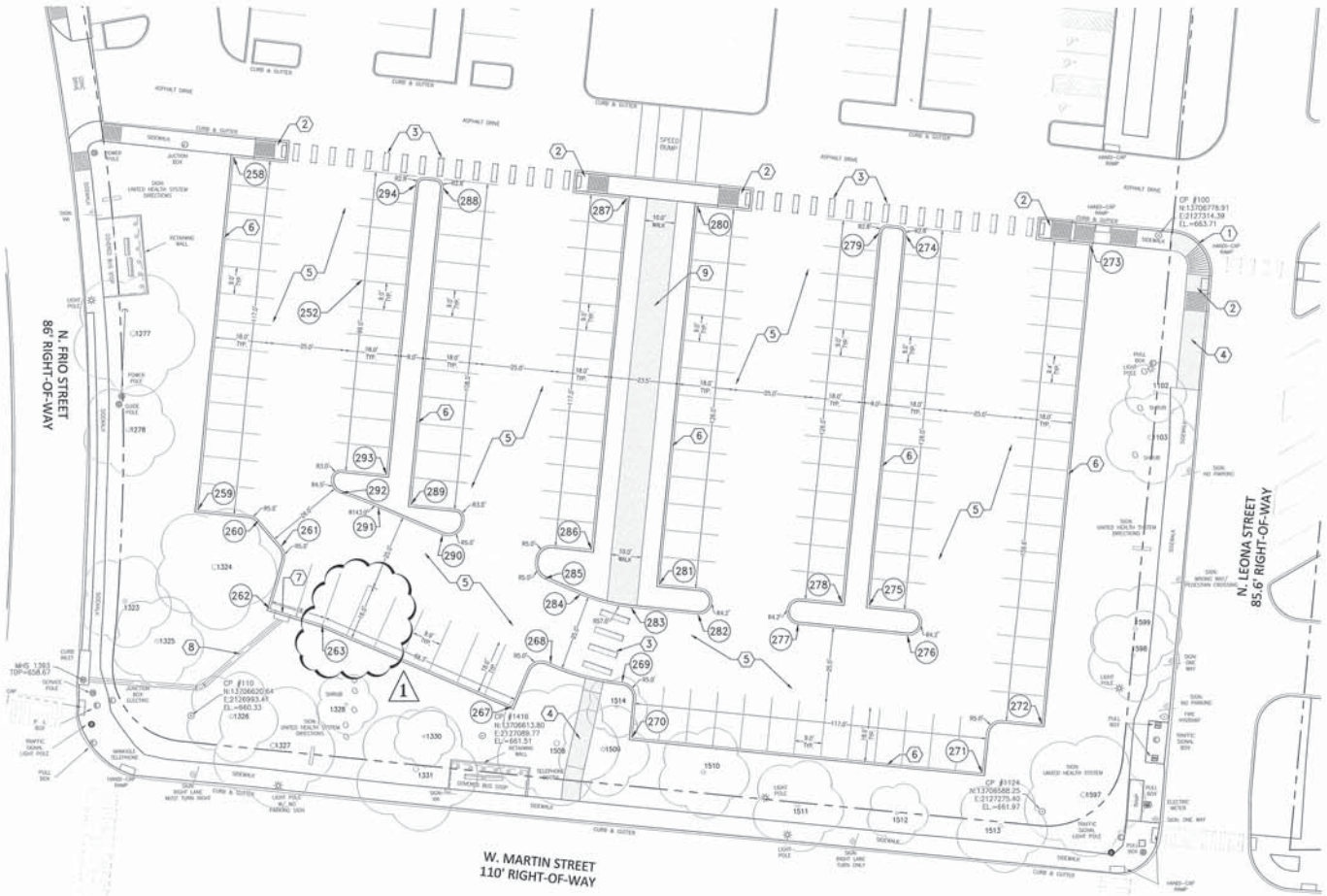
No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
DEMOLITION PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-9

PRINTED: 6/3/2016 @ 11:39AM



KEY NOTES

1. PROPOSED COSA CURB. SEE CIVIL DETAILS.
2. PROPOSED HANDI-CAP RAMP. SEE CIVIL DETAILS.
3. PROPOSED CROSS WALK STRIPING. SEE CIVIL DETAILS.
4. PROPOSED CONCRETE SIDEWALK. SEE CIVIL DETAILS.
5. PROPOSED ASPHALTIC PAVEMENT. SEE CIVIL DETAILS.
6. PROPOSED 6" PARKING CURB. SEE CIVIL DETAILS.
7. PROPOSED 5' TYPE "C" INLET. SEE COSA INLET DETAILS.
8. PROPOSED 18" PVC STORM PIPE. TIE TO EXISTING INLET. SEE GRADING PLAN.
9. PROPOSED COLORED TEXTURED CONCRETE WALK. SEE LANDSCAPE PLANS.

NORTH

DIMENSION CONTROL PLAN

SCALE: 1"= 20'-0"

TREE LIST				TREE LIST			
POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.	POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'	1331	716	23" OAK	40'
1103	702	12" OAK	30'	1508	717	20" OAK	40'
1277	706	20" OAK	40'	1509	718	12" OAK	30'
1278	707	16" OAK	30'	1510	719	12" OAK	30'
1323	708	17" OAK	30'	1511	720	11" OAK	30'
1324	709	18" OAK	40'	1512	721	9" OAK	20'
1325	710	16" OAK	30'	1513	722	11" OAK	30'
1326	711	11" OAK	30'	1514	726	9" OAK	20'
1327	712	16" OAK	40'	1597	723	17" OAK	40'
1328	713	7" OAK	20'	1598	724	11" OAK	30'
1329	714	12" OAK	40'	1599	725	10" OAK	30'
1330	715	7" OAK	20'				

DEAD

1

SYMBOLS:

- TREE
- SIGN
- LIGHT POLE
- FIRE HYDRANT
- SEWER MANHOLE
- IRRIGATION CONTROL VALVE
- WATER VALVE
- GAS VALVE
- MANHOLE STORM
- CLEAN OUT
- GUARD POST
- WATER METER
- COLUMN
- MANHOLE TELEPHONE
- TELEPHONE PEDESTAL
- SHRUB

CONTROL COORDINATES

POINT	NORTHING	EASTING	ELEVATION
100	13706778.91	2127314.39	663.71
110	13706620.64	2126993.41	660.33
1124	13706588.25	2127275.40	661.97
1416	13706613.80	2127089.77	661.51

FACE OF CURB COORDINATES

POINT	NORTHING	EASTING	DESC.	POINT	NORTHING	EASTING	DESC.
258	13706804.92	2127007.77	P-CURB	277	13706650.59	2127194.63	P-CURB
259	13706688.54	2126995.78	P-CURB	278	13706657.58	2127209.19	P-CURB
260	13706685.04	2127015.99	P-CURB	279	13706780.18	2127221.82	P-CURB
261	13706676.26	2127023.38	P-CURB	280	13706789.19	2127161.43	P-CURB
262	13706656.01	2127019.56	P-CURB	281	13706663.85	2127148.52	P-CURB
263	13706650.69	2127036.92	P-CURB	282	13706654.02	2127161.34	P-CURB
264	NOT	USED	P-CURB	283	13706656.31	2127139.10	P-CURB
265	NOT	USED	P-CURB	284	13706660.67	2127122.37	P-CURB
266	NOT	USED	P-CURB	285	13706665.76	2127110.56	P-CURB
267	13706643.64	2127099.65	P-CURB	286	13706675.21	2127126.10	P-CURB
268	13706637.71	2127112.47	P-CURB	287	13706791.59	2127138.09	P-CURB
269	13706631.48	2127136.16	P-CURB	288	13706795.04	2127077.12	P-CURB
270	13706613.06	2127139.26	P-CURB	289	13706690.34	2127066.33	P-CURB
271	13706601.07	2127255.65	P-CURB	290	13706680.29	2127076.86	P-CURB
272	13706617.13	2127275.40	P-CURB	291	13706689.46	2127055.61	P-CURB
273	13706775.85	2127291.75	P-CURB	292	13706694.15	2127043.16	P-CURB
274	13706779.26	2127230.78	P-CURB	293	13706700.22	2127058.31	P-CURB
275	13706656.66	2127218.15	P-CURB	294	13706795.96	2127068.17	P-CURB
276	13706646.84	2127230.98	P-CURB				

1

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 09/06/2016

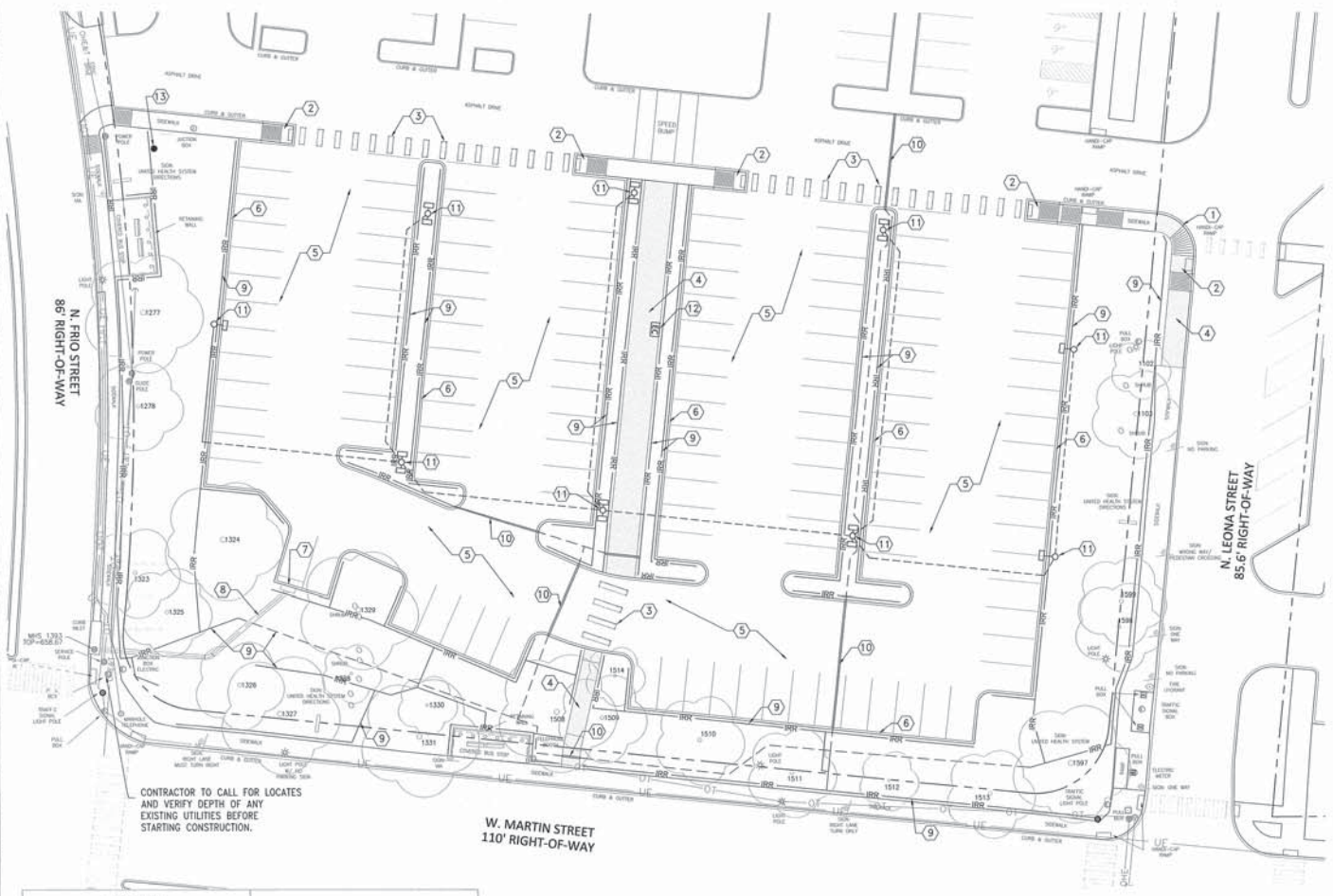
No.	DATE	DESCRIPTION
1	09/06/16	REMOVED ISLAND AND TREE.

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
DIMENSION CONTROL PLAN

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-10

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PRINTED: 9/2/2016 @ 1:17PM



SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.

KEY NOTES

1. PROPOSED COSA CURB. SEE CIVIL DETAILS.
2. PROPOSED HANDI-CAP RAMP. SEE CIVIL DETAILS.
3. PROPOSED CROSS WALK STRIPING. SEE CIVIL DETAILS.
4. PROPOSED CONCRETE SIDEWALK. SEE CIVIL DETAILS.
5. PROPOSED ASPHALTIC PAVEMENT. SEE CIVIL DETAILS.
6. PROPOSED 6" PARKING CURB. SEE CIVIL DETAILS.
7. PROPOSED 5' TYPE "C" INLET. SEE COSA INLET DETAILS.
8. PROPOSED 18" PVC STORM PIPE. TIE TO EXISTING INLET. SEE GRADING PLAN.
9. PROPOSED IRRIGATION SYSTEM. SEE IRRIGATION PLANS FOR PIPE RUNS, SIZES, AND CONTROLS.
10. PROPOSED IRRIGATION CONDUIT. REFER TO IRRIGATION PLANS FOR CONDUIT SIZE AND DEPTH.
11. PROPOSED LIGHT STANDARD. SEE ELECTRICAL PLANS FOR DETAILS.
12. PROPOSED EMERGENCY CALL BOX. SEE ELECTRICAL PLANS FOR DETAILS.
13. PROPOSED ELECTRIC SERVICE POLE. SEE ELECTRIC PLANS. COORDINATE LOCATION WITH CITY PUBLIC SERVICE.

TREE LIST

POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.	POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'	1331	716	23" OAK	40'
1103	702	12" ELM	30'	1508	717	20" OAK	40'
1277	706	20" OAK	40'	1509	718	12" OAK	30'
1278	707	16" OAK	30'	1510	719	12" OAK	30'
1323	708	17" OAK	30'	1511	720	11" OAK	30'
1324	709	18" OAK	40'	1512	721	9" OAK	20'
1325	710	16" OAK	30'	1513	722	11" OAK	30'
1326	711	11" OAK	30'	1514	726	9" OAK	20'
1327	712	16" OAK	40'	1597	723	17" OAK	40'
1328	713	7" OAK	20'	1598	724	11" OAK	30'
1329	714	12" OAK	40'	1599	725	10" OAK	30'
1330	715	7" OAK	20'				

NORTH

UTILITY PLAN

SCALE: 1" = 20'-0"

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

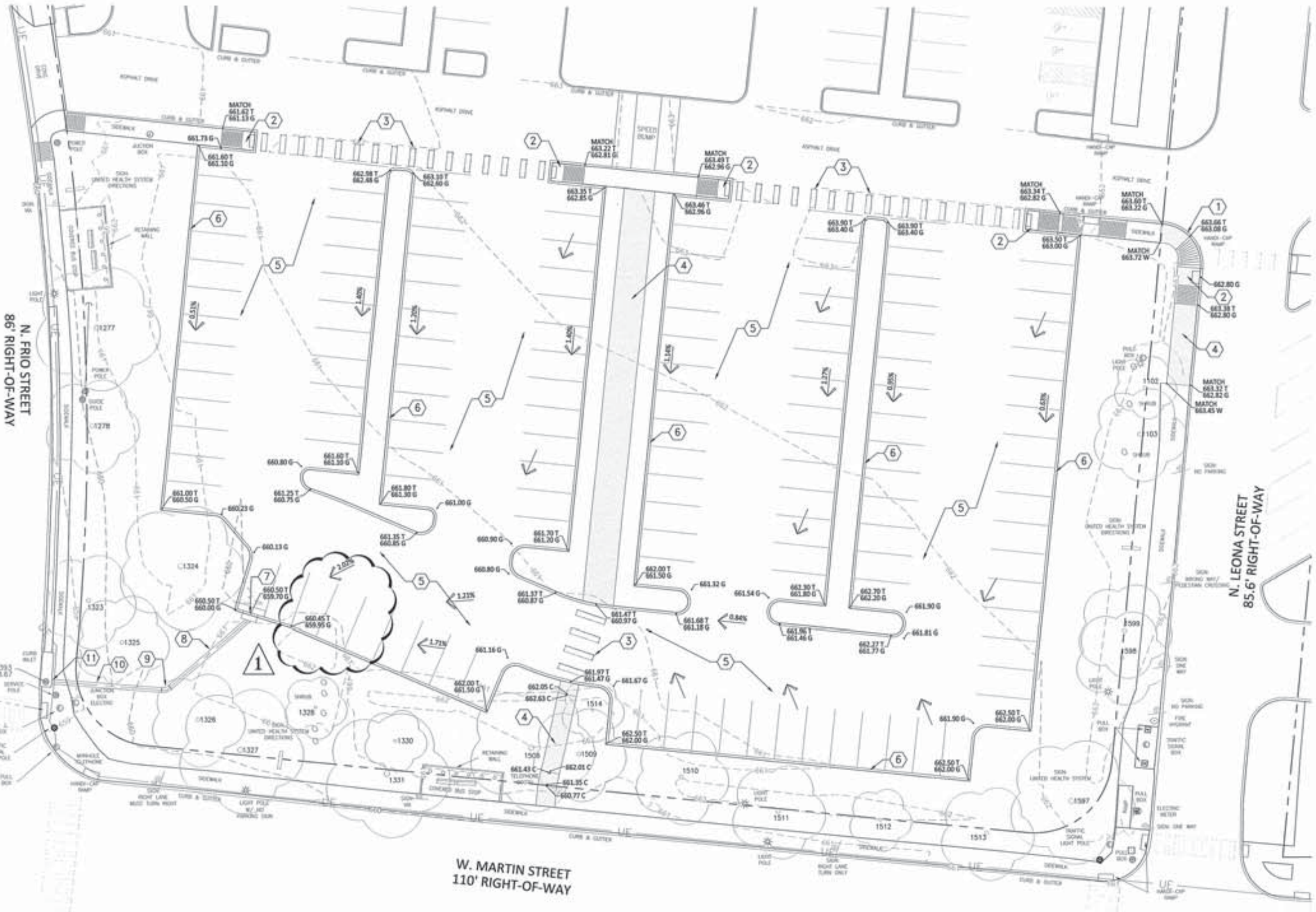
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
UTILITY PLAN

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-11

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



SYMBOLS:

TREE	MANHOLE STORM
SIGN	CLEAN OUT
LIGHT POLE	GUARD POST
FIRE HYDRANT	WATER METER
SEWER MANHOLE	COLUMN
IRRIGATION CONTROL VALVE	MANHOLE TELEPHONE
WATER VALVE	TELEPHONE PEDESTAL
GAS VALVE	SHRUB

LEGEND:

947.90 T CURB ELEVATION
947.40 G GUTTER ELEVATION
947.90 R RETAINING WALL ELEVATION
947.40 D GROUND ELEVATION
947.90 W SIDEWALK ELEVATION
947.40 C CONCRETE ELEVATION
← DIRECTION OF FLOW

KEY NOTES

1. PROPOSED COSA CURB. SEE CIVIL DETAILS SHEET C-18.
2. PROPOSED HANDI-CAP RAMP. SEE CIVIL DETAILS SHEET C-18.
3. PROPOSED CROSS WALK STRIPING. SEE CIVIL DETAILS SHEET C-18.
4. PROPOSED CONCRETE SIDEWALK. SEE CIVIL DETAILS SHEET C-18.
5. PROPOSED ASPHALTIC PAVEMENT. SEE CIVIL DETAILS SHEET C-18.
6. PROPOSED 6" PARKING CURB. SEE CIVIL DETAILS SHEET C-18.
7. PROPOSED 5' TYPE "C" INLET. SEE COSA INLET DETAILS SHEET C-20. TOP: 660.50 INV.: 655.50.
8. PROPOSED 35 L.F. 18" PVC STORM PIPE. SLOPE: 1.50%.
9. PROPOSED 18" 45° BEND. PROPOSED INV.: 654.98.
10. PROPOSED 37 L.F. 18" PVC STORM PIPE. SLOPE: 1.50%.
11. TIE NEW 18" PVC PIPE TO EXISTING STORM INLET. TOP: 658.67 INV.: 654.42. CONTRACTOR TO USE NON SHRINK GROUT AROUND PIPE.

TREE LIST

POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.	POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'	1331	716	23" OAK	40'
1103	702	12" OAK	30'	1508	717	20" OAK	40'
1277	706	20" OAK	40'	1509	718	12" OAK	30'
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1323	708	17" OAK	30'	1511	720	11" OAK	30'
1324	709	18" OAK	40'	1512	721	9" OAK	20'
1325	710	16" OAK	30'	1513	722	11" OAK	30'
1326	711	11" OAK	30'	1514	726	9" OAK	20'
1327	712	16" OAK	40'	1597	723	17" OAK	40'
1328	713	7" OAK	20'	1598	724	11" OAK	30'
1329	714	12" OAK DEAD	40'	1599	725	10" OAK	30'
1330	715	[illegible]" OAK	20'				

△1

GRADING PLAN
SCALE: 1" = 20'-0"

NORTH

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.
2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 09/06/2016

Carl Bain PE

No.	DATE	DESCRIPTION
1	09/06/16	REMOVED ISLAND AND TREE

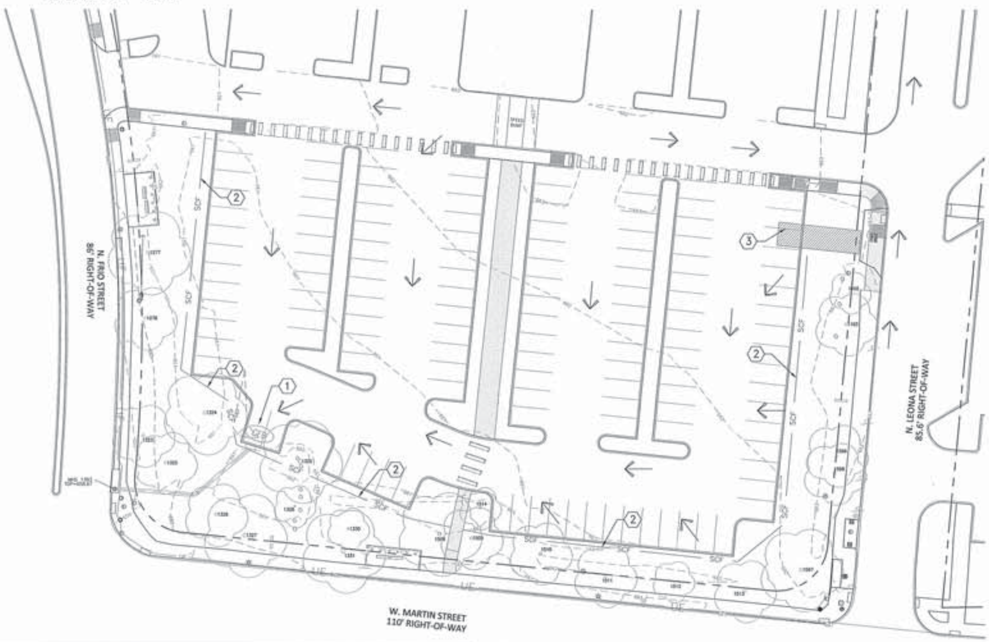
ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
GRADING PLAN

PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-12

LOCATION MAP



SYMBOLS:

⬡	TREE	⊕	MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

EROSION AND SEDIMENT CONTROLS

SITE DESCRIPTION

PROJECT LIMITS: University Health System- New South Visitor Parking Lot

PROJECT DESCRIPTION: Construction of new parking lot including: curb, sidewalks, ramps and drainage improvements.

MAJOR SOIL DISTURBING ACTIVITIES: Soil disturbing activities will include preparing site clearing and grubbing, grading and excavation, for parking lot and sidewalk construction. Erosion and sediment controls to be installed.

TOTAL PROJECT AREA: 1.79 Acres

TOTAL AREA TO BE DISTURBED: 1.21 Acres

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.68

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: The existing topsoil is Branyon Clay (HtB). 1 to 3 percent slopes.

NAME OF RECEIVING WATERS: The storm water will flow into the San Pedro Creek.

SOIL STABILIZATION PRACTICES:

- ___ TEMPORARY SEEDING
- ✓ PERMANENT PLANTING, SODDING, OR SEEDING
- ___ MULCHING
- ___ SOIL RETENTION BLANKET
- ___ BUFFER ZONES
- ✓ PRESERVATION OF NATURAL RESOURCES

OTHER: DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DO WITHIN 21 DAYS.

STRUCTURAL PRACTICES:

- ✓ SILT FENCES
- ___ HAY BALES
- ___ ROCK FILTER DAMS
- ___ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- ___ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ___ DIVERSION DIKE AND SWALE COMBINATIONS
- ___ PIPE SLOPE DRAINS
- ___ PAVED FLUMES
- ✓ ROCK BEDDING AT CONSTRUCTION EXIT
- ___ TIMBER MATTING AT CONSTRUCTION EXIT
- ___ CHANNEL LINERS
- ___ SEDIMENT TRAPS
- ___ SEDIMENT BASINS
- ___ STORM INLET SEDIMENT TRAP
- ___ STONE OUTLET STRUCTURES
- ✓ CURBS AND GUTTERS
- ___ STORM SEWERS
- ___ VELOCITY CONTROL DEVICES

OTHER: GRAVEL FILTER BAGS

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification plan.

SIGNATURE (CONTRACTOR) DATE

LEGEND

(shaded)	CONTRUCTION EXIT (TYPE 1)
— SCF —	SEDIMENT CONTROL FENCE
— GFB —	GRAVEL FILTER BAGS
←	DIRECTION OF FLOW

KEYNOTES

1. GRAVEL FILTER BAGS
2. SEDIMENT CONTROL FENCE
3. CONSTRUCTION EXIT. (TYPE 1)

NARRATIVE – SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. Install controls.
2. Clear, grub and excavate.
3. Construct utility runs and conduits.
4. Construct parking areas, drives and sidewalks.
5. Install landscaping.
6. When all construction activity is complete and the site is stabilized and approved by the project engineer, remove all temporary structural controls and reseed any areas disturbed by their removal.
7. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

STORM WATER MANAGEMENT: STORM WATER DRAINAGE WILL BE CONVEYED BY NEW AND EXISTING DRAINAGE STRUCTURES, CHANNELS, STORM SEWERS, AND STREETS.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT.

INSPECTION: AN INSPECTION WILL BE PERFORMED BY THE CONTRACTOR PERIODICALLY AND AFTER EVERY HALF INCH OR MORE OF RAIN (AS RECORDED ON A NON-FREEZING RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE). AN INSPECTION AND MAINTENANCE REPORT WILL BE MADE PER EACH INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS WILL BE REVISED PER THE INSPECTION REPORT.

WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATIONS AND THE TRASH WILL BE HAULED TO A LOCAL DUMP. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS, ACIDS FOR CLEANING, MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION OR CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENTS OF A HAZARDOUS MATERIAL SPILL, THE TxDOT SPILL COORDINATOR SHALL BE CONTACTED IMMEDIATELY.

SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS AS NECESSARY, OR AS REQUIRED BY LOCAL REGULATIONS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

OFFSITE VEHICLE TRACKING:

- ___ HAUL ROADS DAMPENED FOR DUST CONTROL
- ✓ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- ✓ EXCESS DIRT ON ROAD REMOVED DAILY
- ✓ STABILIZED CONSTRUCTION ENTRANCE

PERMITS: NOTICE OF INTENT TO BE SUBMITTED TO THE TEXAS COUNCIL OF GOVERNMENT QUALITY.

REMARKS: DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAM-BEND. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

CITY OF SAN ANTONIO CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CITY ENGINEER DATE

OWNERS CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE DATE

TREE LIST

POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.	POINT NO.	TAG NO.	SIZE & TYPE	DRIP DIA.
1102	701	10" OAK	20'	1331	716	23" OAK	40'
1103	702	12" ELM	30'	1508	717	20" OAK	40'
1277	706	20" OAK	40'	1509	718	12" OAK	30'
1278	707	16" OAK	30'	1510	719	12" OAK	30'
1323	708	17" OAK	30'	1511	720	11" OAK	30'
1324	709	18" OAK	40'	1512	721	9" OAK	20'
1325	710	16" OAK	30'	1513	722	11" OAK	30'
1326	711	11" OAK	30'	1514	726	9" OAK	20'
1327	712	16" OAK	40'	1597	723	17" OAK	40'
1328	713	7" OAK	20'	1598	724	11" OAK	30'
1329	714	12" OAK	40'	1599	725	10" OAK	30'
1330	715	7" OAK	20'				

NORTH

STORM WATER POLLUTION PREVENTION PLAN

SCALE: 1"= 30'-0"

TREE PROTECTION NOTES

1. ALL TREES ON THIS PROPERTY SHALL BE PRESERVED UNLESS OTHERWISE NOTED. TREES SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING CUTTING, SOIL COMPACTION, BREAKING, OR SKINNING OF ROOTS.

2. TREE PROTECTION SHALL CONFORM TO THE TREE PRESERVATION AND PROTECTION PLAN AND BE IN PLACED BEFORE ANY EXCAVATING OR GRADING IS BEGUN AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION WORK. SEE LANDSCAPE PLANS.

GENERAL SITE DEVELOPMENT NOTES

1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE ARCHITECTURAL, LANDSCAPE, CIVIL, AND MEP PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. THE INTENT OF THE DEVELOPMENT OF THIS SITE IS TO LEAVE AS MUCH DESIRABLE PLANT MATERIAL AS POSSIBLE IN ITS NATURAL STATE. MAJOR EXISTING TREES WITHIN THE LIMIT OF CONSTRUCTION ARE INDICATED IN THE SITE DRAWINGS. SITE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY TREE OR OTHER VERTICAL VEGETATION EXISTING ON THE SITE. COORDINATE DRAWINGS WITH FIELD CONDITIONS TO VERIFY PRECISE EXTENT OF SITE CLEARING REQUIRED.
3. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE. ENGINEER MAY DIRECT ADJUSTMENT TO PAVING ORIENTATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO SITE ELEMENTS.
4. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION AREA INDICATED ON THE DRAWINGS.
5. CONSTRUCTION SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
6. THIS SITE ADJOINS OTHER DEVELOPED PROPERTY. COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.

STATE OF TEXAS
CARL BAIN
56996
REGISTERED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR PARKING
SW3P

PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-13

PRINTED: 6/3/2016 @ 11:41AM

SITE CANOPY CALCULATION

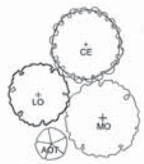
86,938sf (site area) x 15% (within CRAG)= 13,041sf (canopy required)

EXISTING TREE CANOPY: (EC)

1,200sf x _ (existing large trees)	=0sf (existing large tree canopy)
875sf x 18 (existing medium/large trees)	=15,750sf (existing medium large tree canopy)
550sf x _ (existing medium trees)	=0sf (existing medium tree canopy)
275sf x _ (existing small tree)	=0sf (existing small tree canopy)
Total Canopy Provided	=15,750sf (existing tree canopy)

SUMMARY

Canopy Required	=	13,041sf (site within CRAG)
Canopy Provided	=	15,750sf (existing canopy)
Total Canopy Provided	=	15,750sf



TREE SCHEDULE (SVP)

Qty.	Key	Common Name	Botanical Name	Size / Remarks
6	CE	Cedar Elm	*Ulmus crassifolia*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
2	LO	Live Oak	*Quercus virginiana*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
4	MO	Monterrey Oak	*Quercus polymorpha*	2-3" cal., 12' ht., 6-8' spread, container grown, full upright form
6	AOT	Anacacho Orchid Tree	*Bauhinia congesta*	45 gal., full upright form

ELECTIVE REQUIREMENTS

70 points required

		Qty.	Points
Tree Preservation - 40 points, maximum			
4 to 6 inch trees	3 points each	-	-
6 to 12 inch trees	4 points each	-	-
12 to 18 inch trees	6 points each	2	12
18 inch trees and larger	8 points each	4	32
Inside Streetyard:			
full credit up to 30 points			-
1/2 credit for total above 30 points			-
Outside Streetyard:			
1/2 credit up to a maximum of 15 points			
Total Points: Tree Preservation			-
(40 Points, max.)			44
			40

Parking Lot Shading

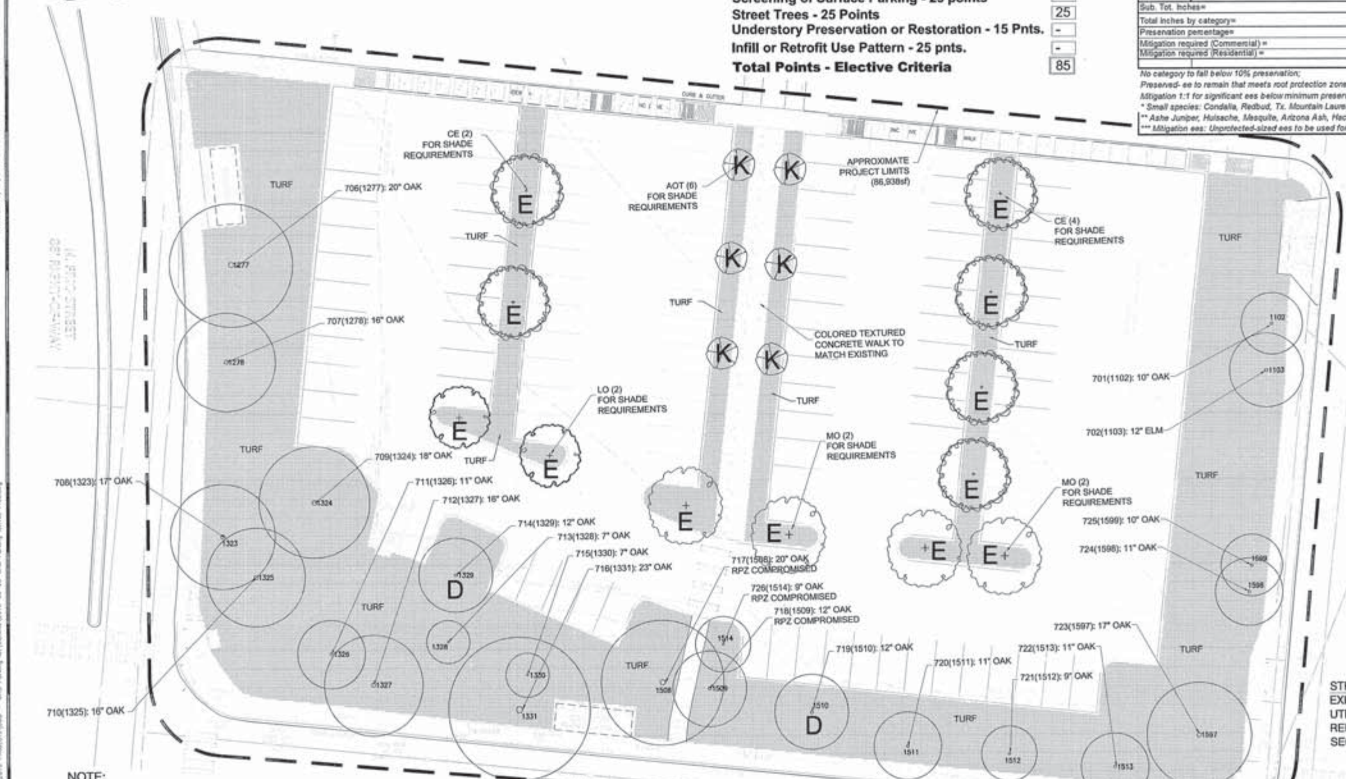
Percent Shaded	Points
25%	20 ✓
35%	25
50%	35

Total Points: Parking Lot Shading	20
Screening of Surface Parking - 25 points	-
Street Trees - 25 Points	25
Understory Preservation or Restoration - 15 Pnts.	-
Infill or Retrofit Use Pattern - 25 pnts.	-
Total Points - Elective Criteria	85

TREE INVENTORY

Tag #	Species	Understory Species* 5.0" - 11.5" Removed	Understory Species* 5.0" - 11.5" Preserved	Significant ee 6" - 23.5" Removed	Significant ee 6" - 23.5" Preserved	Significant ee** 10.0" - 23.5" Removed	Significant ee** 10.0" - 23.5" Preserved	Heritage 3:1 Removed	Heritage 3:1 Preserved	Heritage 1:1 Removed	Heritage 1:1 Preserved	Additional Inches Preserved for Mitigation *** Preserved
701 (1102)	18" oak				18							
702 (1103	12" elm				12							
706 (1277)	20" oak				20							
707 (1278)	16" oak				16							
708 (1323)	17" oak				17							
709 (1324)	18" oak				18							
710(1325)	16" oak				16							
711 (1326)	11" oak				11							
712 (1327)	16" oak				16							
713 (1328)	7" oak				7							
714 (1329)	12" oak				12							
715 (1330)	7" oak				7							
716 (1331)	23" oak				23							
717 (1508)	20" oak, rpz compromised, to remain			20								
718 (1509)	12" oak, rpz compromised, to remain			12								
719 (1510)	12" oak				12							
720 (1511)	11" oak				11							
721 (1512)	9" oak				9							
722 (1513)	11" oak				11							
723 (1597)	17" oak				17							
724 (1598)	11" oak				11							
725 (1599)	10" oak				10							
126 (1514)	9" oak, rpz compromised, to remain			9								
Sub. Tot. Inches=		0	0	41	274	0	0	0	0	0	0	0
Total inches by category=			0		315		0		0		0	
Preservation percentage=		#DIV/0!		Significant Preservation		87%		Heritage Preservation		#DIV/0!		0
Mitigation required (Commercial) =		0		Commercial (inches)		-148						
Mitigation required (Residential) =		0		Residential (inches)		-163.75		Heritage Mitigation (inches)		0		

No category to fall below 10% preservation;
Preserved- ee to remain that meets root protection zone requirements described in section 35-523 of the UDC.
Mitigation 1:1 for significant ees below minimum preservation requirements; 3:1 for heritage ees below 100% preservation
** Small species: Condalia, Redbud, Tx. Mountain Laurel, Tx. Persimmon, Hauthorn, Possumhaw - these are mitigated at 1:1 for Heritage ees*
*** Ashe Juniper, Huisache, Mesquite, Arizona Ash, Hackberry protected at 10" dbh and mitigated at 1:1 for heritage ees*
**** Mitigation ees: Unprotected-sized ees to be used for mitigation calculations; subact inches from mitigation oned*



NOTE:
ALL TREES TO REMAIN SHALL HAVE TREE PROTECTION FENCING PER COSA REQUIREMENTS. REFER TO DETAIL SHEET & NOTES

1 TREE PRESERVATION PLAN: UHC SOUTH PARKING LOT
SCALE - 1"=20'

Parking-lot Shading Calculations

3/24/2016

Project

Total Parking-lot Area=	39,081.00 sf
Shade Coverage Required=	25%
Shade Coverage Required=	9,770.25 sf

Key See Plan	# of Trees	Shade Value			Species
Large trees					*Bald Cypress, Cottonwood, Deodar Cedar, Pecan, Red Oak, Sycamore, Burr Oak and Texas Sycamore*
A	0	1200	@ 100%	0.00 sf	
B	0	1200	@ 75%	0.00 sf	
C	0	1200	@ 50%	0.00 sf	
Medium/Large trees					*Anaqua, Arizona Cypress, Live Oak, Texas Grn. Ash, Blk. Willow, Cedar Elm, Chinkapin Oak, Esc. Blk. Cherry, Ashe Juniper, Hackberry, Eve's Necklace, and Western Soapberry*
D	1	875	@ 100%	875.00 sf	
E	12	875	@ 75%	7,875.00 sf	
F	0	875	@ 50%	0.00 sf	
Medium trees					*Honey Locust, Huisache & Lacey Oak*
G	0	550	@ 100%	0.00 sf	
H	0	550	@ 75%	0.00 sf	
I	0	550	@ 50%	0.00 sf	
Medium/Small trees					*Anacacho Orchid Tree, Ashe Juniper, Carolina Buckthorne, Yaupon, Condalia, Condalia, Crabapple, Goldenball Lead Tree, Mesquite, Persimmon, Possumhaw, Redbud, Retama, Wild Olive, and Vitex*
J	0	275	@ 100%	0.00 sf	
K	6	275	@ 75%	1,237.50 sf	
L	0	275	@ 50%	0.00 sf	

Total Shade Coverage Provided=	**9,987.50 sf**
Total Shade Coverage Provided=	**25.56%**

100% shade value for existing trees meeting RPZ criteria
75% shade value for trees in islands or peninsulas
50% shade value for trees within 12' of a parking surface

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
TX REGISTRATION NO.
2016-05-23
DATE

TURF GRASS

TURF • Solid Sod: TIFWAY 419 Bermuda or approved substitution (*at all disturbed areas)

SEED Seed: HABITURF or approved substitution
Contractor shall determine quantity required in the field. (Approx._____sf) (*at all disturbed areas)
Bermuda (May-Sept.) and Fescue (Oct.-April) Seed: 3-4(lbs) per 1,000(sf) / Seed Source Reference - Douglass King Seed 210-661-41-91 (www.dkseeds.com) Seeded areas shall be provided with temp. irrigation.

STREET TREE NOTE:
EXISTING TREES TO BE UTILIZED AS STREET TREES. REFER TO UDC SECTION 35-512(b)(3)

BENDER WELLS CLARK DESIGN

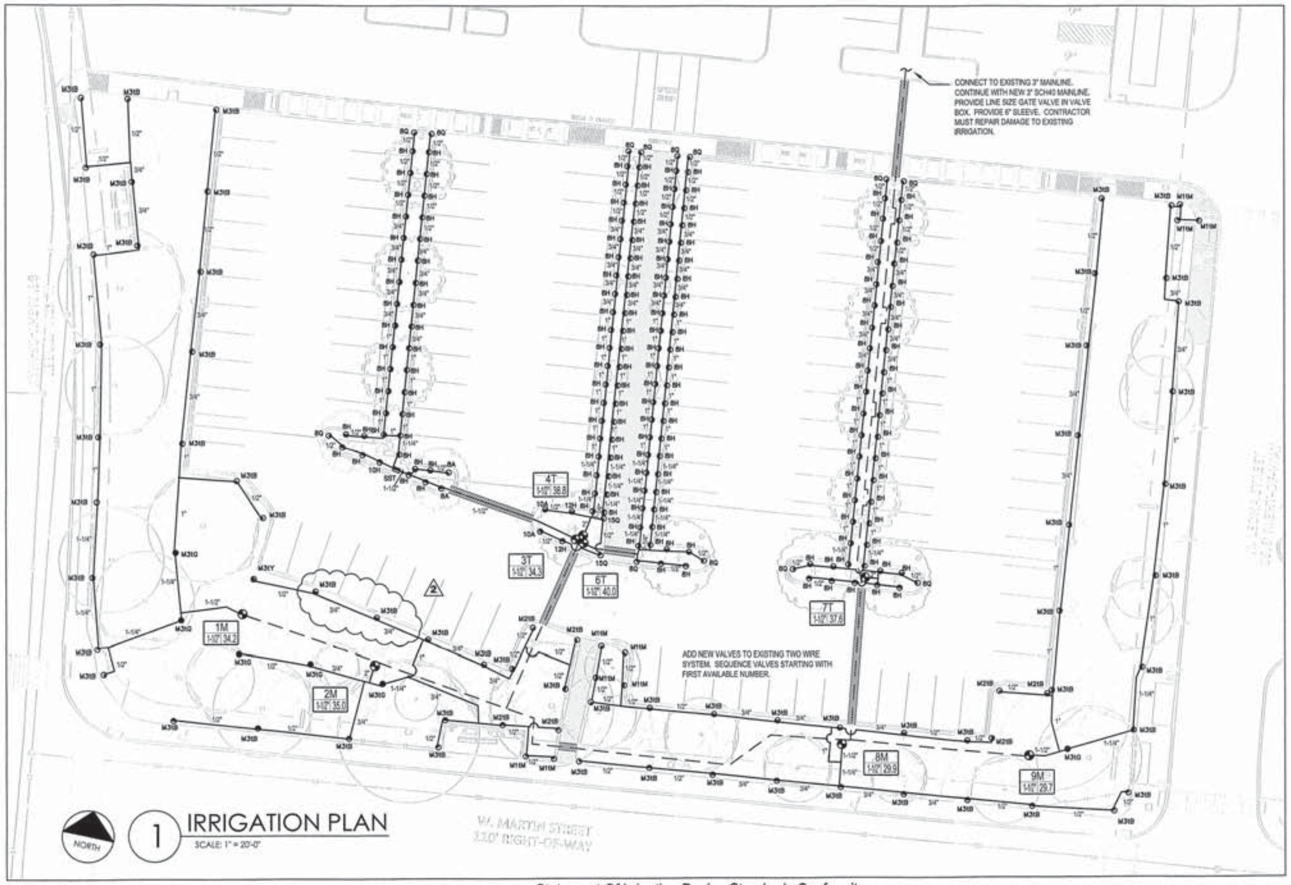
BENDER WELLS CLARK DESIGN
830 North Alamo
San Antonio, Texas 78215
T 210 692 9221 F 210 223 8562

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH PARKING LOT
TREE PRESERVATION PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	LCC & BW
DRAWN BY:	BV
APPROVED BY:	LCC & BW
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	TP-2



1 IRRIGATION PLAN

SCALE: 1" = 20'-0"

LEGEND

TURF SPRAY HEAD - AS MANUFACTURED BY HUNTER, PRO SPRAY PROS-PRS40-04-CV IN TURF AREAS. USE PRO SPRAY SERIES NOZZLES OR MP ROTATOR NOZZLES WHERE INDICATED ON PLANS.

SST — INDICATES SIDE/CENTER STRIP SPRINKLER.

BBL — BUBBLER - PRESSURE COMPENSATING BUBBLER (1 G.P.M.), FB-100-PC AS MFG'D BY TORO.

15Tg(s) — INDICATES MFG'S STANDARD CATALOGUED SPACING WITHOUT WIND ALLOWANCE. THIS NUMBER IS FOR REFERENCE AND DOES NOT INDICATE ACCEPTANCE OF DEVIATION FROM DESIGN SPACING TO THIS STANDARD.
INDICATES ANGLE OF COVERAGE. FOR EXAMPLE; H=180 DEG, F=360. SUB-LETTER 'g' INDICATES GROUND COVER. "s", SHRUB APPLICATION.

M1tM — IDENTIFIES MP-ROTATOR NOZZLE BY SERIES. EX: M1=M1000, M39: INDICATES MP3500 NOZZLE.
INDICATES AREA OF COVERAGE BY COLOR. EXAMPLE; M=(MAROON) M1000=90-210 DEG.
INDICATES APPLICATION. EX: t=TURF HEAD, 4" POP UP, g=GROUNDCOVER 12" POP UP.

CONTROLLER - SMARTWIRE 2-WIRE SYSTEM WITH SLW20 WEATHER MONITOR AS MFG'D BY WEATHERMATIC. FINAL LOCATION IS TO BE DETERMINED BY OWNER OR HIS REPRESENTATIVE AFTER CONSULTING WITH PROJECT ARCHITECT.

REMOTE CONTROL VALVE - SERIES 11000FCR AS MFG'D BY WEATHERMATIC. SIZE AS NOTED ON PLAN. USE ONLY APPROVED SPLICE KITS SUCH AS WADE WC-014 CONNECTORS.

QUICK COUPLING VALVE - SERIES 44LRC AS MFG'D BY RAINBIRD. PROVIDE A QUICK COUPLER KEY W/ SWIVEL HOSE ELL FOR EVERY THREE (3) VALVES.

ISOLATION GATE VALVE - LINE SIZE

ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
VALVE SIZE THIS ZONE

LATERAL LINE - SIZE AS NOTED ON PLAN. DO NOT DEVIATE ON SIZING. USE ONLY CLASS 200 OR 315 PVC PIPE.

MAIN LINE - USE SCH 40 PVC PIPE AS DESIGNATED ON PLANS.

SLEEVE - USE TWO (2) SIZES LARGER THAN SPRINKLER PIPE DESIGNATED FOR CROSSING PAVING. WHERE REQUIRED, VALVE WIRING MAY BE RUN IN THE SAME SLEEVES. USE SCH 40 PVC PIPE OR AS DESIGNATED ON PLANS.

NOTE: PROVIDE AN EXTRA 2" SCH 40 PVC SLEEVE NEXT TO ALL MAINLINE SLEEVE LOCATIONS TO ALLOW FOR ELEC. VALVE WIRING FROM CONTROLLER.

GENERAL NOTES

1. SPRINKLER LINES AS SHOWN ARE DIAGRAMMATIC BUT SHOULD BE REASONABLY FOLLOWED. LOCATIONS OF SPRINKLER HEADS SHALL BE ESTABLISHED BY THE CONTRACTOR BUT DESIGN SPACING MAY NOT BE EXCEEDED WITHOUT AUTHORIZATION FROM LANDSCAPE ARCH.

2. INSTALL ALL VALVES IN 12" RECTANGULAR VALVE BOXES. VALVE SHOULD BE CENTERED IN BOX TO ALLOW EASY ACCESS TO SOLENOID ASSEMBLY AND COVER BOLTS.

3. ZONE PIPE SIZING IS PARTICULARLY IMPORTANT ON PROJECTS WHERE LONG RUNS ARE NECESSARY. "RULE OF THUMB" SIZING IS NOT ALLOWED ON THIS PROJECT. SIZING AS SHOWN MUST BE FOLLOWED.

4. INSTALL RAIN & FREEZE SWITCHES IN AN ELEVATED LOCATION CLEAR OF TREES OR OTHER OBSTRUCTIONS. INSTALL IN LOCATION EXPOSED TO EXTERIOR AMBIENT CONDITION.

5. ALLOW A MINIMUM OF 4" CLEARANCE FROM ANY STRUCTURE WHEN INSTALLING SPRINKLER HEADS. THIS INCLUDES SIDEWALKS, CURBS, BUILDINGS, ETC..

6. INSTALL SLEEVING SUCH THAT A MINIMUM OF 6" EXTENDS BEYOND CURBS, WALKS, OR WALLS.

7. AFTER INSTALLATION SYSTEM MUST BE BALANCED BY ADJUSTING FLOW CONTROLS ON VALVES. SPRAY ZONES SHALL BE ADJUSTED TO 25 PSI-30 PSI AT THE FURTHEST HEAD IN EACH ZONE.

8. SYSTEM SHALL REQUIRE MINIMUM OF __ LBS. STATIC PRESSURE FOR SYSTEM TO OPERATE PROPERLY. IRRIGATION CONTRACTOR SHALL NOTIFY SPRINKLER SYSTEM DESIGNER OF PRESSURE DEFICIENCIES OR ANY OTHER SITE PROBLEMS THAT MAY ALTER THE EFFECTIVENESS OF THE SYSTEM.

9. ONLY HAND TRENCHING IS ALLOWED WITHIN THE ROOT PROTECTION ZONES OF EXISTING ZONES. NO CUTTING OF ROOTS LARGER THAN 2 INCHES.

MOST CRITICAL ZONE CHART

PRESSURE REQUIREMENT CALCULATIONS AT ZONE 5S

DESIGN STATISTICS FOR CALCULATIONS

SPRINKLER HEAD REQUIREMENT:	40 PSI
TOTAL ZONE FLOW:	40 GPM
ELECTRIC VALVE SIZE:	1"
STATIC PRESSURE LESS 10%:	N/A
ACCUMULATIVE LOSSES FROM WATER SOURCE TO FURTHEST HEAD	
ZONE PIPE/FITTING LOSS:	1.4 PSI
2" ELECTRIC VALVE LOSS:	1.8 PSI
ELEVATION NET GAIN/LOSS:	0 PSI
SYSTEM MAINLINE LOSS:	0.4 PSI
WATER METER LOSS:	3.7 PSI
BACKFLOW LOSS:	5 PSI
2" MASTER VALVE LOSS:	1.8 PSI
TYPE K COPPER LOSS:	4.1 PSI
TOTAL NET LOSS:	18.2 PSI
DESIGN PRESSURE:	58.2 PSI

NOTE:
IF DESIGN PRESSURE IS LESS THAN STATIC PRESSURE, CONTACT IRRIGATION CONSULTANT.

Statement Of Irrigation Design Standards Conformity:

This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out in 35-510(j) and 35-511(c)(6) of the City of San Antonio Unified Development Code.

Scheduling Controller

Typical Weekly, Based on Precipitation Rate

Total Hours of Operation 11.70

ZONE TYPE	Precipitation Rate (in/hr)	Water Desired Inch/Week	Time per cycle (min)	No. of Zones	Total Minutes	Total Hours
TURF	1.58	1.00	37.97	4	151.9	2.53
MP ROTATOR	0.45	1.00	133.33	4	533.3	8.9
TREE BUBBLER	3.58	1.00	16.8	1	16.8	0.3

NOTE:
IT WILL BE NECESSARY TO DIVIDE TIME INTO 2 TO 3 CYCLES TO MINIMIZE RUNOFF. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO DAYS PER WEEK. TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE. CONTRACTOR RESPONSIBLE FOR WATERING SCHEDULE DURING ESTABLISHMENT. FOLLOW LOCAL ORDINANCES DURING DROUGHT RESTRICTIONS

STATE OF TEXAS
STEVEN GARZA
15791
LICENSED IRRIGATOR
5-24-2016

GARZA CONSULTING
IRRIGATION DESIGN
PLANNING & COST ANALYSIS
P.O. BOX 691974
SAN ANTONIO, TX 78269
210.490.7191
WWW.GARZA-CONSULTING.COM

BENDER WELLS CLARK DESIGN
BENDER WELLS CLARK DESIGN
830 North Alamo
San Antonio, Texas 78215
T 210 692 9221 F 210 223 8682

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS
2	6/30/16	TREE PRESERVATION REVISIONS FOR PERMIT

IRRIGATION PLAN

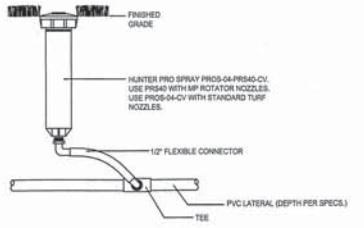
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	SG
DRAWN BY:	SG
APPROVED BY:	SG
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	IR-1

NORTH

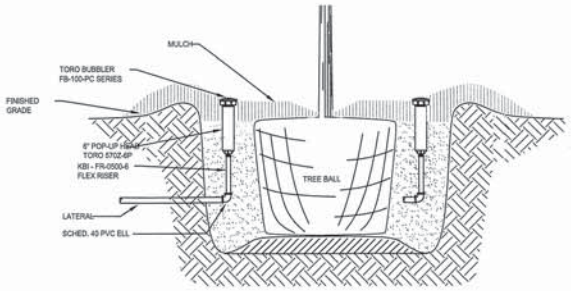
1 TREE BUBBLER PLAN

SCALE: 1" = 30'-0"



3 4"/6" POP-UP SPRINKLER

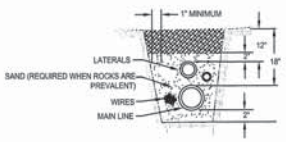
NOT TO SCALE



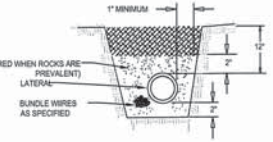
4 BUBBLERS AT TREE - SECTION

NOT TO SCALE

PLAN



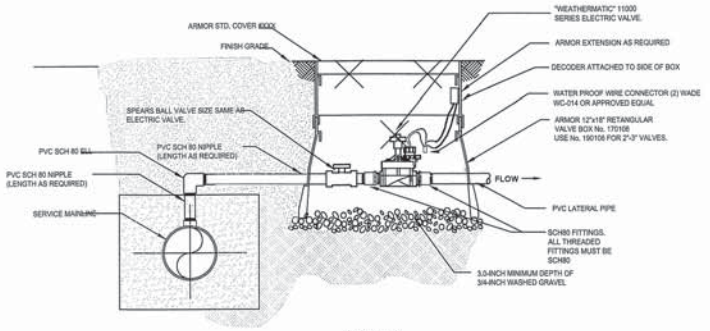
MAIN & LATERAL SECTION



LATERAL SECTION

1 TYPICAL TRENCH DETAILS

NOT TO SCALE



SECTION

2 ELECTRIC VALVE DETAIL AT SERVICE LINE

NOT TO SCALE

STATE OF TEXAS
STEVEN GARZA
15791
LICENSED PROFESSIONAL ENGINEER
5-24-2016

GARZA CONSULTING
ENGINEERING DESIGN
PLANNING & COST ANALYSIS
P.O. BOX 591574
SAN ANTONIO, TX 78259
210.460.7991
WWW.GARZA-CONSULTING.COM

BENDER WELLS CLARK DESIGN

BENDER WELLS CLARK DESIGN
830 North Alamo
San Antonio, Texas 78215
T 210 592 9221 F 210 223 6062

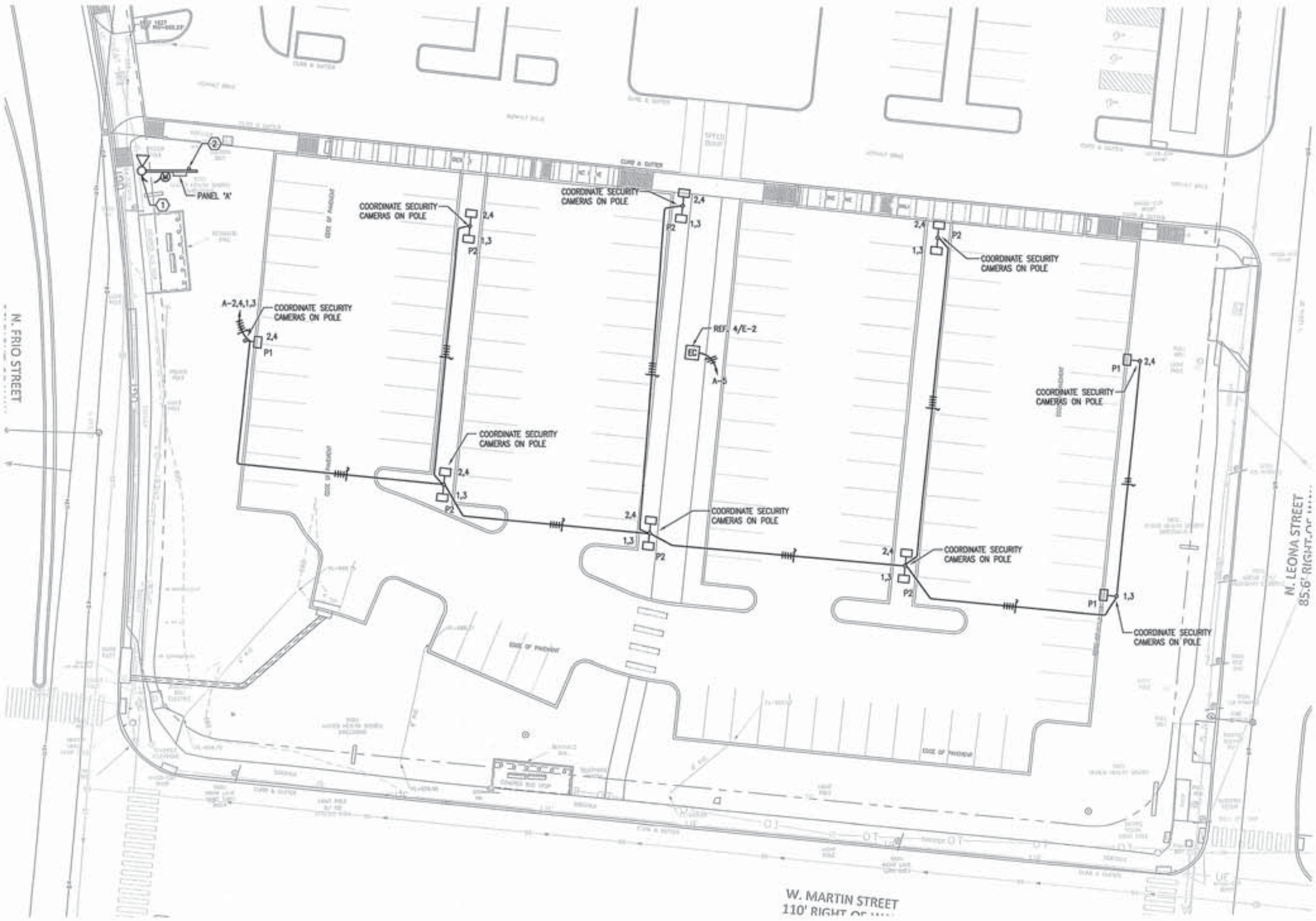
No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS
2	5/30/16	TREE PRESERVATION REVISIONS FOR PERMIT

IRRIGATION DETAILS

DESIGNED BY: SG
DRAWN BY: SG
APPROVED BY: SG
DATE: MAY 2016
JOB NO.: C-1419
SHEET: IR-2

PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



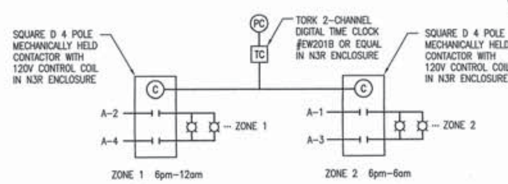
POWER KEYED NOTES:

1. PROPOSED RISE POLE LOCATION. FINAL LOCATION PER UTILITY COMPANY REPRESENTATIVE.
2. SERVICE EQUIPMENT RACK, REF. ONE-LINE DIAGRAM ON SHEET E-3.
3. ROUTE THRU 2-CIRCUIT PHOTOCELL/TIMER FOR DUAL LEVEL LIGHTING.

1 SOUTH VISITOR PARKING SITE PLAN

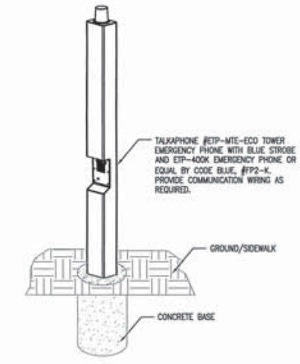
SCALE: 1/20"=1'-0"

NORTH



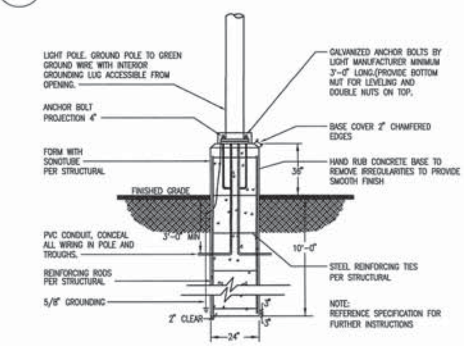
2 LIGHTING CONTROLS

SCALE: NOT TO SCALE



4 EMERGENCY CALL CENTER POLE (EC)

NOT TO SCALE



3 TYPICAL POLE BASE

NOT TO SCALE

RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
700 N. ST. MARY'S
SUITE 1225
SAN ANTONIO, TX 78205
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER B. MENDEZ, P.E. 93809
ON 06/03/2016

No.	DATE	DESCRIPTION

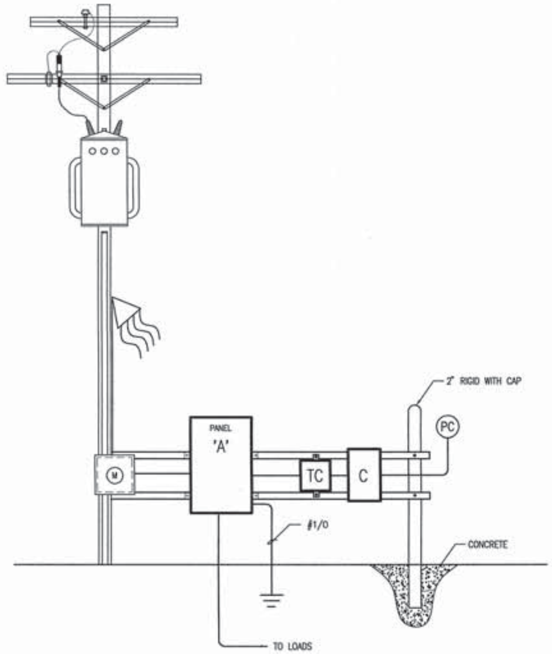
ROBERT B. GREEN
DOWNTOWN CAMPUS
CLINIC PERMIT SOUTH
PARKING PLAN

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-2

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/HG

FILE NAME: 16-050 E-2 Clinic Permit South Parking Plan.dwg
FILE LOCATION: N:\2016\16-050 UHS Clinic Parking\Electrical\
DATE: Fr, 03 Jun 2016 - 8:15am



1 **ONE-LINE RISER DIAGRAM**
SCALE: NOT TO SCALE (REFERENCE SHEET E-2)

PANELBOARD SCHEDULE

PANEL:	PANEL A	MOUNTING:	RACK
PROJECT:	UHS CLINIC PARKING	TYPE:	BOLT ON
FED FROM:	SERVICE	BUSSING:	
VOLTAGE:	240 / 120	MLO:	
PH/WIRE:	1 / 3W	MAIN C.B.:	100A
SUB FEED LUGS:		A.I.C. RATING:	
CONDUIT/CONDUCTORS:		KEY NOTES:	NEMA 3R

NOTE: ALL BRANCH CIRCUITS SHALL BE RUN IN EMT CONDUIT FROM PANEL TO DEVICE. WHERE CONDUIT SIZE IS NOT INDICATED E.C. MAY COMBINE SIMILAR TYPE CIRCUITS IN LARGER CONDUIT NOT TO EXCEED 40% FILL PER TABLES IN NEC 2008 AND PER TABLE 310.15 (B) (2) (A) FOR CONDUCTOR DERATING WHERE APPLICABLE. ALL OTHER BR. CKTS WITH #12 OR #10 CU. SHALL BE RUN IN 3/4"C.

CIRCUIT DESCRIPTION	CONDUIT SIZE	COND SIZE (AWG)	NEUT SIZE (AWG)	E.G.C. SIZE (AWG)	TYPE LOAD	LOAD VA	CKT BKR	CKT #	CKT #	CKT BKR	LOAD VA	TYPE LOAD	CONDUIT SIZE	COND SIZE (AWG)	NEUT SIZE (AWG)	E.G.C. SIZE (AWG)	CIRCUIT DESCRIPTION
PARKING LOT LIGHTS	1"	#8		#10	10	576	20/2	1	2	20/2	772	10	1"	#8		#10	PARKING LOT LIGHTS
- -		#8			10	576		3	4		772	10		#8			- -
EMERGENCY CALL CENTER	1"	#10	#10	#12	9	000	20/1	5	6	20/1							SPARE
LIGHTING CONTACTOR CONTROL							20/1	7	8	20/1							SPARE
BUSSED SPACE								9	10								BUSSED SPACE
BUSSED SPACE								11	12								BUSSED SPACE
BUSSED SPACE								13	14								BUSSED SPACE
BUSSED SPACE								15	16								BUSSED SPACE

CONNECTED LOADS SUMMARY	VA/PH	AMPS/PH
PHASE 'A'	2248	19
PHASE 'B'	448	12
TOTALS	3696	15

PANELBOARD LOAD ANALYSIS	KVA	AMPS
1. TOTAL NEC DEMAND LOAD	4.42	18.4
2. ADD LARGEST MOTOR (25%)		
3. ADD LIGHTING 65 PER VA/SF (SEE NOTE)	0.0	0.0
4. SUB-TOTAL LOAD	4.42	18.4
5. NOT USED		
6. TOTAL NEC LOAD WITH FUTURE LOAD	4.42	18.4

PANELBOARD LOAD COMPUTATIONS - LOAD SUMMARY					
TYPE	LOAD DESCRIPTION	SUB FEED	KVA	D.F.	DEMAND LOAD (KVA)
1	1. RECEPTACLES	0.00	0.00	NOTE 1	0.0
2	2. LIGHTING	0.00	0.00	125%	0.0
3	3. AIR CONDITIONING	0.00	0.00	100%	0.0
4	4. ELECTRIC HEATING	0.00	0.00	100%	0.0
5	5. MOTORS	0.00	0.00	100%	0.0
6	6. ELECT WATER HTG.	0.00	0.00	100%	0.0
7	7. ELEVATOR	0.00	0.00	100%	0.0
8	8. KITCHEN EQUIP.	0.00	0.00	90%	0.0
9	9. MISCELLANEOUS	0.00	0.00	100%	0.0
10	10 EXT. LIGHTING	0.00	2.90	125%	3.6
	TOTAL KVA	0.00	3.70		4.42
	TOTAL AMPERES	0.0	0.0		18.8

LOAD ANALYSIS NOTES AND PANELBOARD TYPICAL NOTES:
1. REFER TO THE TYPICAL LOAD ANALYSIS NOTES ON THIS DRAWING SHEET.
2. REFER TO THE TYPICAL PANELBOARD KEYED NOTES ON THIS DRAWING SHEET.

LIGHTING FIXTURE SCHEDULE

TAG TYPE	MANUFACTURER CATALOG NO.	MOUNTING	FIXTURE LAMPS: LAMP QTY	LAMP TYPE	WATTS PER LAMP	INPUT VA	VOLTAGE	DESCRIPTION	KEYED NOTES
P1	[illegible]	CONCRETE BASE	1	LED	110	110	120VOLT	SINGLE HEAD PARKING LOT LIGHT, 25' SSS POLE	
P2	[illegible]	CONCRETE BASE	2	LED	110	220	120VOLT	TWO HEAD PARKING LOT LIGHT, DUAL CIRCUITS, 25' SSS POLE	
EC	TALK-A-PHONE [illegible] EMERGENCY PHONE TOWER, WITH INTERCOM AND STROBE	CONCRETE BASE						EMERGENCY CALL CENTER WITH INTERCOM AND STROBE	

LIGHTING FIXTURE SCHEDULE KEYED NOTES:
1) COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECT

RGM ENGINEERING
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SAN ANTONIO, TX 78205
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PHONE: 210.299.4522
FAX: 210.299.4525
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
ROGER G. MENDEZ, P.E. 93809
ON 06/03/2016

No.	DATE	DESCRIPTION

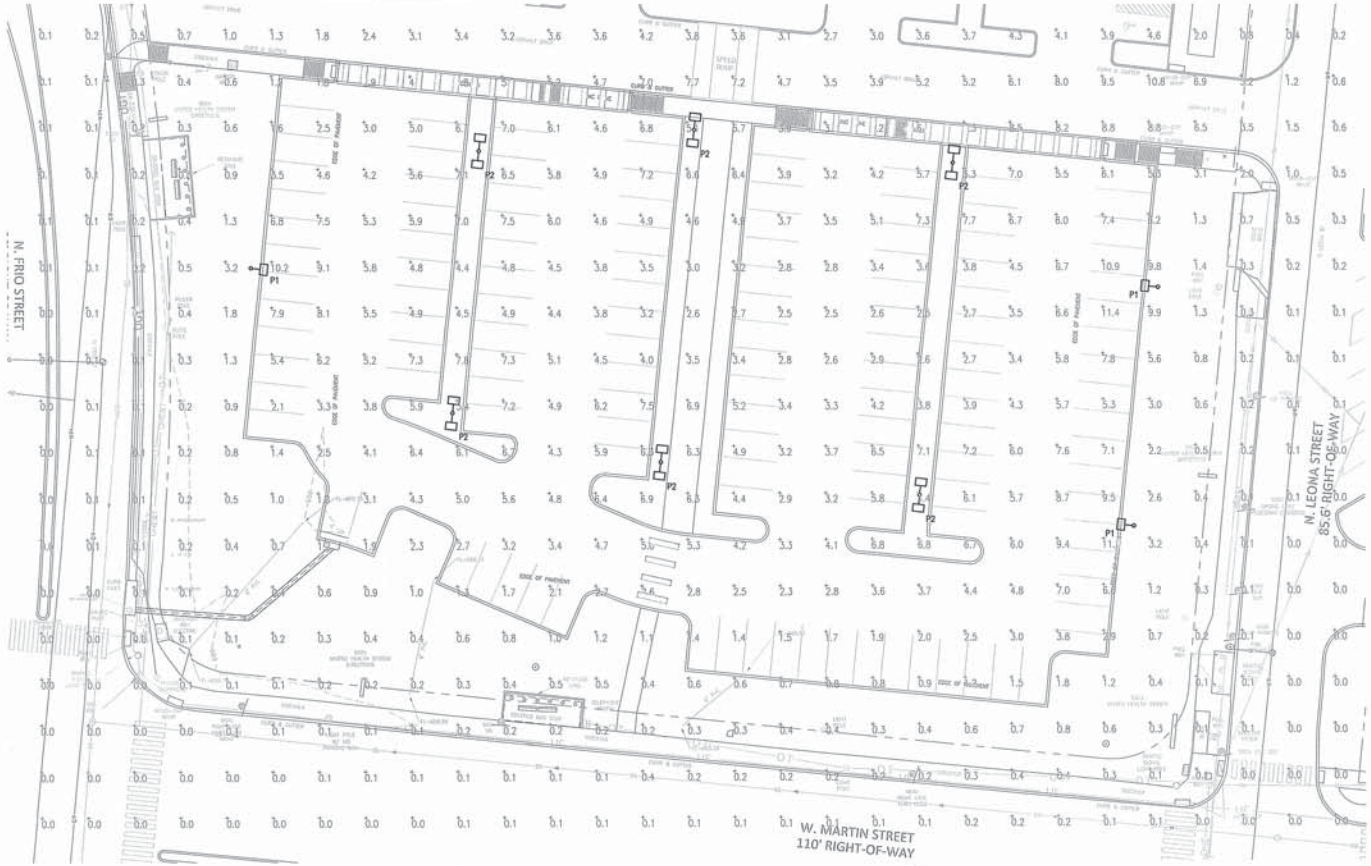
ROBERT B. GREEN
DOWNTOWN CAMPUS
ELECTRICAL ONE
LINE RISER DIAGRAM

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-3

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

PM	M	E	P	CAD
RGM	--	MG	--	JH/RAM/HC

CALCULATION SUMMARY							
LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
ALL POINTS AT GRADE	ILLUMINANCE	FC	1.87	11.4	0.0	N.A.	N.A.
PARKING LOT SUMMARY	ILLUMINANCE	FC	4.63	11.4	0.7	6.61	16.29



1 SOUTH VISITOR PARKING SITE PLAN

SCALE: 1/20" =1'-0"

NORTH

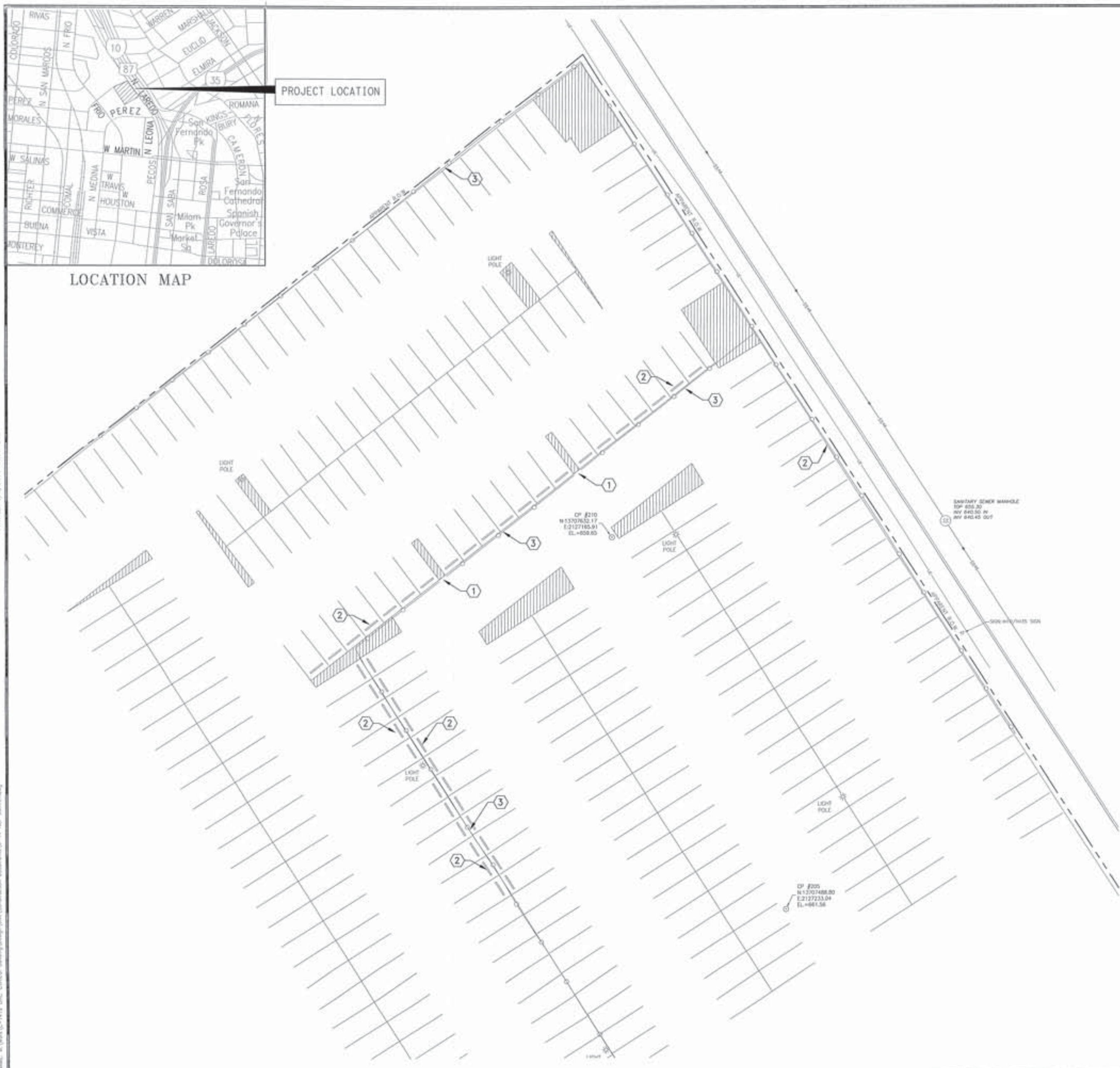
RGM ENGINEERING
TEXAS REGISTERED ENGINEERING FIRM F-10487
700 N. ST. MARY'S SUITE 1225
SAN ANTONIO, TX 78205
WWW.RGMENGINEERING.NET
PHONE: 210.299.4522
FAX: 210.299.4525
THE SEAL APPEARING ON THIS DRAWING WAS AUTHORIZED BY
ROGER D. MENDEZ, P.E. 93809
ON 06/03 ,2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
SOUTH VISITOR
PARKING PLAN

DESIGNED BY: RGM
DRAWN BY: RGM
APPROVED BY: RGM
DATE: MAY 2016
JOB NO.: C-1419
SHEET: E-5

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
2073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



SYMBOLS:

TREE		MANHOLE STORM	
SIGN		CLEAN OUT	
LIGHT POLE		GUARD POST	
FIRE HYDRANT		WATER METER	
SEWER MANHOLE		COLUMN	
IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE	
WATER VALVE		TELEPHONE PEDESTAL	
GAS VALVE		SHRUB	

KEY NOTES

1. EXISTING FENCE OPENING.
2. EXISTING CAR STOP (TYPICAL).
3. EXISTING 6' CHAINLINK FENCE.

NOTE

THE SITE SURVEY IS A PARTIAL AREA OF THE ROBERT B. GREEN DOWNTOWN CAMPUS NORTH EMPLOYEE PARKING. THE CONTROL DEPICTED HEREON IS AN EXTENSION OF THAT CONTROL ESTABLISHED BY BAIN MEDINA BAIN INC. FOR THIS AREA SURVEY. THIS AREA SURVEY DEPICTS SURFACE IMPROVEMENTSONLY. THE LOCATION OF EXISTING UTILITIES DEPICTED, IF ANY, ARE APPROXIMATE ONLY. THE USER SHALL NOTIFY ALL LOCAL UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION IN THIS AREA.

NORTH

AREA SURVEY

SCALE: 1" = 20'-0"

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED PROFESSIONAL ENGINEER

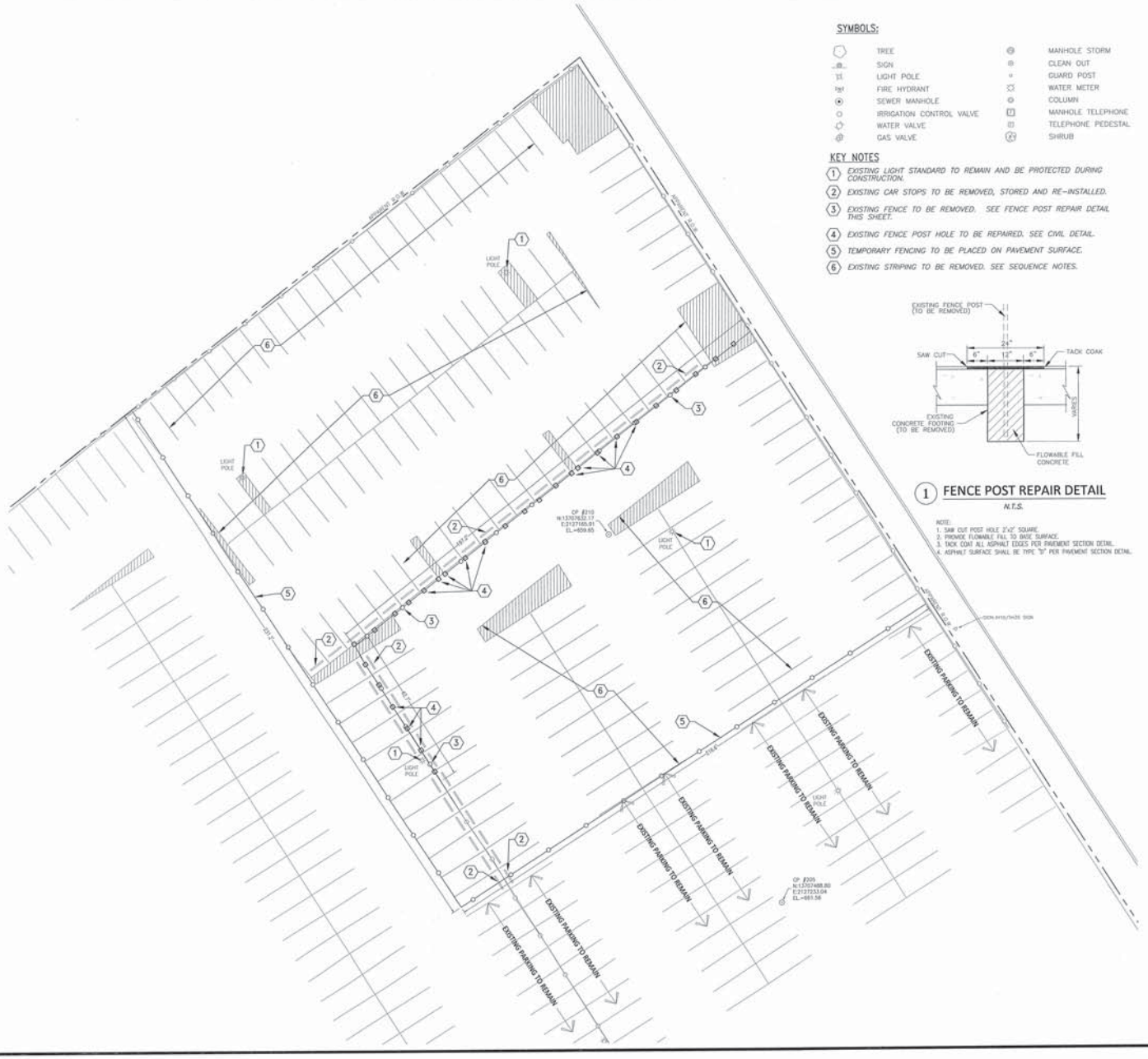
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
NORTH EMPLOYEE PARKING
AREA SURVEY

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1406
SHEET	C-14



SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

KEY NOTES

1. *EXISTING LIGHT STANDARD TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.*
2. *EXISTING CAR STOPS TO BE REMOVED, STORED AND RE-INSTALLED.*
3. *EXISTING FENCE TO BE REMOVED. SEE FENCE POST REPAIR DETAIL THIS SHEET.*
4. *EXISTING FENCE POST HOLE TO BE REPAIRED. SEE CIVIL DETAIL.*
5. *TEMPORARY FENCING TO BE PLACED ON PAVEMENT SURFACE.*
6. *EXISTING STRIPING TO BE REMOVED. SEE SEQUENCE NOTES.*

1 FENCE POST REPAIR DETAIL

N.T.S.

NOTE:
1. SAW CUT POST HOLE 2'x2' SQUARE.
2. PROVIDE FLOWABLE FILL TO BASE SURFACE.
3. TACK COAT ALL ASPHALT EDGES PER PAVEMENT SECTION DETAIL.
4. ASPHALT SURFACE SHALL BE TYPE "D" PER PAVEMENT SECTION DETAIL.

DEMOLITION NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES. (NO SEPARATE PAY ITEM).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
5. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
7. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION

SAN ANTONIO WATER SYSTEM (SAWS)	233-2010
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-344-8377

9. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
10. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE REPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
11. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
12. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
13. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING AND TREE PROTECTION FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND CURB LINE (OR EDGE OF PAVEMENT) FOR ALL VEHICULAR ROADWAYS AND PARKING AREAS FOR REVIEW BY ARCHITECT, LANDSCAPE ARCHITECT, AND OWNER'S REPRESENTATIVE. ARCHITECT MAY DIRECT ADJUSTMENT TO BUILDING OR PAVING ORIENTATION, EXACT LOCATION, OR ALIGNMENT AS MAY BE REQUIRED TO FACILITATE VEHICULAR ACCESS AND/OR TO MINIMIZE DISTURBANCE TO NATURAL SITE ELEMENTS.

GENERAL SEQUENCE OF WORK NOTES:

1. INSTALL NEW TEMPORARY FENCING TO THE LIMITS SHOWN.
2. REMOVE EXISTING FENCING AND CONCRETE CAR STOPS. SALVAGEABLE MATERIAL SHALL BE STORED ON SITE AT A LOCATION DESIGNATED BY THE OWNER.
3. CONTRACTOR SHALL REPAIR PAVEMENT AT FENCE POST HOLES. REPAIR HOLES PER CIVIL DETAIL THIS SHEET.
4. CONTRACTOR SHALL CRACK SEAL WITHIN THE TEMPORARY FENCED AREA IN ACCORDANCE WITH COSA ITEM 407.
5. TEMPORARY FENCED AREA SHALL BE SEAL COATED IN ACCORDANCE WITH COSA ITEM 407. SEE CIVIL DETAIL.
6. INSTALL NEW CHAINLINK FENCING. SEE CHAIN LINK FENCE DETAILS.
7. RE-STRIPE PARKING AREA. PAINT STRIPE SHALL CONFORM TO PROJECT SPECIFICATIONS.
8. INSTALL SALVAGED CAR STOPS. PROVIDE ADDITIONAL IF REQUIRED.
9. REMOVE TEMPORARY FENCING AND PERFORM GENERAL CLEAN UP.

NORTH

DEMOLITION PLAN

SCALE: 1" = 20'-0"

STATE OF TEXAS
CARL BAIN
56996
REGISTERED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 6/3/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
NORTH EMPLOYEE PARKING
DEMOLITION PLAN

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-15

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

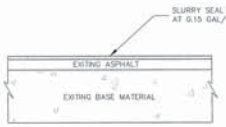
SYMBOLS:

	TREE		MANHOLE STORM
	SIGN		CLEAN OUT
	LIGHT POLE		GUARD POST
	FIRE HYDRANT		WATER METER
	SEWER MANHOLE		COLUMN
	IRRIGATION CONTROL VALVE		MANHOLE TELEPHONE
	WATER VALVE		TELEPHONE PEDESTAL
	GAS VALVE		SHRUB

LEGEND

SLURRY SEAL

FENCE EXISTING / PROPOSED



(1) SLURRY SEAL DETAIL
N.T.S.

NOTE:
1. SLURRY SEAL SHALL CONFORM TO THE PROVISION OF COSA ITEM No. 407 FOR TYPE I SLURRY SEAL.
2. CONTRACTOR SHALL CRACK SEAL PRIOR TO SLURRY SEAL. CRACK SEALANT SHALL BE A 'IS-M' MODIFIED POLYMER. CRAFCO SEALANT OR APPROVED EQUAL.

GENERAL SEQUENCE OF WORK NOTES:

1. INSTALL NEW TEMPORARY FENCING TO THE LIMITS SHOWN.
2. REMOVE EXISTING FENCING AND CONCRETE CAR STOPS. SALVAGEABLE MATERIAL SHALL BE STORED ON SITE AT A LOCATION DESIGNATED BY THE OWNER.
3. CONTRACTOR SHALL REPAIR PAVEMENT AT FENCE POST HOLES. REPAIR HOLES PER CIVIL DETAILS.
4. CONTRACTOR SHALL CRACK SEAL WITHIN THE FENCED AREA IN ACCORDANCE WITH COSA ITEM 407.
5. FENCED AREA SHALL BE SEAL COATED IN ACCORDANCE WITH COSA ITEM 407. SEE CIVIL DETAIL.
6. INSTALL NEW CHAINLINK FENCING. SEE CHAIN LINK FENCE DETAILS.
7. RE-STRIPE PARKING AREA. PAINT STRIPE SHALL CONFORM TO PROJECT SPECIFICATIONS.
8. INSTALL SALVAGED CAR STOPS. PROVIDE ADDITIONAL IF REQUIRED.
9. REMOVE TEMPORARY FENCING AND PERFORM GENERAL CLEAN UP.

KEY NOTES

1. *EXISTING LIGHT STANDARD TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.*
2. *RE-INSTALLED CAR STOPS, SET 2.0' FROM FENCE. SEE CIVIL DETAILS.*
3. *NEW RELOCATED FENCE. SEE CHAIN LINK FENCE DETAILS.*
4. *PROVIDE 5.0' FENCE OPENING. NO GATE REQUIRED.*
5. *PARKING AREA TO BE POWER BROOMED, CRACK SEALED AND SLURRY SEALED. SEE DETAIL 1 THIS SHEET.*
6. *TYPICAL 4" STRIPE. SEE SPECIFICATIONS AND CIVIL DETAILS.*

NORTH

STRIPING PLAN
SCALE: 1" = 20'-0"

STATE OF TEXAS · CARL BAIN · 56996 · REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/30/2016

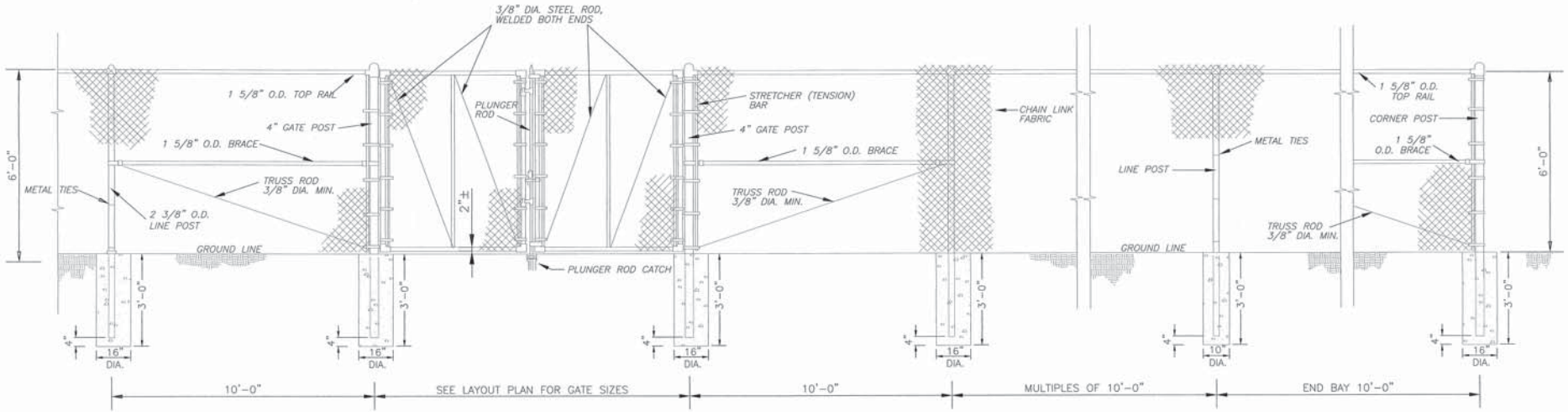
No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
NORTH EMPLOYEE PARKING
STRIPING PLAN

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-16

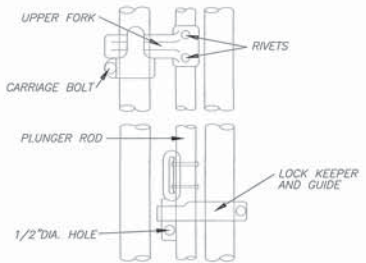
PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7233
TBPE: F-1712 / TBPLS: 10020900



CHAIN LINK FENCE ELEVATION

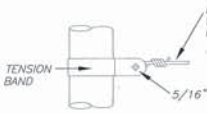
INSTALL CHAINLINK FABRIC MAXIMUM ½" ABOVE FINISHED GROUND.



ELEVATION

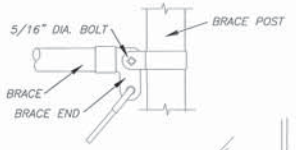
PLAN AT FORK

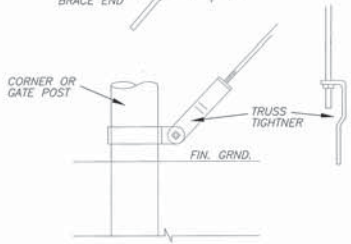
PLAN AT LOCK KEEPER



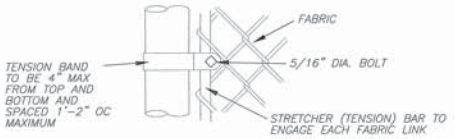
WIRE BAND DETAIL

PLAN AT BANDS

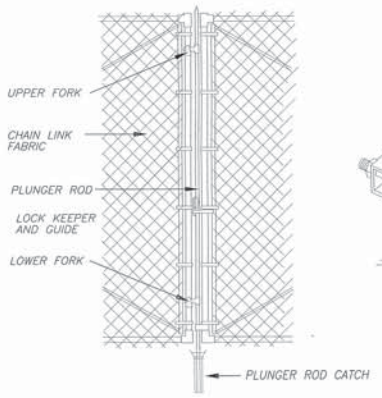




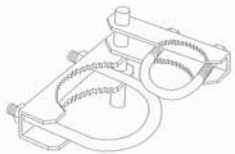
DETAIL OF TRUSS ATTACHMENTS AT POSTS



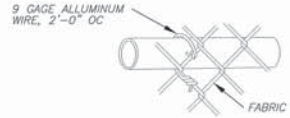
BAND AT STRETCHER BAR



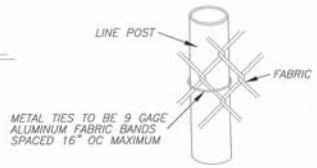
ELEVATION



180° INDUSTRIAL HINGE

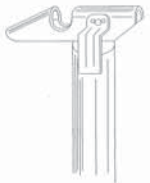


BRACE AND TOP RAIL WIRE TIES



COLUMN WIRE TIES

PLUNGER ROD CATCH



GATE KEEPER

NOTES FOR 6 FOOT FENCE:

1. INSTALL CHAINLINK FABRIC MAXIMUM ½" ABOVE FINISHED GROUND.
2. CHAINLINK FABRIC SHALL BE 9 GAGE WITH KNUCKLED ENDS.
3. UNLESS NOTED CONCRETE FOR POSTS SHALL BE CLASS "A" (3000 PSI IN 28 DAYS).
4. NO VEHICULAR OR PEDESTRIAN GATES ARE REQUIRED. NON FENCED OPENINGS (5.0' IN WIDTH) WILL BE PROVIDED.

STATE OF TEXAS — CARL BAIN — 56996 — REGISTERED — PROFESSIONAL ENGINEER

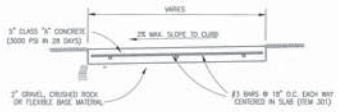
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON 06/01/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
CHAINLINK FENCE
DETAILS

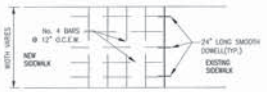
DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-17

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



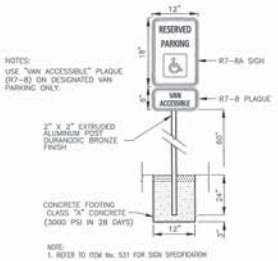
NOTE:
1. EXPANSION JOINTS SHALL NOT EXCEED 50 L.F. SEE SPECIFICATIONS.
2. CONTRACTION JOINT SPACING TO EQUAL WIDTH OF SIDEWALK. SEE SPECIFICATIONS.

(1) CONCRETE SIDEWALK DETAIL
N.T.S.



NOTE:
1. PROVIDE #4 SMOOTH DOWELLS AT 24" O.C. (MINIMUM OF 2 DOWELLS PER SIDE).

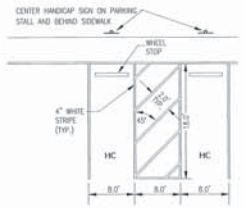
(2) CONCRETE SIDEWALK JOINT DETAIL
N.T.S.



NOTES:
USE "VAN ACCESSIBLE" PLAQUE (R7-8) ON DESIGNATED VAN PARKING ONLY.

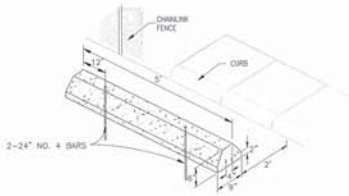
NOTE:
1. REFER TO ITEM No. 531 FOR SIGN SPECIFICATION

(3) HANDICAP SIGN DETAIL
N.T.S.



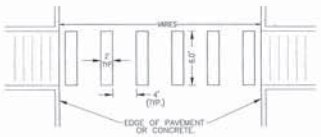
1. PAINT STRIPE SHALL BE 4" WHITE AND 8'-0" O.C. SEE PROJECT SPECIFICATIONS.
2. PRECAST WHEEL STOP 6"x5' AMERICAN No. CB06 OR APPROVED EQUAL.
3. WHEEL STOP SHALL BE CENTERED IN PARKING STALL AND SET 2.0' FROM CURB.

(4) TYPICAL PARKING STRIPE DETAIL
N.T.S.



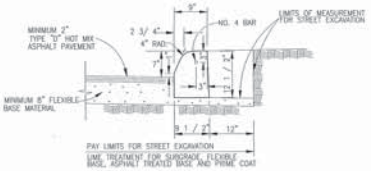
1. AMERICAN No. CB06 PRECAST WHEEL STOP OR APPROVED EQUAL. INSTALL AS SHOWN IN TYPICAL PARKING STRIPE DETAIL.

(5) TYPICAL WHEEL STOP
N.T.S.



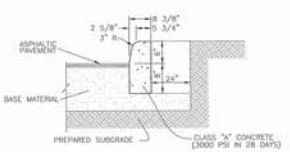
1. CROSSWALKS STRIPING LINES SHALL BE WHITE.
2. CROSSWALK STRIPING TO BE CENTERED BETWEEN EDGE OF PAVEMENT OR CONCRETE AREAS.
3. A MINIMUM OF 6 CROSSWALK STRIPES WILL BE INSTALLED ON 30' PAVEMENT.

(6) CROSS WALK STRIPING DETAIL
N.T.S.



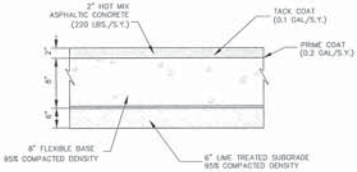
1. EXPANSION JOINTS AT 50'-0" AND SHALL EXTEND THE FULL DEPTH OF CURB.
2. DUMMY JOINTS SHALL BE 10' INTERVALS AND SHALL BE ¼" DEEP THE FULL CURB PATTERN.
3. PROVIDE EXPANSION JOINT AT ALL CURB TIE-INS.

(7) STANDARD COSA CURB DETAIL
FOR PUBLIC STREETS N.T.S.



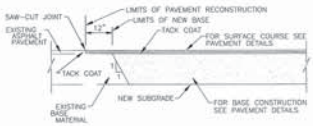
1. EXPANSION JOINTS AT 50'-0" AND SHALL EXTEND THE FULL DEPTH OF CURB.
2. DUMMY JOINTS SHALL BE 10' INTERVALS AND SHALL BE ¼" DEEP THE FULL CURB PATTERN.
3. PROVIDE EXPANSION JOINT AT ALL CURB TIE-INS.

(8) STANDARD CONCRETE CURB DETAIL
FOR NEW PARKING LOTS NTS

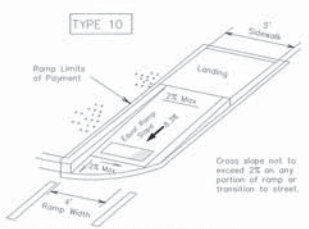


PAVEMENT SECTION CONFORMS TO THE RECOMMENDATIONS PROVIDE BY THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY ARIAS & ASSOCIATES JOB No. 2013-479 DATED OCTOBER 31, 2013.

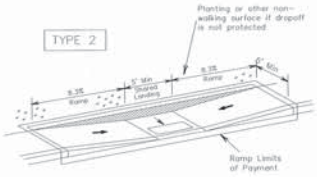
(9) LIGHT-TRAFFIC ASPHALT PAVEMENT SECTION DETAIL



(10) PAVEMENT JUNCTION DETAIL
N.T.S.

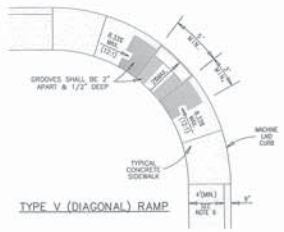


DIRECTIONAL RAMP WITHIN RADIUS
(Sidewalk adjacent to curb)

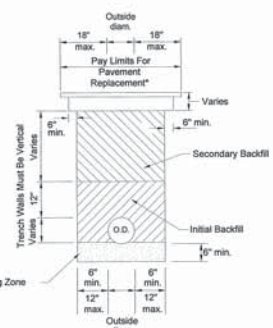


PARALLEL CURB RAMP
(Use only where water will not pond in the landing.)

(11) SIDEWALK H/C RAMP DETAIL
N.T.S.

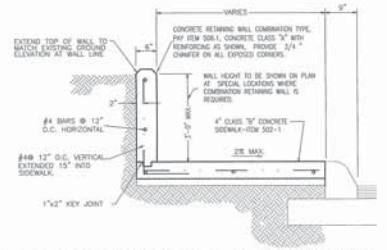


TYPE V (DIAGONAL) RAMP



*TOP 2" WILL BE HOT MIX ASPHALT FOR MILL AND OVERLAY OF STREET. SEE C-1.0 FOR OVERLAY LIMITS

(15) TYPICAL TRENCH DETAIL
N.T.S.



(12) CONCRETE RETAINING WALL - COMBINATION TYPE
ITEM 506 N.T.S.

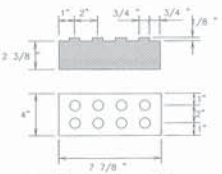
General Notes

Concrete paver units shall meet all requirements of ASTM C-936, C-33, and shall be laid in a two by two unit basket weave pattern, unless shown otherwise in the plans.

Concrete paver units shall have a truncated dome top surface for detectable warning to pedestrians.

Concrete paver unit color for the ramp shall be a contrasting color to the adjacent surfaces. The color of the concrete paver units shall be shown elsewhere in the plans. (Adjacent surfaces include side flares).

Concrete paver units shall be saw cut only and any cut unit shall be not less than 25 percent of a full unit.



Concrete paver with truncated dome surface

(13) TRUNCATED DOME DETAIL
N.T.S.

(14) ONE WAY SIGN DETAIL
N.T.S.

No oral approval on this document was authorized by CARL BAIN
P.E. 56996 ON
06/07/2016

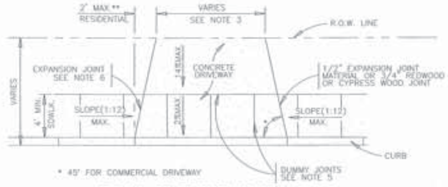
No.	DATE	DESCRIPTION

ROBERT B. GREEN DOWNTOWN CAMPUS

CIVIL DETAILS I

DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET: C-18

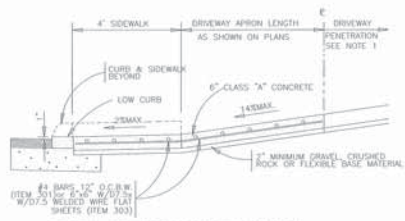
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900



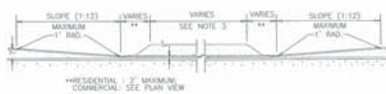
TYPICAL DRIVEWAY PLAN VIEW
WITH SIDEWALK ABUTTING CURB

CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 502-2.
   B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503-1. 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE
   C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503-2 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. PROPOSED DRIVEWAYS ARE TO MATCH EXISTING SIZES BUT ARE NOT TO EXCEED 30' AT THE PROPERTY LINE, UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER.
4. FOR LOCATION OF THE PROPOSED SIDEWALK SEE PLANS. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL BE A MINIMUM OF 4' WIDE AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL BE A MINIMUM OF 4' WIDE AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL BE A MINIMUM OF 6' WIDE WHEN LOCATED AT THE BACK OF CURB.
5. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.

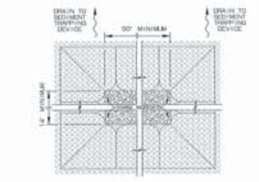


TYPICAL COMMERCIAL DRIVEWAY SECTION
WITH SIDEWALK ABUTTING CURB ITEM 502-3



CURB PROFILE AT DRIVEWAY
WITH SIDEWALK ABUTTING CURB

(14) COMMERCIAL DRIVEWAY DETAILS
N.T.S.



PLAN

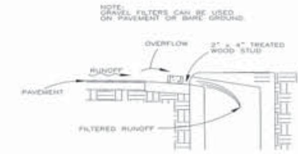
PROFILE

GENERAL NOTES

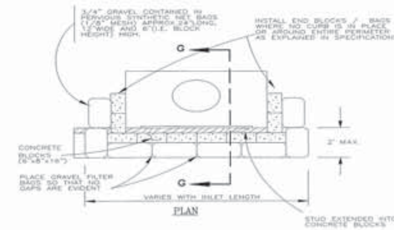
1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

(15) CONSTRUCTION EXIT - TYPE 1
N.T.S.

NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

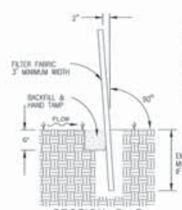


SECTION G-G



PLAN

(16) CURB INLET GRAVEL FILTER
N.T.S.



SECTION C-C

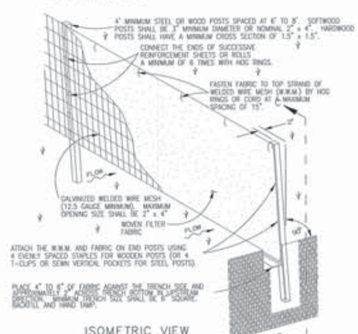
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.



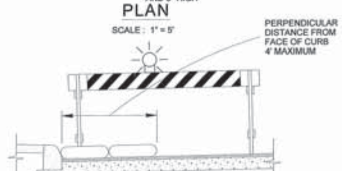
ISOMETRIC VIEW

(17) TEMPORARY SEDIMENT CONTROL FENCE
N.T.S.

3 / 4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS (1 / 8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH

PLAN
SCALE : 1" = 5'

PERPENDICULAR DISTANCE FROM FACE OF CURB 4' MAXIMUM



ELEVATION
SCALE : 1" = 5'

NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

(18) GRAVEL FILTER BAGS
N.T.S.

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS

CIVIL DETAILS II

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-19

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
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TBPE: F-1712 / TBPLS: 10020900

PRINTED: 6/3/2016 @ 11:45AM
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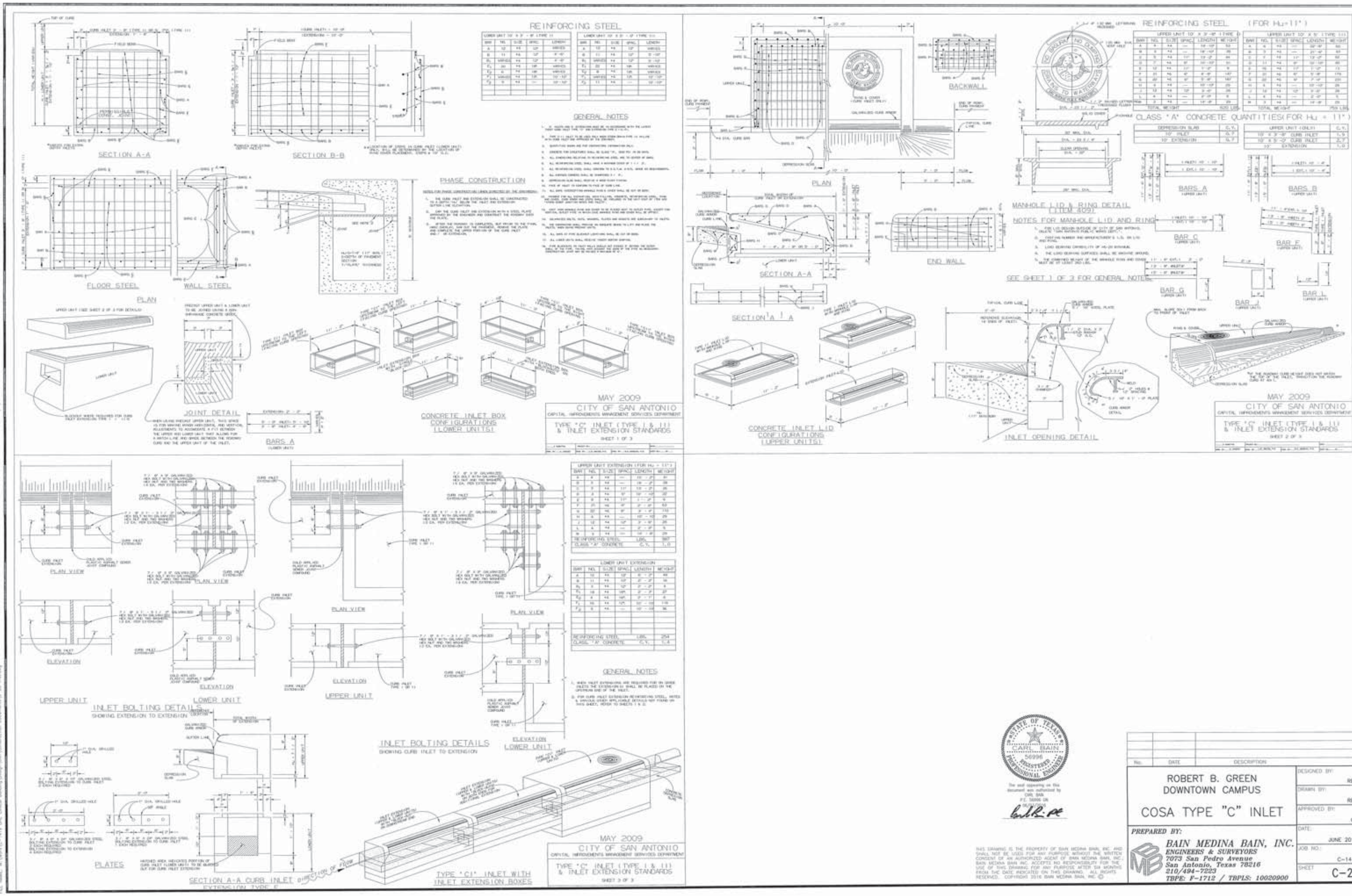

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JOINT DETAIL
BARS A
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MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
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MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
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TYPE "C1" INLET WITH INLET EXTENSION BOXES
MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
SHEET 3 OF 3
STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER
The seal appearing on this document was authorized by CARL BAIN P.E. 56996 ON
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No.
DATE
DESCRIPTION
ROBERT B. GREEN
DOWNTOWN CAMPUS
COSA TYPE "C" INLET
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900
DESIGNED BY: REM
DRAWN BY: REM
APPROVED BY: CB
DATE: JUNE 2016
JOB NO.: C-1419
SHEET C-20

TRAFFIC NOTES

TRENCHING / EXCAVATING

The following notes shall apply to excavations of trenches or pits that are located in the pavement or are within six (6) feet of the edge of roadway:

1.) Trench walls shall not be closer than three (3) feet from the edge of the traveled way at any stage of construction.
2.) Traffic control devices shall be in place before starting any excavation.
3.) Trenches or pits will not be permitted to be bridged by steel plates and open to traffic unless they are temporarily backfilled to finished street grade.
4.) For pits or trenches along or in a roadway that are going to be left open over night that are zero to fifty (0 - 50) feet in length, the following applies. GUARD RAIL OR CONCRETE BARRIER SHALL BE USED.
5.) For pits or trenches along or in roadway that are going to be left open over night and are longer than 50 feet in length. CONCRETE BARRIERS MUST BE USED.
6.) Plastic construction fencing shall be required for any trench or pit left open over night.
7.) When using any guardrail or concrete barrier, protected end must be used as per the TEXAS-M.U.T.C.D.
8.) For vertical drop-offs greater than two (2) feet along roadway, low profile concrete with appropriate end protection must be installed.
9.) All concrete barriers placed on City R.O.W shall be low profile. No high profile barriers will be allowed.

REFLECTIVE SHEETING

The reflectorized white and reflectorized orange stripes for channelizing devices such as on barricade drums and vertical panels shall be constructed of reflective sheeting meeting the color and retro-reflectivity requirements of high intensity, unless otherwise specified in the plans.

MAINTENANCE

1.) All traffic signs shall be kept in proper position, clean and legible at all times. Damaged barricades, signs, and other traffic control devices shall be replaced without undue delay.
2.) To ensure adequate maintenance, a suitable schedule for inspection, cleaning, and replacement of barricades, lights, and signs shall be established.
3.) Special attention and necessary action shall be taken to see that weeds, trees, shrubbery and construction materials do not obscure the face of any sign or barricades.

TRAINING

Each person whose actions affect maintenance and construction zone safety, from the upper-level management personnel through construction and maintenance field personnel should receive training appropriate to the job decision each individual is required to make. Only those individuals who are qualified by means of adequate training in safe traffic control practices and have a basic understanding of the principles established by applicable standards and regulations, including those of the TEXAS M.U.T.C.D. should supervise the selection, placement, and maintenance of traffic control devices in maintenance and construction areas.

SPECIAL EVENTS BARRICADING

All Type I, (8') barricades used for special events (Dome, Runs, Walks, Parades etc.) shall be a minimum of 42" high and 96" wide. Any necessary signs will require proper sign stands.

USE OF CITY R.O.W.

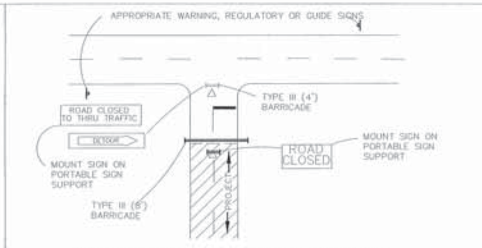
The City of San Antonio reserves the right to allow contracting and barricading sub-contractors to use the City's R.O.W. The City also reserves the right to advise contractors and barricading sub-contractors to remove stored or unused traffic control devices from the City of San Antonio R.O.W. It is the barricading sub-contractor's responsibility to remove any traffic control device from City's R.O.W. when instructed to do so by a City representative.

CLOSURE DIAGRAMS

TYPICAL INTERSECTING STREET CLOSURE FOR TWO LANE STREETS

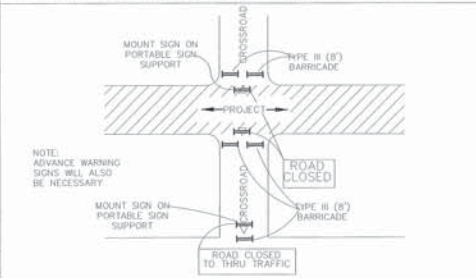
NOTE:
ALL SIGNS WILL BE MOUNTED ON SIGN SUPPORTS ONLY

JUNE 2005
CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 1 OF 4



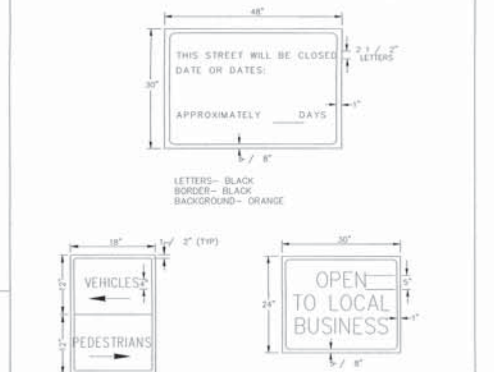
PROJECT LIMITS FOR CLOSED ROADWAY

BARRICADES SHALL BE ERECTED COMPLETELY ACROSS ROADWAY. CHANNELIZING DEVICES MAY BE DRUMS, VERTICAL PANELS OR CONES AS SPECIFIED IN THE PLANS



NOTE:
ADVANCE WARNING SIGNS WILL ALSO BE NECESSARY

CROSS STREET SIGNING AND BARRICADING TOTALLY CLOSED



LETTERS- BLACK
BORDER- BLACK
BACKGROUND- ORANGE

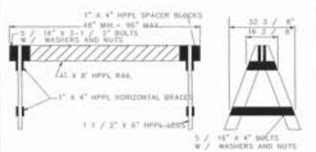
LETTERS- BLACK
BORDER- BLACK
BACKGROUND- ORANGE
SPACING-3 SIGNS PER BLOCK

DIRECTION OF ARROWS ARE REVERSIBLE

LETTERS- WHITE
BORDER- WHITE
BACKGROUND- BLUE REFLECTIVE

JUNE 2005
CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 2 OF 4

TYPE I BARRICADE



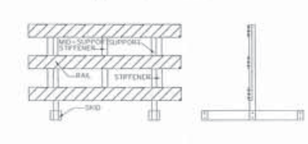
1.) Only the following Type I barricade shall be used in the City of San Antonio Right-Of-Way:
- A. 1" x 8" plastic rail with 2" x 6" wooden legs.
- B. 1" x 8" wooden rail with plastic legs.
- C. 1" x 8" wooden rail with 2" x 6" wood legs.
- D. No screws allowed for assembly of A-legs or rail.
- E. Warning lights will be used as directed by the Traffic Engineer.
- F. All Type I (4') barricades will be a minimum of 36" high and 60" wide. (For Construction Use Only)
- G. All Type I (8') barricades with wooden legs shall be 2" X 6" wood only.
- H. All Type I (4') barricades with wooden legs shall be 1" X 8" wood only.

2.) Type I Barricades shall not be used for partial and total street closures in construction work zones. Only Type III barricades shall be used for this purpose.

3.) Warning lights shall not be mounted on Type I barricades.

(See TxDOT BC-03 Sheets for specific construction information)

Type III BARRICADE



1.) Only the following Type III barricade shall be used in the City of San Antonio Right-Of-Way.
- A. Hollow polyvinyl or fiberglass tubing post with 1" X 8" wooden rails.
- B. Hollow polyvinyl or fiberglass tubing post with plastic rails.
- C. Skids must be wood or solid plastic only.
- D. Warning lights shall not be mounted on Type III barricades.

(See TxDOT BC-03 Sheets for specific construction information)

TEMPORARY MARKINGS

1.) Solid double yellow painted lines shall be installed for temporary division of traffic or construction duration longer than five (5) days, with repainting to occur once monthly or at the discretion of the Traffic Engineer. (All cost of upkeep will be at the contractor's expense.)

2.) Solid double yellow tabs, or V/P panels shall be installed for temporary division of traffic for construction duration less than five (5) days, with re-tabbing to occur at the discretion of the Traffic Engineer.
NAILS SHALL NOT BE USED TO FIX TABS TO CEMENT OR BASE.
(All cost of upkeep will be at the contractor's expense.)

(See TxDOT BC-03 Sheets for specific construction information.)

TEMPORARY CONCRETE BARRIER

1.) All concrete barriers placed on City R.O.W. shall be low profile.
2.) No high profile barriers will be allowed.
3.) Reflectors will be required on each concrete barrier.

(See TxDOT BC-03 Sheets for specific construction information)

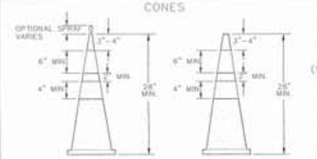
PLASTIC DRUMS

1.) Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
2.) Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
3.) The Engineer/Inspector shall provide written notice to the Contractor regarding the replacement of drums or other traffic control devices. The Contractor shall have a maximum of 24 hours to replace any plastic drums or other traffic control devices identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.
4.) Each drum must have a 40 lb. rubber or plastic snap on.
5.) No signs larger than 18" X 24" will be allowed to be mounted on plastic drums.
6.) No warning lights will be allowed to be mounted on plastic barrels.
7.) In lieu of a warning light, a yellow reflector will be acceptable.

(See TxDOT BC-03 Sheets for specific construction information)

JUNE 2005
CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS
BARRICADE AND CONSTRUCTION STANDARDS
SHEET 3 OF 4

CONES

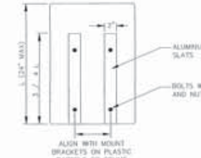


1.) Base for 28" high cones must weigh at least 9.5 lbs.
2.) Night time cones must have reflective collars.

(See TxDOT BC-03 Sheets for specific construction information)

SIGNS

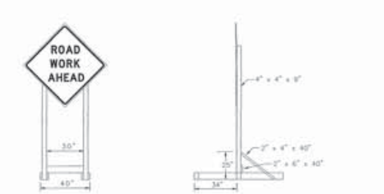
1.) A maximum of two signs can be mounted on any one Long / Intermediate Term Stationary Portable Sign Support.
2.) 48" X 48" signs shall be mounted separately on the Long / Intermediate Term Stationary Portable Sign Support.
3.) For Short Term Stationary Portable Sign Support the distance from the bottom of the vinyl sign to the exiting ground must be one (1) foot.
4.) Long / Intermediate Term Stationary Portable Signs must be made of wood or plastic only.
5.) No signs shall be mounted to any Type I, Type III, or folding barricades.
6.) Signs shall be mounted only on TxDOT approved sign supports.
7.) Detour signs will be mounted on single "D" legs w / 7' clearance from the bottom of the sign.
8.) WORK DURATION TERMINOLOGY
Long Term Stationary = occupies a location 3 or more days.
Intermediate-Term Stationary = occupies a location for overnight to 3 days.
Short Term Stationary = daylight work that occupies a location from 1 to 12 hours.
Short Duration = occupies a location up to 1 hour.
9.) Signs shall adhere to the following requirements:
- Signs placed on plastic barrels or drums shall be made of ABS plastic or plywood.
- Signs placed on skids shall be made of plywood or aluminum.
- Aluminum signs shall have a minimum thickness of 0.08".
- Plywood signs shall have a minimum thickness of 1/2".
- ABS Plastic signs shall have a minimum thickness of 0.13".
Plastic signs cannot exceed 18" by 24" in size and shall be reinforced with 2" wide, 0.08" thick aluminum slats, as depicted below:



- No other material shall be accepted without the express written approval of the Traffic Engineer.

(See TxDOT BC-03 Sheets for specific construction information)

LONG TERM / INTERMEDIATE TERM SIGN SUPPORT



1.) 48" X48" signs must be mounted independently.
2.) A maximum of two signs can be mounted on any one long term / intermediate sign support.
3.) Sand bag all sign supports.
4.) Distance from the bottom of the sign to the existing ground shall be 7'.
5.) Distance from the header barricade rail to the face of the sign panel shall be 2' min. and 10' max.
6.) Steel tripods shall not be allowed.

(See TxDOT BC-03 Sheets for specific construction information)

STATE OF TEXAS
CARL BAIN
56996
REGISTERED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS

BARRICADE DETAILS

PREPARED BY:

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	REM
DRAWN BY:	REM
APPROVED BY:	CB
DATE:	JUNE 2016
JOB NO.:	C-1419
SHEET	C-21

TREE PROTECTION & PRESERVATION NOTES

1. ALL TREES SHALL REMAIN UNLESS NOTED ON THE CITY APPROVED PLANS.

2. NO DISTURBANCE SHALL OCCUR IN THE ROOT PROTECTION ZONE AREA.

3. NO CONSTRUCTION SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.

4. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.

5. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE-INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATIONS IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR FOR GUIDANCE.

6. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.

7. NO, EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. THE ROOT PROTECTION ZONE FOR ALL PROTECTED TREES SHALL BE AN 8 FOOT DIAMETER (MIN.) ROOT PROTECTION ZONE.

8. ROOT OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED WITHIN 30 MINUTES TO PREVENT 'OAK WILT' INFECTION.

9. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST.

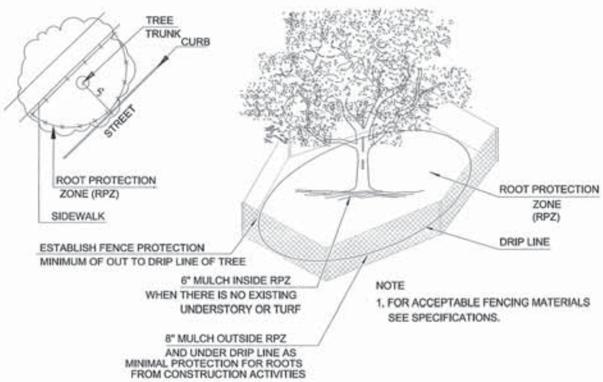
10. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CITY'S SATISFACTION.

11. TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE STREET OR ALLEY RIGHT-OF-WAY OR PAVEMENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES MAY BE NEATLY TRIMMED BY THE CONTRACTOR ONLY AFTER APPROVAL FROM THE INSPECTOR.

12. SAPLINGS, SHRUBS, OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A PROTECTED TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.

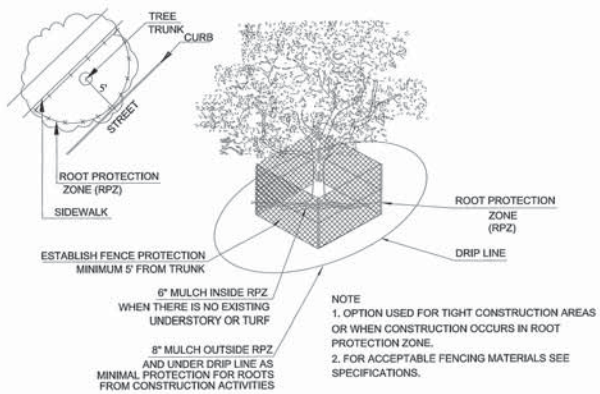
13. ALL DEBRIS GENERATED BY THE PRUNING AND REMOVAL OF THE TREES AND/OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY.

14. RELOCATION OF TREES SHALL BE DONE IN THE MONTH OF JANUARY.



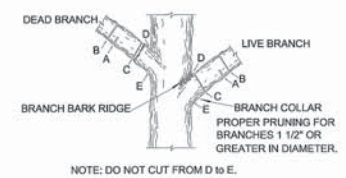
NOTE
1. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1 TREE PRESERVATION FENCING
NTS



NOTE
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

2 TREE PRESERVATION FENCING LEVEL II A
NTS



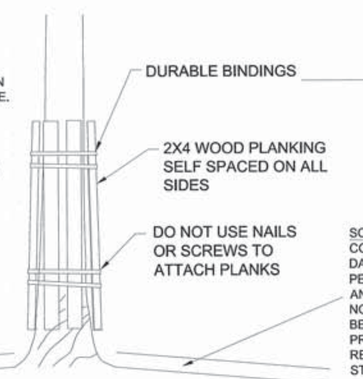
NOTE: DO NOT CUT FROM D to E.

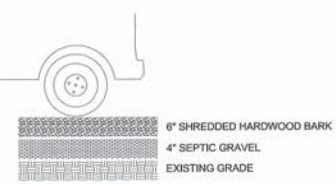
A. FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
B. SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
C. FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS
D. BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

3 BRANCH PRUNING
NTS

TRUNK PLANKING: IN SOME CASES IT MAY BE DETERMINED THAT A TREE WILL BE PRESERVED EVEN THOUGH CONSTRUCTION ACTIVITIES MUST TAKE PLACE CLOSE TO THE TRUNK OF THE TREE. IN THESE INSTANCES, APPLY SURFACE PROTECTION TO COMBAT SOIL COMPACTION (SEE SOIL COMPACTION) AND KEEP AS MUCH OF THE ROOT SYSTEM AS POSSIBLE UNDISTURBED. TO PROTECT THE TRUNK AGAINST ANY ACCIDENTAL CONTACT WITH HEAVY EQUIPMENT OR TOOLS, WHENEVER CONSTRUCTION ACTIVITIES MUST TAKE PLACE WITHIN 5 FT, SECURE WOOD PLANKING COMPLETELY AROUND THE TRUNK. THE PLANKING SHOULD BE 2X4 LUMBER, SELF-SPACED AROUND THE TRUNK, AND BOUND WITH A DURABLE WIRE OR ROPE MATERIAL. DO NOT USE ANY NAILS OR SCREWS TO AFFIX THE PLANKS AS THIS WILL DAMAGE THE TREE. AS SOON THE CONSTRUCTION WITHIN THE ROOT ZONE AREA IS COMPLETE, REMOVE THE PLANKING AND THE SURFACE PROTECTION. USE HAND TOOLS TO REMOVE MULCH OR GRAVEL SURFACE PROTECTION.





SOIL COMPACTION PREVENTION: IF WORK MUST OCCUR WITHIN THE PROTECTED ROOT ZONE, COMPACTED SOIL CAN KEEP ROOTS FROM ACCESSING WATER AND OXYGEN, CAUSING TREE DAMAGE DURING CONSTRUCTION. THE AREA OF THE PROTECTED ROOT ZONE EXPOSED TO PEDESTRIAN OR VEHICULAR TRAFFIC SHOULD BE COVERED WITH 4 INCHES OF SEPTIC GRAVEL AND 6 INCHES OF SHREDDED HARDWOOD BARK OVER THE GRAVEL IN THE AFFECTED AREA. DO NOT PLACE MULCH OR GRAVEL AGAINST THE TRUNK OF THE TREE. DO NOT USE SOIL OR COMPOST BECAUSE THESE WILL ALSO COMPACT. PINE BARK CHIPS SHOULD NOT BE USED BECAUSE THEY PROVIDE TOO MANY LARGE VOIDS WHICH ALLOW TOO MUCH AIR AND ARE EASILY DISLODGED. REMOVE THE PROTECTIVE COVERING AS SOON AS ACCESS IS NO LONGER NECESSARY. STOCKPILE OR DISPOSE OF THE MATERIALS OUTSIDE OF THE PROTECTED ROOT ZONE.

4 TRUNK PLANKING & SOIL COMPACTION PREVENTION
NTS

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
2016-05-23

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS

BENDER WELLS CLARK DESIGN

BENDER WELLS CLARK DESIGN
630 North Alamo
San Antonio, Texas 78215
T 210 692 9221 F 210 223 8582

ROBERT B. GREEN
DOWNTOWN CAMPUS
TREE PRESERVATION DETAILS

PREPARED BY:
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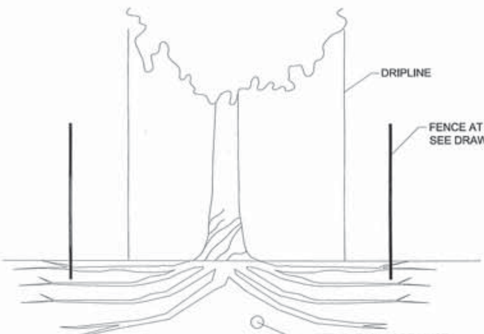
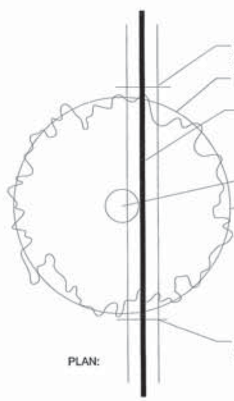
DESIGNED BY:	LCC & BW
DRAWN BY:	BV
APPROVED BY:	LCC & BW
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	TP-3

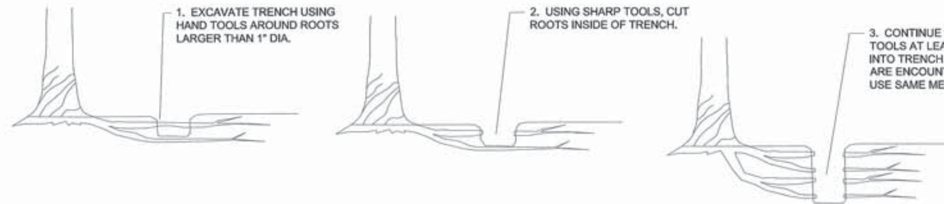


AVOID TRENCHING NEAR TREES FOR UTILITY LINES AND OTHER PIPING OR CABLING. WHEN THIS IS NOT POSSIBLE, TAKE STEPS TO MINIMIZE ROOT DAMAGE. RATHER THAN CUT ACROSS THE ROOT ZONE, LINES SHOULD BE BORED BELOW THE ROOT SYSTEM.



2 BORING UNDER ROOT PROTECTION ZONE
NTS

IF ROOTS MUST BE CUT TO COMPLETE THE OPERATION, EXCAVATE AS DESCRIBED ABOVE AND PRUNE ALL ROOTS 1 INCH OR GREATER IN DIAMETER AS THEY ARE ENCOUNTERED. THE TRENCH SHOULD BE BACKFILLED AS SOON AS POSSIBLE TO MINIMIZE ROOT EXPOSURE TO THE AIR. ROOTS THAT WILL BE LEFT EXPOSED IN THE TRENCH FOR GREATER THAN EIGHT HOURS SHOULD BE COVERED TO PREVENT DRYING AND TO PREVENT INSECT INVASION.



2 ROOT PRUNING PROCEDURE
NTS

PLAN: TRENCHING BELOW TREES

DIG THE TRENCH IN SHALLOW DEPTHS UNTIL ROOTS ARE ENCOUNTERED AND THEN EXCAVATE BELOW THE ROOTS AS THE TRENCH DEEPENS. ONCE AT THE DESIRED DEPTH, THREAD THE PIPE OR CABLE UNDER THE ROOTS AND BACKFILL THE TRENCH.

3 TRENCHING NEAR ROOTS BY HAND
NTS

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
2016-05-23

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS

BENDER WELLS CLARK DESIGN
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TREE PRESERVATION DETAILS

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210/494-7223
TBPE: F-1712 / TBPLS: 10020900

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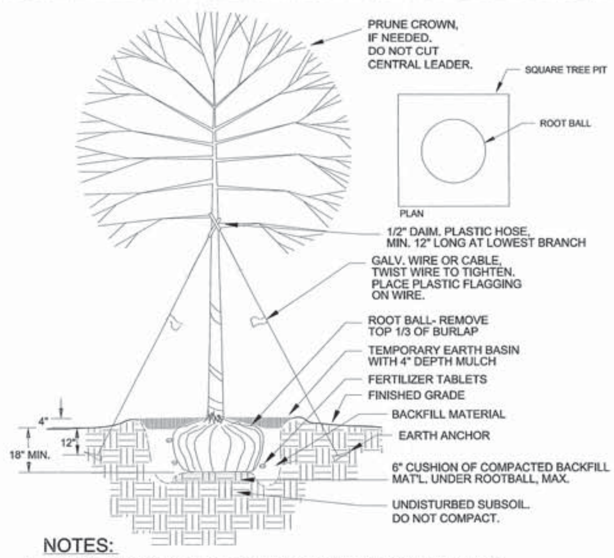
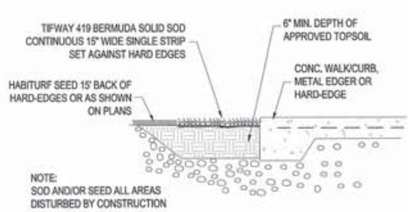


NOTES:

1. PIT SIZE: WIDTH TO BE A MINIMUM OF TWICE AS WIDE AS ROOT BALL, SQUARED CORNERS, TYPICAL. DEPTH OF PIT TO BE EQUAL TO ROOTBALL DEPTH, PLUS 6", TYP.
2. PLANTING DEPTH: TOP OF ROOT BALL ONE INCH ABOVE FINISHED GRADE.
3. BACKFILL MATERIAL: 6 PARTS APPROVED TOPSOIL, 2 PARTS COMPOSTED WOOD MULCH & 1 PART SHARP RED SAND. SOAK TO REDUCE SETTLING.
4. PLANTING TABLETS: 21 GRAM AGRIFORM TABLETS (20-10-5). USE 3 FOR 5 GAL. SIZE, 6 FOR 15 GAL. SIZE, 12 FOR 24" BOX SIZE.
5. EARTH BASIN: 12" DIAMETER LARGER THAN ROOT BALL.
6. MULCH: APPROVED UNTREATED 90% MIN. BARK BASE PRODUCT, SEE SPEC.
7. ROOT STIMULATOR: GREENLITE ROOT STIMULATOR OR EQUAL. APPLY AS PER MANUFACTURER'S INSTRUCTIONS (3 TIMES @ 2 WEEK INTERVALS)
8. STAKES: STRAIGHT 2X2 SYP TREATED WITH LP 22, 8' LENGTH, TAPER POINT.
9. STAKING HEIGHT: SUFFICIENT TO SUPPORT TRUNK IN VERTICAL, UNBENDING POSITION WHEN SECURED WITH CABLE TIES, 2' TO 3' ABOVE GRADE, TYPICAL.
10. TREE GUYING: TREES NORMALLY DO NOT NEED TO BE STAKED OR GUYED. DO SO ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT. IF REQUIRED, USE EARTH ANCHOR GUYING SUCH AS 'ARBOR BRACE', OR 'DUCKBILL' WITH ALL STAKING DONE OUTSIDE OF THE ROOTBALL. PLACE PLASTIC FLAGGING OR OTHER VISUAL MARKERS ON EACH GUY WIRE.
11. TEST ALL TREE PITS FOR DRAINAGE PER SPECIFICATIONS.

1 SECTION: TREE PLANTING
NTS



2 SECTION: TURF - SOLID SOD & SEED
NTS

GENERAL NOTES : PLANTING

A. ALL PLANT QUANTITIES SHOWN ON PLANS ARE TO BE VERIFIED BY THE LANDSCAPE CONTRACTOR. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL LABELED PLANT MATERIAL. PLANT QUANTITIES ON THE PLAN TAKE PRECEDENCE OVER QUANTITIES IN THE PLANT SCHEDULE. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

B. LANDSCAPE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PLANS AND SPECIFICATIONS AND SHALL BE RESPONSIBLE FOR THE REQUIREMENTS DICTATED THEREIN.

C. LANDSCAPE CONTRACTOR AND SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE LOCATION OF ALL UNDERGROUND UTILITIES AND EASEMENTS PRIOR TO STARTING WORK. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES AND CONTACT THE PROJECT ARCHITECT AND LANDSCAPE ARCHITECT FOR FURTHER DIRECTION.

D. ALL PLANTS MUST COMPLY WITH THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

E. NO PLANT SHALL BE PUT IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR EQUAL.

F. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE IN THE CONTAINER OR BEFORE DIGGING.

G. ALL PLANTS SHALL BE CONTAINER GROWN, UNLESS OTHERWISE NOTED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOT WRAPPING MATERIALS, CONTAINERS, ETC. MADE OF SYNTHETIC MATERIALS OR PLASTICS SHALL BE REMOVED ENTIRELY AT THE TIME OF PLANTING.

H. ALL CONTAINER GROWN STOCK SHALL BE REMOVED AND THE BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS.

I. PRIOR TO PLANTING, THE LOCATION OF ALL TREES SHALL BE STAKED IN THE FIELD FOR APPROVAL BY THE LANDSCAPE ARCHITECT, OR HIS REPRESENTATIVE. THE LOCATIONS OF SHRUB MASSES SHALL BE LIKEWISE MARKED IN THE FIELD FOR APPROVAL.

J. ALL PLANT MATERIALS SHALL BE SELECTED AT THE NURSERIES BY THE LANDSCAPE ARCHITECT, OR HIS REPRESENTATIVE, AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL UPON DELIVERY AT THE PROJECT SITE. SUCH APPROVAL DOES NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION DURING THE PROCESS OF THE WORK.

K. ALL PLANTS SHALL BE INSTALLED PER DETAILS AND THE CONTRACT SPECIFICATIONS.

L. ALL PLANTS ARE TO BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOURS AFTER PLANTING.

M. ALL FINAL GRADING, RAKING AND SHAPING OF THE TOPSOIL, AND BACKFILL OF CURBS AND EDGING SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO THE APPLICATION OF HYDROSEED OR THE INSTALLATION OF PLANTING.

N. SLOPES ON BERMS SHALL BE HELD TO 5 : 1 OR LESS, UNLESS OTHERWISE NOTED ON THE CIVIL PLANS. EXCESSIVE SLOPES ON BERMS WHICH MAY RESULT IN EROSION OR MAINTENANCE PROBLEMS SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT. BERMS SHALL BE INSTALLED IN 12" LIFTS AND COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT.

O. THE LANDSCAPE CONTRACTOR SHALL PROVIDE APPROVED TOPSOIL, BACKFILL MATERIAL, MULCH, SOIL CONDITIONERS AND OTHER AMENDMENTS AS PER THE CONTRACT SPECIFICATIONS.

P. ALL TOPSOIL, WHETHER NATIVE TO THE SITE OR BROUGHT TO THE SITE, SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS, WITH RESPECT TO CHEMISTRY AND TEXTURE, PRIOR TO PLACEMENT.

Q. TOPSOIL SHALL BE PLACED AT A MINIMUM DEPTH OF 4" AT LAWN AREAS AND AT A MINIMUM DEPTH OF 8" IN MASS PLANTED SHRUB AREAS AND CONDITIONED AS DESCRIBED IN THE SPECIFICATIONS. ANY BACKFILL MATERIAL SHALL BE COMPACTED SUFFICIENTLY TO PREVENT EXCESSIVE SETTLING THAT MAY AFFECT FINISHED GRADE OR DRAINAGE.

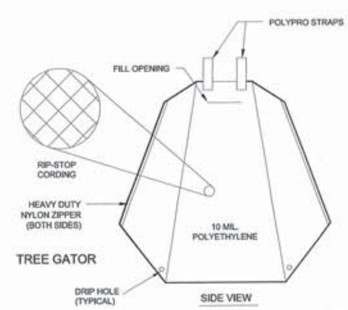
R. ALL TOPSOIL FOR TURF SHALL BE RAKED SMOOTH TO GRADE AND RESULT IN A FINISHED GRADE SET AT 1 1/2" BELOW ADJACENT CURB, SIDEWALK OR EDGING AFTER SEEDING. ALL TOPSOIL PLANTING BEDS SHALL BE RAKED SMOOTH AND RESULT IN A FINISHED GRADE SET AT 1 1/2" BELOW ADJACENT CURB, SIDEWALKS, OR EDGING AFTER MULCHING. FINAL GRADES SHALL NOT VARY MORE THAN 1/10 FOOT FROM FINISH ELEVATIONS.

S. AREAS TO BE SEEDED SHALL BE LOOSENED AND FINE RAKED TO BREAK UP LUMPS AND PRODUCE A SMOOTH EVEN GRADE, FREE FROM UNSIGHTLY VARIATIONS, RIDGES, OR DEPRESSIONS. STONES ONE INCH (1") OR LARGER, STICKS, ROOTS, OR OTHER DEBRIS WHICH MIGHT INTERFERE WITH THE FORMATION OF A FINELY PULVERIZED SEED BED AND EXPOSED DURING THIS OPERATION SHALL BE REMOVED FROM THE SITE. FINE GRADING SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT. AREA SHOWING WEED GROWTH SHALL BE SPRAYED WITH APPROVED POST-EMERGENT SPRAY, MOWED, AND CLIPPINGS REMOVED FROM LAWN AREAS PRIOR TO FINAL GRADING.

T. ALL BEDS ARE TO BE MULCHED TO A MINIMUM DEPTH OF 4" WITH AN APPROVED MULCH MATERIAL AS SPECIFIED. A SAMPLE OF THE MULCH SHALL BE DELIVERED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO DELIVERY AND INSTALLATION.

U. SPREAD APPROVED MULCH UNIFORMLY OVER BEDS, USING CARE NOT TO DAMAGE PLANTS. AFTER PLACEMENT OF MULCH, FINISHED GRADE IN THE BED SHOULD BE A MINIMUM OF TWO INCHES BELOW EDGE OF CURB, PLANTER, OR WALK, UNLESS OTHERWISE SPECIFIED.

V. THE CONTRACTOR SHALL MAINTAIN AT THE JOB SITE A SEPARATE SET OF PRINTS OF THE PROJECT FOR THE PURPOSE OF RECORDING "AS-BUILT" CHANGES AND DIAGRAMS OF THOSE PARTS OF THE WORK WHERE ACTUAL CONSTRUCTION DIFFERS FROM PLANS OR APPROVED SHOP DRAWINGS.



WATERING NOTE:
FILL TWICE A WEEK FOR THE FIRST YEAR. ONCE A WEEK FOR THE NEXT TWO YEARS. IF HOSE LENGTH IS TO GREAT TO FILL, ALAMO COLLEGES WILL PROVIDE WATER TRUCK

NOTES:
1. 10 MIL. POLYETHYLENE - UV TREATED AND REINFORCED
2. FILL OPENING ACCEPTS HOSES UP TO 3" IN DIAMETER
3. INSTALL TREEGATOR WITH FILL OPENING ON DOWNHILL SIDE OF SLOPE

DRIP TIMES:

2 HOLES	6 - 10 HOURS
3 HOLES	2 - 6 HOURS
4 HOLES	1 - 2 HOURS

3 TEMP. TREE IRRIGATION BAG
NTS

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
2016-05-23

BENDER WELLS CLARK DESIGN

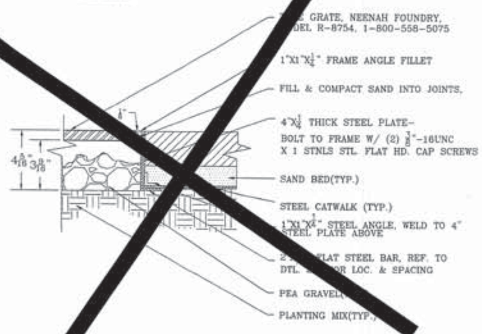
No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS

ROBERT B. GREEN
DOWNTOWN CAMPUS
TREE PLANTING DETAILS

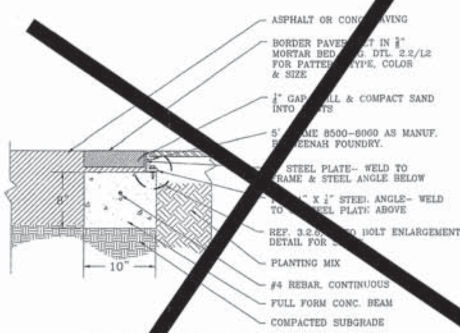
PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro Avenue
San Antonio, Texas 78216
210/494-7223
TBPE: F-1712 / TBPLS: 10020900

DESIGNED BY:	LCC & BW
DRAWN BY:	BV
APPROVED BY:	LCC & BW
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	TP-5

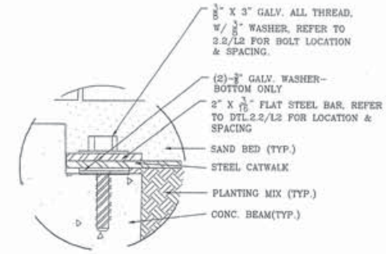
NOTES:
1. 5" FRAME 8500-6060 AS MANUFACTURED BY NEENAH FOUNDRY.
2. REMOVE CROSSBAR FROM FRAME BEFORE INSTALLATION.



3.2.4 TREE GRATE/FRAME @ PAVERS
N.T.S.

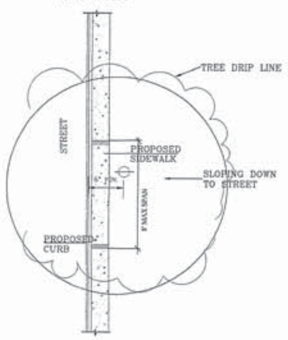


3.2.5 SECTION: PAVER @ TREE GRATE
N.T.S.



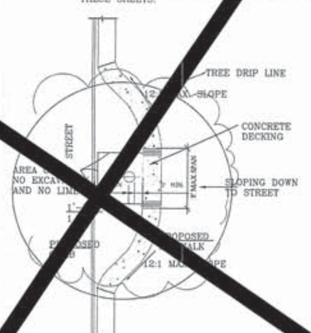
3.2.6 DETAIL: BOLT/CONC. CONNECTION
N.T.S.

AREA BENEATH PROPOSED SIDEWALKS IN THE DRIP LINE OF AN EXISTING TREE SHALL RECEIVE TREE VENTING AS PER OPTIONS ON THESE SHEETS.



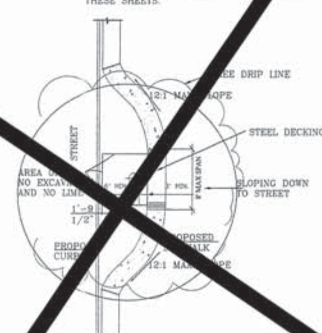
3.3 ELEVATED WALKWAY
N.T.S.

AREA BENEATH PROPOSED SIDEWALKS IN THE DRIP LINE OF AN EXISTING TREE SHALL RECEIVE TREE VENTING AS PER OPTIONS ON THESE SHEETS.



3.3.1 ELEVATED WALKWAY /CONCRETE DECKING
N.T.S.

AREA BENEATH PROPOSED SIDEWALKS IN THE DRIP LINE OF AN EXISTING TREE SHALL RECEIVE TREE VENTING AS PER OPTIONS ON THESE SHEETS.



3.3.2 ELEVATED WALKWAY /STEEL DECKING
N.T.S.

NOTE:
DESIGN STEEL PLATE SUPPORT ACCORDING TO SPECIFIED WIDTH AND LENGTH.

3.3.4 ELEVATED WALKWAY SECTION
N.T.S.

NOTE:
FOR THOSE TREES THAT DO NOT MEET THE TREE PRESERVATION ORDINANCE REQUIREMENTS PRESERVATION SHALL BE DETERMINED ON A CASE BY CASE BASIS

NOTE: FOR TREE AERATION SYSTEMS LOCATED UNDER A PRIVATE OR PUBLIC ROADWAY — THE PROJECT ENGINEER SHALL SUBMIT FOR APPROVAL, A PAVEMENT DESIGN SUPPORTED BY A GEOTECHNICAL REPORT THAT MEETS THE REQD. STRUCTURAL NUMBERS AND COMPACTION OF THE SUBGRADE, ABOVE THE PROPOSED SYSTEM OF TREE AERATION. IN ACCORDANCE WITH UDC 35-506(P) PAVEMENT STANDARDS, AND CITY OF SAN ANTONIO'S STANDARD SPECS. FOR PUBLIC WORKS CONSTRUCTION.

LAWRENCE C. CLARK
LANDSCAPE ARCHITECT
1211
2016-05-23

No.	DATE	DESCRIPTION
1	4/23/16	100% CONSTRUCTION DOCUMENTS

BENDER WELLS CLARK DESIGN
BENDER WELLS CLARK DESIGN
830 North Alamo
San Antonio, Texas 78215
T 210 692 9221 F 210 223 8582

ROBERT B. GREEN
DOWNTOWN CAMPUS
TREE PRESERVATION DETAILS
ELEVATED WALK

DESIGNED BY:	LCC & BW
DRAWN BY:	BV
APPROVED BY:	LCC & BW
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	TP-6

PREPARED BY:
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ELECTRICAL SPECIFICATIONS
DIVISION 16 – ELECTRIC

16100.02 DRAWINGS AND SPECIFICATIONS

A. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER, AND WHAT IS CALLED FOR ONE, SHALL BE AS IF CALLED FOR BY BOTH.

B. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL DESIGN, LAYOUT, AND ARRANGEMENT OF EQUIPMENT AND VARIOUS SYSTEMS. HOWEVER, BEING DIAGRAMMATIC THE DRAWINGS DO NOT NECESSARILY SHOW ALL DETAILS SUCH AS JUNCTION BOXES, PULL BOXES, WIRING, ETC. NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

C. STUDY AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND SPECIFICATIONS FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER PORTIONS OF THE WORK TO AVERT POSSIBLE INSTALLATION CONFLICTS. ADJUST ELECTRICAL WORK TO CONFORM TO ALL CONDITIONS INDICATED THEREIN. SHOULD CONFLICTS ARISE WHICH REQUIRE CHANGES IN THE CONTRACT DOCUMENTS, NOTIFY THE ARCHITECT AND OWNER. SECURE WRITTEN APPROVAL AND AGREEMENT ON NECESSARY ADJUSTMENTS BEFORE THE BIDDING.

D. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN DRAWINGS AND SPECIFICATIONS, OR BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR ERRORS ON EITHER DRAWINGS OR SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF RGM ENGINEERING FOR A DECISION BEFORE THE SPECIFIC BIDDING.

16100.05 PERMITS, FEES, TAXES AND ROYALTIES

A. ARRANGE AND PAY FOR ALL NECESSARY PERMITS, FEES, TAXES, AND ROYALTIES IN CONNECTION WITH ELECTRICAL WORK.

16100.06 CODES AND REGULATIONS

A. COMPLY WITH THE LATEST APPLICABLE REQUIREMENTS OF THE NEC, NESC, OSHA, NFPA AND THE LOCAL ELECTRICAL INSPECTION AUTHORITY WHO SHALL HAVE FINAL JURISDICTION. COMPLY ALSO WITH ALL REQUIREMENTS OF LOCAL UTILITY AND TELEPHONE COMPANIES.

REPORT TO THE ENGINEER PRIOR TO SUBMITTING BIDS, ANY PART OR PORTION OF THE ELECTRICAL DESIGN WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE APPLICABLE LOCAL OR STATE CODES OR REQUIREMENTS OF LOCAL UTILITY OR TELEPHONE COMPANIES, OTHERWISE BE HELD RESPONSIBLE TO PROVIDE INSTALLATION WHICH WILL COMPLY WITH THESE CODES AND REGULATIONS.

APPLICABLE CODES AND ORDINANCES AND LOCAL INTERPRETATIONS ARE TO TAKE PRECEDENCE WHEN THEY CONFLICT WITH, OR ARE MORE STRINGENT THAN THE ELECTRICAL DESIGN. DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHERE DESIGN IS MORE STRINGENT THAN CODES AND ORDINANCES.

16100.07 STANDARDS

A. MATERIALS AND INSTALLATION SHALL ALSO CONFORM TO LATEST STANDARDS AND PRACTICES OF THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND THE NATIONAL BUREAU OF STANDARDS.

B. THE FOREGOING RULES, STANDARDS AND REGULATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING HIGHER GRADES OF MATERIALS AND WORKMANSHIP WHICH ARE SPECIFIED HEREIN OR INDICATED ON DRAWINGS.

16100.09 PRODUCT DATA AND SUBMITTALS

A. FURNISH PRODUCT DATA AND SUBMITTALS FOR REVIEW BY THE CONSULTING ENGINEER AND OWNER PRIOR TO INSTALLATION.

B. FURNISH DETAILED AND DIMENSIONED PRODUCT DATA, SUBMITTALS, AND SHOP DRAWINGS FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT, LIGHTING FIXTURES AND LAMPS, SPECIAL EQUIPMENT, SPECIAL SYSTEMS AND SPECIAL APPARATUS WHICH ARE TO BE PROVIDED FOR INSTALLATION IN THIS WORK.

C. INCLUDE CATALOG CUTS, DIMENSIONAL AND OPERATING DATA, WIRING DIAGRAMS FOR SPECIAL SYSTEMS, AND SUCH OTHER DATA AS MAY BE REQUIRED BY RGM ENGINEERING AND OWNER. SUBMIT SAMPLES OF EQUIPMENT WHEN REQUESTED BY THE CONSULTING ENGINEER AND OWNER.

D. SUBMITTALS SHALL BE PROVIDED IN 3-RING HARD BACK BINDERS.

16100.10 MINOR DEVIATIONS AND CHANGES

A. FURNISH AND INSTALL ENTIRE ELECTRICAL INSTALLATIONS AS DESIGNED AND IN ACCORDANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS. MINOR DEVIATIONS NECESSITATED BY FIELD CONDITIONS OR EQUIPMENT BEING SUPPLIED MAY BE MADE UPON APPROVAL OF RGM ENGINEERING AND OWNER. CHANGES IN DESIGN AND INSTALLATION SHALL BE DONE IN THE MANNER PROVIDED FOR IN THE GENERAL CONDITIONS.

16100.11 CUTTING AND REPAIRING

A. PROVIDE ALL CUTTING, PATCHING CHANNELING, CORE DRILLING, ETC., IN BUILDING STRUCTURE NECESSARY FOR ELECTRICAL WORK. LOCATE HOLES TO BE DRILLED, OUTLETS, ETC., COORDINATE WORK WITH ALL OTHER TRADES ON THE JOB, AND MAKE ARRANGEMENTS FOR NECESSARY OPENINGS AND CHASES. SEAL ALL HOLES CUT FOR WIRING RUNS. NO CUTTING, CHANNELING, CORE DRILLING, ETC., SHALL BE DONE WITHOUT PRIOR APPROVAL OF THE ARCHITECT. MAKE NECESSARY REPAIRS TO FINISHED BUILDING WHERE PATCHING ON REFINISHING IS NECESSARY DUE TO ELECTRIC WORK. ACTUAL WORK INVOLVED IN THESE REPAIRS SHALL BE DONE BY SKILLED CRAFTSMEN IN THE TRADES INVOLVED.

16100.12 MATERIALS

A. FURNISH AND INSTALL ALL MATERIAL, EQUIPMENT, AND DEVICES WHICH ARE NEW, FIRST QUALITY, BEAR THE LISTED LABEL OF THE UNDERWRITERS LABORATORIES, INC. AND WHICH ARE ACCEPTED BY RGM ENGINEERING FOR INSTALLATION IN THIS PROJECT. REPLACE, IN A MANNER ACCEPTED BY THE CONSULTING ENGINEER AND PAY FOR ALL EQUIPMENT OR MATERIALS DAMAGED IN THE COURSE OF INSTALLATION OR TESTING.

BASIC BID SHALL INCLUDE MANUFACTURERS AND CATALOG NUMBERS AS SHOWN IN THESE SPECIFICATIONS, OR ON THE DRAWINGS WITH NO EQUALS, UNLESS SPECIFICALLY INDICATED. SPECIFIED MATERIALS, EQUIPMENT, AND DEVICES SHALL BE FURNISHED AND INSTALLED UNDER THE CONTRACT UNLESS CHANGED BY MUTUAL AGREEMENT BETWEEN CONTRACTOR AND THE CONSULTING ENGINEER.

SUBSTITUTE EQUIPMENT OF OTHER MANUFACTURERS WHICH IS EQUIVALENT TO OR SUPERIOR THAN THAT SPECIFIED MAY BE PROPOSED. HOWEVER, SUCH SUBSTITUTIONS MUST BE ACCEPTED IN WRITING BY THE CONSULTING ENGINEER PRIOR TO BIDDING.

IF SUBSTITUTIONS ARE NOT REQUESTED OR GRANTED, THE SPECIFIED MATERIALS AND EQUIPMENT MUST BE INSTALLED. THE DECISION OF RGM ENGINEERING REGARDING SUBSTITUTIONS SHALL BE FINAL. IT SHALL BE THE ELECTRICAL CONTRACTORS RESPONSIBILITY UNDER THIS SECTION OF THE SPECIFICATION TO NOTIFY ALL CREATED TRADES OF THE ACCEPTED SUBSTITUTIONS AND TO ASSUME FULL RESPONSIBILITY FOR ALL COSTS CAUSED AS A RESULT OF THE SUBSTITUTION. PRIOR TO START OF WORK, SUBMIT TO THE ENGINEER A COMPLETE LIST OF TYPES, MATERIALS, AND EQUIPMENT AND MANUFACTURERS OF THESE ITEMS WHICH ARE TO BE FURNISHED FOR THIS WORK.

B. COPPER WIRE MUST BE USED. ALUMINUM WIRE WILL NOT BE ACCEPTED.

C. EQUIPMENT AND MATERIALS MUST COMPLY WITH THE REQUIREMENTS OF THE UTILITY COMPANY, AND WHERE REQUIRED, SHALL BE SUBMITTED TO THEM FOR THEIR APPROVAL.

16100.15 GUARANTEE

A. FURNISH TO OWNER A FORMAL GUARANTEE COVERING ENTIRE ELECTRICAL SYSTEM, TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE OF INSTALLATION BY OWNER. DURING THIS PERIOD, PROVIDE ALL LABOR AND NEW MATERIALS WHERE REQUIRED, TO REPAIR OR REPLACE ALL DEFECTS TO THE SATISFACTION OF OWNER AT NO ADDITIONAL COST.

16100.16 FINAL ACCEPTANCE AND WORK CLOSE-OUT

A. CONTRACTOR SHALL INSPECT THE ENTIRE ELECTRICAL INSTALLATION TO ASSURE THAT ALL WORK IS COMPLETED AND ALL SYSTEMS ARE COMPLETELY OPERATIONAL BEFORE CALLING FOR A FINAL ACCEPTANCE OF THE WORK. ALL CERTIFICATES INCLUDING ACCEPTANCE OF LOCAL INSPECTION AUTHORITY MUST BE PRESENTED AT THAT TIME.

16100.19 CLEANING AND PAINTING

A. IN GENERAL, EXCEPT WHERE SPECIFIED OTHERWISE HEREIN, FINISH PAINTING OF CONDUITS, BOXES, POLES, AND EQUIPMENT WHERE SPECIFIED TO BE DONE IN FIELD, SHALL BE DONE BY OTHER TRADES UNDER ANOTHER SECTION OF THE SPECIFICATIONS. PROTECT ELECTRICAL APPARATUS, CABINETS, BOXES AND ALL OTHER EQUIPMENT NORMALLY FURNISHED ON THE JOB WITH FACTORY APPLIED FINISH, EITHER PAINTED OR GALVANIZED, DURING STORAGE AND INSTALLATION. CLEAR ALL ELECTRICAL EQUIPMENT SUCH AS LIGHTING FIXTURES, LAMPS, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, ETC., OF CONSTRUCTION DIRT, DRILL CHIPS, DEBRIS, DUST PAINT SMEARS, ETC., BEFORE COMPLETION OF WORK. CLEAN OR TOUCH-UP AND REPAINT ALL SCARS BLEMISHES, RUST SPOTS, ETC., TO ORIGINAL STATE OF FINISH.

16100.21 SCOPE OF WORK

A. WORK UNDER THIS CONTRACT COMPRISES THE PROVIDING OF ALL LABOR, MATERIAL, EQUIPMENT, TRANSPORTATION, SCAFFOLDING, RIGGING, TOOLS AND RELATED ITEMS AND SUBCONTRACT WORK FOR A COMPLETE OPERATING ELECTRICAL SYSTEM AND INCLUDES BUT IS NOT LIMITED TO:

CUTTING AND PATCHING.
SHOP DRAWINGS.
TESTING AND ADJUSTMENTS.
CLEANING AND PAINTING.
ELECTRICAL SERVICE CONDUITS.
LOW VOLTAGE FEEDERS
LIGHT AND POWER DISTRIBUTION PANELS.
LIGHTING BRANCH CIRCUIT WIRING.
CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS.
LIGHTING FIXTURES AND LAMPS.
TELEPHONE SYSTEM AS INDICATED ON PLANS.

B. ITEMS MENTIONED IN THE ABOVE SCHEDULE ARE LISTED FOR THE PURPOSE OF DESCRIBING BASIC SPECIFICATION CONTENTS AND SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM EXECUTING ANY WORK DESCRIBED THROUGHOUT THE SPECIFICATION OR INDICATED ON DRAWINGS BECAUSE OF ITS DETAILED OMISSION IN THIS SCHEDULE.

16100.22 SHOP DRAWINGS AND MANUFACTURER'S SUPERVISION REQUIRED

A. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING, PRIOR TO FABRICATION, INCLUDING ALL ACCESSORIES AND MANUFACTURER'S SUPERVISION WHERE INDICATED:

PANELS
MOLDED CASE CIRCUIT BREAKERS.
LIGHTING FIXTURES AND LAMPS.
CABLE TRAYS
SECURITY SYSTEM
FIRE ALARM

16100.23 GROUNDING

A. PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH THE NEC AND ANY STATE AND LOCAL CODE REQUIREMENTS, EVEN IF NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN NON-METALLIC RACEWAYS, EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRAL CONDUCTORS.

B. RECEPTACLES WHICH DO NOT HAVE THEIR MOUNTING YOKES CONNECTED TO RECEPTACLE GROUNDING POINT SHALL BE GROUNDED WITH A GREEN INSULATED GROUNDING JUMPER CONNECTED TO OUTLET BOX. PROVIDE A SEPARATE GROUND CONDUCTOR WITH BRANCH CIRCUIT WIRING WHEN INDICATED ON DRAWINGS OR WHEN REQUIRED BY CODE.

C. GROUND CABLES SHALL BE CONTINUOUS WITHOUT JOINTS OR SPLICES THROUGH ITS LENGTH. IF BARE GROUND CONDUCTORS ARE RUN THROUGH METALLIC CONDUIT, THEY BE SECURELY BONDED TO EACH CONDUIT AT THE ENTRANCE AND EXIT. ALL CONNECTIONS TO EQUIPMENT OR CONDUIT SHALL BE MADE WITH APPROVED TYPE OF SOLDERLESS CONNECTOR, AND SAME SHALL BE THOROUGHLY CLEANED AND BRIGHT BEFORE CONNECTION IS MADE SO AS TO ENSURE A GOOD METAL CONTACT. CONNECTIONS WHICH WILL BE INACCESSIBLE AFTER COMPLETION OF PROJECT SHALL BE MADE BY THE CADWELD OR THERMO WELD PROCESS.

D. GROUNDING CONNECTIONS: UTILIZE BURNDY "THERMOWELD" PROCESS FOR ALL CABLE-TO-CABLE, CABLE-TO-STEEL, AND CABLE-TO-GROUND ROD CONNECTIONS.

E. WHEN THE MAXIMUM RESISTANCE TO GROUND SPECIFIED ABOVE CANNOT BE ACHIEVED, THE CONTRACTOR SHALL INCREASE THE LENGTH AND QUANTITY OF GROUND RODS TO ACHIEVE THIS RESISTANCE REQUIRED. WHERE INCREASED, QUANTITY AND LENGTH OF GROUND RODS DO NOT PRODUCE THE MAXIMUM SPECIFIED RESISTANCE, SOIL TREATMENT AROUND GROUND RODS SHALL BE PROVIDED.

F. SOIL TREATMENT TO REDUCE GROUND RESISTANCE AROUND COPPER WELD GROUND RODS SHALL BE PROVIDED AS FOLLOWS:

1. EXCAVATE CIRCULAR TRENCH AROUND EACH ELECTRODE AND 2'-6" BELOW TOP OF ELECTRODE. FILL WITH 100 POUNDS OF MAGNESIUM SULFATE.

2. SEPARATE ELECTRODE FROM CHEMICAL TO 18" RADIUS WITH STONEFREE EARTH BACKFILL. USE EXTREME CARE TO AVOID DIRECT CHEMICAL CONTACT WITH THE ELECTRODE.

16100.24 WIRING – GENERAL

A. ALL BRANCH CIRCUIT WIRING RUN WITHIN THE BUILDING AND NOT EXPOSED TO MOISTURE, SHALL BE INSTALLED IN ELECTRO-METALLIC TUBING AND RUN CONCEALED IN NEW WALLS, CEILINGS AND/OR SLABS, BUT EXPOSED ON EXISTING SURFACES WHERE CONDUITS CANNOT BE CONCEALED.

B. ALL BRANCH CIRCUIT WIRING RUN OUTSIDE OF THE BUILDING AND EXPOSED TO MOISTURE SHALL BE INSTALLED IN RIGID INTERMEDIATE GALVANIZED CONDUIT AND RUN CONCEALED IN NEW CONSTRUCTION, BUT EXPOSED ON EXISTING CONSTRUCTION.

C. ALL ELECTRIC AND TELEPHONE SERVICE SHALL BE IN RIGID METALLIC CONDUIT. SLOPE CONDUIT AWAY FROM BUILDING A MINIMUM OF 3" IN 100'.

D. ALL RACEWAYS UNDER ROADS, WALKS OR OTHER PAVED AREAS SHALL BE RIGID GALVANIZED CONDUIT.

E. ALL UNDERGROUND WIRING OUTSIDE BUILDING AND UTILITY COMPANY SERVICES, SHALL BE IN RIGID NON-METALLIC CONDUIT SCHEDULE-40 (UNLESS NOTED OTHERWISE ON DRAWINGS) AND SHALL BE ENCASED IN CONCRETE, BURIED BELOW THE FROST LINE.

F. RIGID NON-METALLIC CONDUIT SHALL BE ALLOWED IN STRUCTURAL SLABS, UNLESS DISAPPROVED BY THE STRUCTURAL ENGINEERS.

G. INSTALL RACEWAYS FROM BOX-TO-BOX OR TERMINATIONS AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO AFFECT CIRCUITING DESCRIBED WITH CIRCUIT NUMBERS ADJACENT TO EQUIPMENT. GROUPING HOME RUNS OR COMBINING WIRES IN COMMON RACEWAYS WILL BE ALLOWED, WITH A MAXIMUM OF FOUR SINGLE POLE BRANCH CIRCUITS IN A RACEWAY. INCREASE WIRE SIZES AND RACEWAYS WHERE REQUIRED TO AVOID LOSS OR AMPACITY AS REQUIRED BY NATIONAL ELECTRICAL CODE.

H. PROVIDE "OZ" OR EQUAL CONDUIT SEALS FOR ALL RACEWAYS, WIRES OR CABLES PASSING THROUGH FOUNDATIONS, FLOORS, WALLS, FOOTINGS, COOLER AND FREEZER WALLS.

I. ALL UNDERGROUND WIRING AND RACEWAYS SHALL BE A MINIMUM OF 24" BELOW FINISHED GRADE EXCEPT WIRING OVER 600 VOLTS WHICH SHALL BE 30" BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE. WIRING IN SLAB SHALL BE INSTALLED IN SCHEDULE 40 RIGID NON METALLIC CONDUIT.

16100.25 CONDUITS AND RACEWAYS

A. ALL CONDUITS SHALL BE 3/4" MINIMUM TRADE SIZE DIAMETER, UNLESS SPECIFIED OTHERWISE.

B. ALL RIGID STEEL CONDUITS SHALL HAVE THREADS PAINTED WITH THOMAS AND BETTS COPPER SHIELD WHERE CONDUIT IS EXPOSED TO WEATHER OR DAMPNESS.

C. RIGID NON-METALLIC CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 347 OF THE NATIONAL ELECTRICAL CODE. NO SECTION OR LENGTH OF CONDUIT SHALL BE EXPOSED. ALL ELBOWS SHALL BE RIGID GALVANIZED TO AVOID CUTTING WITH PULL WIRES AND TAPES. CONDUIT SHALL BE PROTECTED FROM LIGHT DURING STORAGE AND INSTALLATION.

D. RACEWAYS SHALL BE CAPPED WITH BUSHINGS DURING CONSTRUCTION AND SWABBED CLEAN BEFORE DRAWING IN WIRE.

E. CONDUITS SHALL BE CUT SQUARE AND REAMED AND ALL TERMINALS SHALL BE MADE UP TIGHT.

F. RIGID CONDUIT SYSTEM SHALL BE MADE UP WITH THREADED FITTINGS AND COUPLINGS.

G. EXPOSED RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE PROVIDED WITH FITTINGS OR STANDARD MANUFACTURED ELBOWS.

H. SUPPORTS ON ALL RACEWAYS SHALL RUN PARALLEL TO OR AT RIGHT ANGLES TO SURFACES WIRED OVER AND SHALL BE SPACED AT A MAXIMUM OF 10'. SUPPORTS ON RACEWAYS LARGER THAN 2" SHALL BE SPACED AT A MAXIMUM OF 6'.

I. FASTENINGS SHALL BE LAD SHIELDS, RAW PLUGS, WOOD SCREWS, LAG BOLTS, BEAM CLAMPS OR TOGGLE BOLTS. NO WOODEN PLUGS WILL BE PERMITTED. NO NAILS WILL BE PERMITTED.

J. CONDUITS AND HANGERS SHALL BE INSTALLED IN A MANNER NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. THIS SHALL INCLUDE TRAPEZE HANGERS TO STRADDLE DUCTS, PIPES OR OTHER OBSTRUCTIONS, WHERE NECESSARY. NO PERFORATED STRAP IRON WILL BE PERMITTED.

K. PROVIDE A CONDUIT EXPANSION FITTING WHEREVER RUN CROSSES AND EXPANSION JOINT IN THE STRUCTURE, AND WHERE CONDUIT IS ATTACHED TO SEPARATE STRUCTURES. EXPANSION FITTING SHALL BE "OZ" TYPE "AX," THOMAS AND BETTS, STEEL CITY OR APPROVED EQUAL.

L. RIGID NON-METALLIC CONDUIT SHALL BE POLYVINYL CHLORIDE SCHEDULE-40 HEAVY WALL, MADE BY CARLON OR APPROVED EQUAL.

M. SURFACE METAL RACEWAY SHALL BE WIREMOLD, KINDORF OR APPROVED EQUAL.

N. RIGID CONDUIT BUSHINGS SHALL BE IMPACT RESISTANT PLASTIC INSULATING TYPE, AS MADE BY THOMAS & BETTS, APPLETON, STEEL CITY OR APPROVED EQUAL.

O. ELECTRO-METALLIC TUBING SHALL BE REPUBLIC, ETP, NATIONAL OR APPROVED EQUAL WITH SCREW-TYPE FITTINGS.

P. ALL STEEL CONDUITS IN DIRECT CONTACT WITH EARTH SHALL BE PAINTED WITH TWO(2) COATS OF BLACK ASPHALT, PRIOR TO INSTALLATION.

Q. PROVIDE A CONTINUOUS RED PLASTIC STRIP 1'-0" ABOVE TOP OF ALL UNDERGROUND RACEWAYS.

R. CONDUIT SUPPORTS AND HANGERS SHALL BE GALVANIZED BY STEEL CITY, KINDORF OR EQUAL.

S. UNDERGROUND CONDUIT INSTALLATION TO BE IN COMPLIANCE WITH NEC 300.5.

16100.27 PULL OR JUNCTION BOXES AND WIRING TROUGHS

A. FURNISH AND INSTALL PULL OR JUNCTION BOXES WHERE INDICATED OR WHERE NECESSARY TO FACILITATE PULLING OF CONDUCTORS. ALL BOXES SHALL BE SIZED ACCORDING TO NEC REQUIREMENTS.

B. BOXES SHALL BE FORMED OF HOT DIPPED GALVANIZED SHEET STEEL EXCEPT WHERE SPECIFIED OTHERWISE.

C. BOXES INSTALLED IN WET AREAS OR WHERE EXPOSED TO WEATHER SHALL BE GALVANIZED WITH CAST BOLTED COVERS.

E. ALL COVERS ON BOXES AND TROUGHS SHALL BE SCREW COVER TYPE, OR COMBINATION HINGED AND SCREWED TYPE.

16100.28 WIRES AND CABLES – 600 VOLT INSULATION

A. WIRE AND CABLE SHALL BE COPPER AND SHALL HAVE CURRENT CARRYING CAPACITY NOT LESS THAN INDICATED AND SHALL CONFIRM TO UL STANDARDS. CONDUCTOR SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE LESS THAN NO. 12 AWG FOR POWER AND LIGHTING WORK UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL NO. 8 B&S GAUGE WIRE AND LARGER SHALL BE STRANDED UNLESS OTHERWISE NOTED ON DRAWINGS. VOLTAGE RATING OF CONDUCTORS WHICH OPERATE AT 600 VOLTS AND BELOW SHALL BE 600 VOLTS. TYPE THWN INSULATION SHALL BE USED FOR ALL SIZES OF WIRE WITH XHHW USED FOR RISERS, UNLESS OTHERWISE NOTED. RECESSED LIGHTING FIXTURES IN HUNG CEILINGS SHALL BE SUPPLIED WITH TYPE AF INSULATED WIRE IN FLEXIBLE METAL CONDUIT, IN LENGTHS NOT EXCEEDING 6 FEET, FROM ADJACENT JUNCTION BOX. TYPE THHN INSULATED WIRE MAY BE USED FOR BRANCH CIRCUIT WIRING, PROVIDING THE AMPACITIES AT WHICH IT IS EMPLOYED ARE BASED ON THE ALLOWABLE AMPACITY OF 75?C. WIRE.

B. CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE AN INSULATION TYPE SUITABLE FOR THE TEMPERATURE CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE NEC REQUIREMENTS.

16100.29 WIRE SPLICING AND TERMINATING OF 600 VOLT CONDUCTORS

A. SPLICES OF WIRES UP TO 3 #8 CONDUCTORS SHALL BE MADE WITH PRESSURE TYPE CONNECTORS. WIRE NUTS OR SCREW CAPS WILL NOT BE PERMITTED. SPLICES ABOVE THIS SIZE SHALL BE MADE WITH APPROVED MECHANICAL CONNECTORS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

B. SPLICES IN CABLES #6 GAUGE AND LARGER SHALL BE MADE WITH CAST SLEEVE TYPE CONNECTORS WITH SET SCREWS, SCOTCHFILL AND SCOTCH #88 VINYL TAPE.

C. COPPER CONDUCTOR TERMINATIONS SHALL BE MADE WITH MECHANICAL, SET SCREW, PRESSED COPPER LUGS. TWO(2) BOLT LUGS SHALL BE USED IF NECESSARY, TO OBTAIN SUFFICIENT CONTACT SURFACE OR 200 AMPERES PER SQUARE INCH CAPACITY TO MAINTAIN RIGIDITY IN TERMINATING LARGE CABLES.

D. SMALL WIRE SPLICES SHALL BE MADE WITH THOMAS AND BETTS WIRE NUTS OR APPROVED EQUAL CONNECTORS.

E. LARGE WIRE SPLICES SHALL BE MADE WITH "OZ" TYPE XW AND "OZ" TYPE XTP, OR APPROVED EQUAL CONNECTORS.

F. TERMINAL LUGS SHALL BE PRESSED COPPER SCREW LUGS AS MADE BY MAC OR EQUAL.

16100.30 WIRING DEVICES AND PLATES

A. PROVIDE AT EVERY INDICATED OUTLET THE PROPER DEVICES AND PLATES AS SPECIFIED HEREIN OR ON THE DRAWINGS. WHERE MORE THAN ONE DEVICE IS INDICATED IN ONE LOCATION, THEY SHALL BE GANGED TOGETHER IN ONE BOX AND UNDER ONE PLATE AS REQUIRED.

B. DEVICES LISTED ARE TO ESTABLISH TYPE, COLOR, OPERATION AND CAPACITY. MANUFACTURERS SHALL BE HUBBELL, PASS AND SEYMOUR, OR ARROW HART.

C. COLOR TO BE CHOSEN BY ARCHITECTS.

16100.32 LAMPS AND FIXTURES

A. PROVIDE FIXTURES AS SHOWN ON THE FIXTURE SCHEDULE AND DESCRIBED BELOW. THE FIXTURES SHALL BE SUPPLIED COMPLETE WITH LAMPS AND ANY AUXILIARY DEVICES NECESSARY FOR THEIR FUNCTION. FIXTURES SHALL BE SECURELY FASTENED TO THE CEILING STRUCTURE, AS WELL AS THE OUTLET BOX WHERE NECESSARY TO MAINTAIN PROPER ALIGNMENT.

B. HID BALLAST SHALL BE HIGH POWER FACTOR TYPE.

C. FIXTURES SHALL BE DESIGNED AND APPLIED SUCH THAT THE BALLAST/FIXTURE COMBINATION WITH ALL UNITS IN-PLACE IN THE ROOM OR SPACE SHALL HAVE AN INAUDIBLE SOUND.

D. FIXTURE/BALLAST COMBINATION SHALL BE DESIGNED TO LIMIT MAXIMUM BALLAST CASE TEMPERATURE TO 90 DEG.C.

E. LIGHTING FIXTURES SHALL CONFORM TO ARTICLES 410 AND 300-22 OF THE NEC.

F. FOR THE SIGNS, PROVIDE CONNECTIONS WITH WATERPROOF JUNCTION BOXES OR AS SPECIFIED ON THE PLANS.

G. ALL EXTERIOR LIGHTING FIXTURES WHERE EXPOSED TO WEATHER SHALL BE UL TESTED FOR WET LOCATIONS. OUTDOOR CANOPY LIGHTING FIXTURES SHALL BE UL LISTED FOR DAMP LOCATIONS.

E. EXTERIOR LIGHTING FIXTURES SHALL BE CONTROLLED BY A PHTOCELL-ON/ TIMER-OFF SCHEME. CONTRACTOR TO PROVIDE ALL MATERIALS, CONTACTORS, AND HARDWARE AS REQUIRED.

16100.33 TELEPHONE CONDUIT SYSTEM

A. PROVIDE A COMPLETE TELEPHONE SYSTEM AS INDICATED ON THE PLANS WITH OUTLET BOXES, PLATES AND CABINETS FOR THE INSTALLATION OF TELEPHONE AND WIRING BY THE TELEPHONE COMPANY.

B. ALL RACEWAYS, CABINETS, OUTLETS, ETC., AND THE METHOD OF INSTALLATION SHALL COMPLY WITH THE REGULATIONS AND REQUIREMENTS OF THE TELEPHONE COMPANY.

16100.36 SERVICE AND CURRENT CHARACTERISTICS

A. ELECTRICAL SERVICE SHALL BE BROUGHT IN OVERHEAD OR UNDERGROUND BY THIS CONTRACTOR FROM THE UTILITY COMPANY POLE TO THE PAD OR POLE MOUNTED TRANSFORMER AND TO THE MAIN FUSED SWITCHBOARD LOCATED AS SHOWN ON THE DRAWINGS. ELECTRICAL CONTRACTOR TO COORDINATE ALL NECESSARY REQUIREMENTS WITH THE UTILITY COMPANY.

B. SERVICE SHALL BE THREE PHASE, FOUR WIRE, 120/208 VOLTS OR AS SHOWN ON PLANS.

16100.38 SAFETY AND DISCONNECT SWITCHES

A. BASE NAMED MANUFACTURER – SQUARE 'D'.

B. UNLESS NOTED OTHERWISE, ALL OTHER SWITCHES SHALL SQUARE 'D' HEAVY DUTY CLASS 3110.

C. ALL DISCONNECT SWITCHES SHALL BE LOCKABLE IN THE "ON" OR "OFF" POSITION.

D. OTHER ACCEPTABLE MANUFACTURERS – GENERAL ELECTRIC, WESTINGHOUSE, CUTLER-HAMMER.

16100.42 MOLDED CASE CIRCUIT BREAKERS

A. BASED NAMED MANUFACTURER – "G.E."

B. CIRCUIT BREAKERS SHALL BE OF THE MOLDED CASE BOLTED IN TYPE CONSISTING OF THE NUMBER OF POLES AND AMPERE RATINGS AS NOTED ON THE DRAWINGS.

C. CIRCUIT BREAKERS SHALL BE OF THE INDICATING TYPE PROVIDING "ON," "OFF," AND "TRIPPED" POSITIONS OF THE OPERATING HANDLE. WHEN THE BREAKER IS TRIPPED, THE HANDLE SHALL ASSUME A POSITION BETWEEN "ON" AND "OFF" POSITIONS. BREAKERS SHALL BE OF THE QUICK-MAKE QUICK-BREAK TYPE WITH INVERSE TIME CHARACTERISTICS SECURED THROUGH THE USE OF A BI-METALLIC AND A MAGNETIC TRIPPING ELEMENT.

D. TWO AND THREE POLE BREAKERS SHALL BE THE COMMON TRIP TYPE. HANDLE EXTENSIONS PROVIDING COMMON MANUAL OPERATION WILL NOT BE ACCEPTABLE.

16100.43 LIGHTING AND POWER PANELS

A. BASED NAME MANUFACTURER – "G.E."

B. THE LIGHTING PANELBOARDS SHALL BE FOR THE DEAD FRONT, AUTOMATIC MOLDED CASE CIRCUIT BREAKER TYPE.

C. CABINETS SHALL BE CODE GAUGE WITH MINIMUM 4" SIDE, TOP, AND BOTTOM GUTTERS AND A MINIMUM OF 20" WIDE. PROVIDE SUBFEED LUGS AND A MINIMUM OF 8" TOP, BOTTOM AND SIDE GUTTERS FOR FEEDER TAPS WITHIN PANELBOARDS AND WHEN FEEDERS ARE INSTALLED IN SIDE GUTTERS.

D. THE PANELS SHALL BE FACTORY ASSEMBLED COMPLETE WITH BREAKERS. ANY CIRCUIT BREAKER SHALL BE CAPABLE OF REPLACEMENT WITHOUT DISTURBING ANY OTHER BREAKER, THE MAIN BUS BARS OR BRANCH WIRE CONNECTORS. THE PANELS SHALL BE CAPABLE OF HAVING BRANCH CIRCUITS ADDED WITHOUT ADDITIONAL MACHINING, DRILLING, OR TAPPING. BRANCH CIRCUITS SHALL BE SEQUENCED PHASED ON THE MAIN BUS CARRYING CAPACITY SHALL BE DETERMINED ON A BASIS OF NOT MORE THAN 750 AMPERES PER SQUARE INCH OF CROSS SECTIONAL AREA FOR ALUMINUM BUSES.

E. THE PANELS SHALL BE ARRANGED FOR 3 PHASE, 4 WIRE, 120/208 VOLT SERVICE AS REQUIRED.

F. CIRCUIT BREAKERS SHALL BE AS SPECIFIED IN "MOLDED CASE CIRCUIT BREAKER" SECTION OF THE H. ALL PANELS SHALL BE PROVIDED WITH A COMPLETE TYPE-WRITTEN DIRECTORY OF ALL CONNECTED AND SPECIFICATIONS. MINIMUM INTERRUPTING CAPACITY – 120/208 VOLT SYSTEMS TO BE COORDINATED WITH LOCAL UTILITY COMPANIES SO AS TO INTERRUPT THE AVAILABLE FAULT CURRENT.

G. OTHER ACCEPTABLE MANUFACTURERS – SIEMENS ITE, WESTINGHOUSE, GENERAL ELECTRICAL, CUTLER-HAMMER.

H. THE PANELS SHALL BE LOCATED AND SIZED AS INDICATED ON PRINTS AND CONNECTED AS SHOWN ON THE RISER DIAGRAM.

HOSPITAL RENOVATION SPECS

1. ALL WIRE WILL BE STRANDED. SOLID WIRE IS NOT ACCEPTABLE. ALL WIRE TERMINATIONS TO DEVICES THAT DO NOT HAVE CLAMP TERMINALS (E.G. GROUND CONNECTION) SHALL USE SOLDERLESS FORK TERMINALS. NO LOOSE STRANDS.
2. MINIMUM CONDUIT SIZE WILL BE 3/4" ON ALL HOMERUNS AND TRUNK LINES. ALL CONDUITS OF ANY SIZE MUST BE SUPPORTED AT INTERVALS NOT GREATER THAN 8'. ALL PENETRATIONS TO BE FIRE CAULKED.
3. MAXIMUM NUMBER OF CIRCUITS IN HOMERUNS AND TRUNK LINES WILL BE 3, EACH CIRCUIT HAS OWN NEUTRAL WIRE AND GROUND WIRE. NO MORE THAN 7 CONDUCTORS IN A HOMERUN. UPDATE PANEL SCHEDULE AND VERIFY WITH OWNER UPON COMPLETION.
4. ALL HOMERUNS AND TRUNK LINES WILL BE #10 AWG FROM THE PANEL TO THE LAST JUNCTION BOX ON THE RUN.
5. ALL JUNCTION BOX COVERS WILL BE MARKED WITH THE PANEL ID AND CIRCUIT # OF THE WIRES CONTAINED WITHIN THE BOX.
6. ALL RECEPTACLE PLATES WILL BE MARKED WITH APPROVED LABELER TO INDICATE THE PANEL AND CIRCUIT #. THIS INCLUDES BOTH NORMAL AND EMERGENCY OUTLETS. NORMAL WILL BE MARKED WITH BLACK PRINT AND EMERGENCY WILL BE MARKED WITH RED PRINT.
7. ALL FITTINGS FOR ELECTRICAL METALLIC TUBING WILL BE STEEL. EITHER SET SCREW IN DRY LOCATIONS OR COMPRESSION FOR WET/DAMP LOCATIONS.
8. LIGHT FIXTURES MAY NOT BE DAISY CHAINED TOGETHER. EACH FIXTURE SHALL HAVE A FLEXIBLE DROP FROM A JUNCTION BOX.
9. IN ROOMS THAT HAVE A HARD CEILING JUNCTION BOXES WILL NOT BE ALLOWED ABOVE THE CEILING WITHOUT SPECIAL PERMISSION. JUNCTION BOXES MUST BE LOCATED OUTSIDE THE ROOM IN AN AREA WITH ACCESSIBLE CEILING AND CONDUIT RUN DIRECTLY FROM JUNCTION BOXES TO EQUIPMENT INSIDE THE ROOM. FINAL CONNECTION TO FIXTURE WILL BE 6' OF FLEXIBLE CONDUIT TO ACCOMMODATE REMOVAL OF FIXTURE.
10. FLEXIBLE CONDUIT MAY NOT BE USED IN LENGTHS GREATER THAN 8' AND MUST ALWAYS HAVE AN EQUIPMENT GROUNDING CONDUCTOR CONTAINED WITHIN. NO FLEXIBLE CONDUIT MAY BE USED IN ANY WIRING RUNS RELATED TO PATIENT CARE AREAS. EXCEPTION: LIGHT FIXTURE TAILS. SUPPORT NOT TO EXCEED 12" FROM TERMINATION.
11. ALL WIRING MUST HAVE A SEPARATE GROUNDING CONDUCTOR (INSULATED AND COLORED GREEN) RUN IN THE CONDUIT WITH THE CIRCUIT CONDUCTORS.
12. NO CONDUITS MAY BE CLOSER THAN 12" TO THE CEILING GRID.
13. EACH ROOM OR AREA THAT REQUIRES LIGHTING AND POWER WILL HAVE AT LEAST ONE JUNCTION BOX FOR LIGHTING AND ONE JUNCTION BOX FOR POWER WITHIN THE ROOM.
14. ALL CONDUIT RUNS WILL BE SQUARE WITH THE BUILDING LINES. DIAGONAL RUNS ACROSS ROOMS WILL NOT BE ALLOWED EITHER ABOVE OR BELOW CEILINGS. ALL CONDUITS MUST BE SUPPORTED INDEPENDENTLY OF CEILING SUPPORT WIRES, MAXIMUM 8 FEET BETWEEN SUPPORTS. CONDUITS SHALL BE ATTACHED TO THE WALL ABOVE THE CEILING WHEREVER POSSIBLE.
15. ALL RECEPTACLES AND SWITCHES WILL BE CONNECTED TO WIRING WITH PIGTAILS WHERE THE WIRING PASSES THROUGH THE DEVICE BOX. THIS INCLUDES HOTS, NEUTRALS, AND GROUNDS. USE OF LOAD CENTER NOT ACCEPTED.
16. EXTENSION RINGS MAY NOT BE USED ON JUNCTION BOXES. ALL JUNCTION BOXES WILL BE SIZED TO ACCOMMODATE THE NUMBERS OF WIRES CONTAINED WITHIN. ALL BOX COVER TO BE LABELED WITH PANEL DESIGNATION AND CIRCUIT NUMBER.
17. ALL DEVICE PLATES WILL BE STAINLESS STEEL.
18. ALL EXIT LIGHTS WILL BE LED TYPE FIXTURES.
19. ALL FLUORESCENT FIXTURES AND HID FIXTURES SHALL HAVE AN INTERNAL MEANS TO DISCONNECT ALL CONDUCTORS EXCEPT THE GROUND WIRE. THE DISCONNECTING MEANS SHALL BE EQUAL TO T&B LD3-D OR LD2-D LUMINAIRE PACK DISCONNECT.
20. ALL RECEPTACLES WILL BE HOSPITAL GRADE. ALL SWITCHES WILL BE SPECIFICATION GRADE. RECEPTACLES LOCATED IN PATIENT CARE AREAS (PATIENT ROOMS, ICU'S, ETC.) WILL BE P&S PLUGTAIL PT8300 WITH STRANDED WIRE TAILS OR EQUAL.
21. WHERE CABLES FOR FIRE ALARM, DATA, TELEPHONE, NURSE CALL, ETC. THAT PASS THROUGH A FIRE RATED WALL THERE MUST BE A MIN. 2 " FIRE RATED SLEEVE SUCH AS 3M FIRE BARRIER QUICK PASS DEVICE. ALL CABLES ENTERING DEDICATED SPACES (SUCH AS EKG CLINIC, SLEEP LAB CLINIC, ETC.) WILL ENTER THE AREA THROUGH A COMMON DEVICE AT A SINGLE LOCATION. IF THE NUMBER OF CABLES EXCEEDS THE MANUFACTURERS RECOMMENDED CAPACITY THEN A SECOND DEVICE WILL BE USED.
22. ALL LIGHT FIXTURES ON EMERGENCY CIRCUITS MUST HAVE INDIVIDUAL INLINE FUSE AHEAD OF THE BALLAST.
23. ALL WORK SPECIFIED TO BE DEMOLISHED WILL BE REMOVED COMPLETELY TO THE SOURCE UNLESS INDICATED OTHERWISE OR ALLOWED BY SPECIAL PERMISSION. ONLY THE OVER CURRENT DEVICE SHALL REMAIN AND BE MARKED ON THE SCHEDULE AS SPARE.
24. HOSPITAL GRADE MC CABLE MAY BE USED IN UHS FACILITIES. RUNS NOT TO EXCEED 20'. ALL CIRCUITING CIRCUITING TO HAVE ISOLATED NEUTRAL WITHIN CABLE.
25. NO INCANDESCENT LIGHT FIXTURES MAY BE USED. ROUND OR SQUARE RECESSED FIXTURES MUST BE FLUORESCENT.
26. ALL ELECTRICAL WORK SHALL COMPLY WITH OR SURPASS THE REQUIREMENTS OF NFPA 70 (NATIONAL ELECTRICAL CODE), NFPA 99, TDSHS, AND ALL OTHER APPLICABLE LOCAL AND STATE CODES, ORDINANCES, RULES AND REGULATIONS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A THIRD PARTY INDEPENDENT CONTRACTOR QUALIFIED TO CONDUCT TESTING ON ALL SYSTEMS AS REQUIRED BY THESE REGULATIONS , INCLUDING BUT NOT LIMITED TO GROUNDING TESTS OF NEW RECEPTACLES IN ALL PATIENT CARE AREAS, ALL NEW STATIONARY EQUIPMENT, ETC. FOR EACH REQUIRED TEST, A REPORT SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL INDICATING THAT THE NEW CONSTRUCTION IS IN COMPLIANCE WITH ALL APPLICABLE CODES. INSPECTIONS TO BE DONE BY UHS ELECTRICIANS FOR POLICY COMPLIANCE AT ROUGH-IN AND FINAL STAGES. UHS ELECTRIC SHOP TO RECEIVE ALL TESTING DOCUMENTATION AND ACCURATE AS BUILT DRAWINGS AT PROJECT COMPLETION.

END OF ELECTRICAL SPECIFICATIONS

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ROGER G. MENDEZ, P.E. 93809
ON 06/03/2016

No.	DATE	DESCRIPTION

ROBERT B. GREEN
DOWNTOWN CAMPUS
ELECTRICAL
SPECIFICATIONS

DESIGNED BY:	RGM
DRAWN BY:	RGM
APPROVED BY:	RGM
DATE:	MAY 2016
JOB NO.:	C-1419
SHEET	E-6

PREPARED BY:
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LED AREA LIGHTS - (XGBM)

Shown with optional decal striping

DOE LIGHTING FACTS

Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

LIGHT OUTPUT - XGBM

		Lumens (Nominal)				Watts (Nominal)
		Type 3	Type 5	Type FT	Type FTA	
Cool White	LW	14080	13840	15020	16560	140
	SS	20180	18040	20700	23030	187
	HO	26750	25460	29070	31810	300
Neutral White	LW	11450	11290	12220	13470	136
	SS	16390	15170	17230	18750	188
	HO	22240	20550	23510	25410	288

LED Chips are frequently updated therefore values may increase.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

RoHS COMPLIANT · FC · CE · c UL us LISTED wet location · ARRA Funding Compliant · IP67 · DLC · ida

Fixtures comply with ANSI C136.31-2010 American National Standard for Roadway Lighting Equipment - Luminaire Vibration 3G requirements.

US patent D574994 & 7,828,456 and MX patent 29631 and US & Int'l. patents pending

SMARTTEC™ THERMAL CONTROL - LSI drivers feature integral sensor which reduces drive current when ambient temperatures exceed rated temperature.

OCCUPANCY SENSING (IMS) – Optional integral passive infrared motion sensor activates switching of luminaire light levels. High level light is activated and increased to full bright in 1-2 seconds upon detection of motion. Low light level (30% maximum drive current) is activated when target zone is absent of motion activity for ~2 minutes and ramps down (10-15 seconds) to low level to allow eyes time to adjust. Sensor is located on the front of optical assembly and rotates with the optic. Sensor optic has a detection cone of approximately 45°. Examples of detection – occurs 30' out from a 30' mounting height pole; occurs 20' out from a 20' mounting height pole.

ENERGY SAVING CONTROL OPTIONS – DIM – 0-10 volt dimming enabled with controls by others. BLS – Bi-level switching responds to external line voltage signal from separate 120-277V controller or sensor (by others), with low light level decreased to 30% maximum drive current.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Select high-brightness LEDs in Cool White (5000K) or Neutral White (4000K) color temperature, 70 CRI.

DISTRIBUTION/PERFORMANCE - Types 3, 5, FT and FTA available - field rotatable reflectors.

HOUSING - Square, die-formed aluminum. Fully enclosed weather-tight housing contains factory prewired drivers and field connections.

TOP-ACCESS COVER - Gasketed, tethered top-access cover provides ease of installation and allows for easy driver access. Four captive stainless-steel fasteners secure the top-access cover to the housing.

OPTICAL UNIT - Clear tempered optical grade flat glass lens sealed to aluminum housing creates an IP67 rated, sealed optical unit (includes pressure stabilizing breather). Optical unit can be easily field rotated in 90o increments. Directional arrow on optics allows alignment without the unit being energized.

MOUNTING - 2-1/2" x 5-3/8" x 12" extruded aluminum arm mounting bracket shipped standard. Use with 5" traditional drilling pattern. Round Pole Plate (RPP2) required for mounting to 3"– 5" round poles. (See Accessory Ordering Information chart.)

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (UE - 50/60Hz input), and 347-480VAC.

DRIVERS - Available in Low Watt (LW), Super Saver (SS) and High Output (HO) drive currents (Drive currents are factory programmed). Components are fully encased in potting material for moisture resistance. Driver complies with FCC 47 CFR part 15 RFI/EMI standard.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

DECAL STRIPING - LSI offers optional color-coordinated decals in 9 standard colors to accent the fixture. Decals are guaranteed for five years against peeling, cracking, or fading.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (IN CARTON) - Fixture - 44.5 lbs (20 kg) Arm - 5 lbs. (2kg) arm

LISTING - UL listed to U.S. and Canadian safety standards. Suitable for wet locations. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

LED AREA LIGHTS - (XGBM)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XGBM 5 LED HO CW UE WHT PCM**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Optional Controls	Optional Sensor/Options
XGBM[1] - LED Greenbriar	FT - Forward Throw FTA - Forward Throw Automotive 3 - Type III 5 - Type V	LED	LW - Low Watt SS - Super Saver HO - High Output	CW - Cool White (5000K) NW - Neutral White (4000K)	UE - Universal Voltage (120-277) 347-480	BLK - Black BRZ - Bronze GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White **Optional Color Decals** 45 – Light Gold 20 – Charcoal Metallic 55 – Black 94 – Blue Metallic 59 – Dark Green 51 – Dark Red 21 – Tomato Red 50 – White 700 – Aztec Silver Metallic	**Wireless Control System[2,3]** (blank) - None PCM - Platinum Control System PCMH - Host/Satellite Platinum Control System GCM - Gold Control System GCMH - Host/Satellite Gold Control System DIM - 0-10 volt dimming (required for satellite fixtures) **Stand-Alone Control** (blank) - None DIM - 0-10 volt dimming[4] (from external signal) BLS - Bi-level Switching[5] (from external signal - required 120-277V controls system voltage)	**Sensor** IMS - Integral Motion Sensor[6] PCI120 - 120V Button-Type Photocell PCI208 - 208V Button-Type Photocell PCI240 - 240V Button-Type Photocell PCI277 - 277V Button-Type Photocell PCI347 - 347V Button-Type Photocell **Options** 8BK - 8" Bracket (S and D180 only) TB - Terminal Block

LUMINAIRE EPA CHART[2] - XGBM

	8" Bracket	12" Bracket
Single	2.3	2.4
D180°	4.7	4.8
D90°	12" Bracket Required	4.7
T90°		7.2
TN120°		7.3
Q90°		8.8

Note: House Side Shield adds to fixture EPA. Consult Factory.

ACCESSORY ORDERING INFORMATION[2]

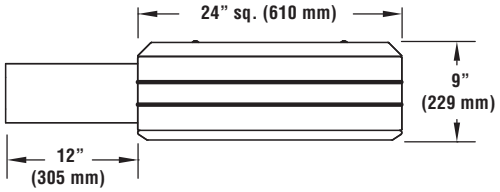
(Accessories are field installed)

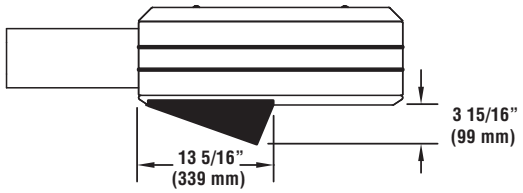
Description	Order Number	Description	Order Number
XGBM-HSS House Side Shield (Black only)	482002 BLK[7]	DFK208, 240 Double Fusing (208V, 240V)	DFK208,240[8]
RPP2 - Round Pole Plate	162914BLK	DFK480 Double Fusing (480V)	DFK480[8]
BKS-BO-WM-*-CLR - Wall Mount Plate	123111CLR	FK347 Single Fusing (347V)	FK347[8]
BKA-BO-RA-8-CLR - Radius Arm	169010CLR	PMOS120 - 120V Pole-Mount Occupancy Sensor	518030CLR[9]
BKU-BO-S-19-CLR - Upsweep Bracket for round or square poles	144191CLR	PMOS208/240 - 208, 240V Pole-Mount Occupancy Sensor	534239CLR[9]
FK120 Single Fusing (120V)	FK120[8]	PMOS277 - 277V Pole-Mount Occupancy Sensor	518029CLR[9]
FK277 Single Fusing (277V)	FK277[8]	PMOS480 - 480V Pole-Mount Occupancy Sensor	534240CLR[9]

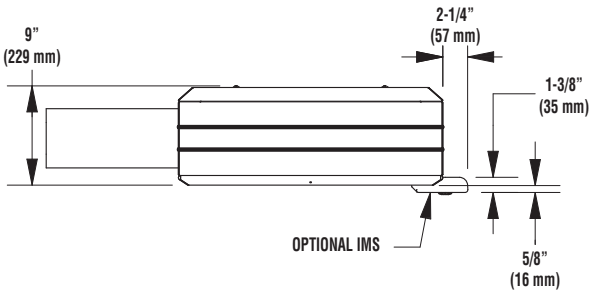
FOOTNOTES:

1- Use with 5" traditional drilling pattern.
2- For wireless controls information and accessories, see Controls section.
3- Requires a SiteManager and override switch. Not compatible with BLS or IMS option.
4- Not compatible with IMS or BLS option.
5- Not compatible with wireless controls system, DIM or IMS option.
6- Not compatible with wireless controls system, DIM or BLS option.
7- House Side Shields add to fixture EPA. Consult factory.
8- Fusing must be located in the hand hole of pole.
9- To be used with any of the PCM/GCM wireless controls systems in the fixture. Consult factory.

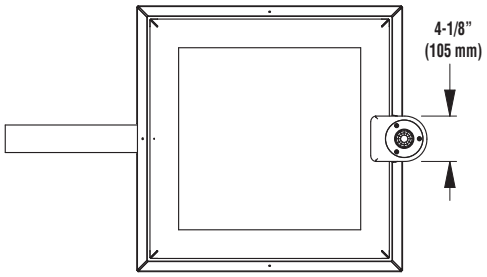
DIMENSIONS





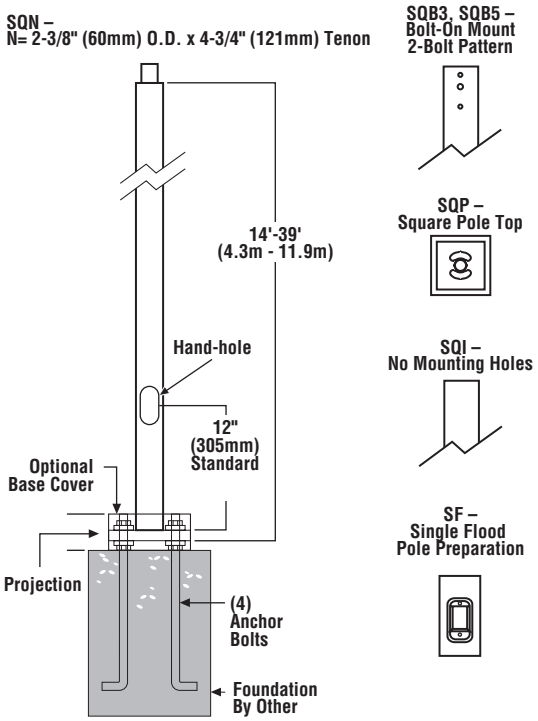


House Side Shield (482002BLK)

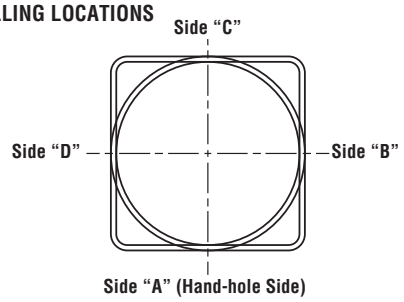


STEEL SQUARE POLES

DIMENSIONS



DRILLING LOCATIONS



Sides	A	B	C	D
Hand-hole	X			
Single	X			
D180°		X		X
D90°	X			X
T90°	X	X		X
TN120°*	X			
Q90°	X	X	X	X
Single FBO	X			
Double FBO		X		X

*Other two locations will be 120° to the left and right of Side A.

Note: Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, unless otherwise specified.

SHIPPING WEIGHTS - Steel Square Poles

4"(102mm) sq. 11 Ga. is approximately	7.50 lbs./ft.
4"(102mm) sq. 07 Ga. is approximately	10.00 lbs./ft.
5"(127mm) sq. 11 Ga. is approximately	9.00 lbs./ft.
5"(127mm) sq. 07 Ga. is approximately	12.50 lbs./ft.
6"(152mm) sq. 07 Ga. is approximately	15.40 lbs./ft.
Anchor Bolts (3/4" x 30")(19mm x 762mm)	15 lbs. (7kg)/set
Anchor Bolts (1" x 36")(25mm x 914mm)	30 lbs. (14kg)/set

ARRA
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POLE SHAFT - Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi. On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length. Straight poles are 4", 5", and 6" square.

HAND-HOLE - Standard hand-hole location is 12" above pole base. Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

BASE - Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi. Two-piece square base cover is optional.

ANCHOR BOLTS - Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional. Anchor bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 psi.

GROUND LUG - Ground lug is standard.

DUPLEX RECEPTACLE - Weatherproof duplex receptacle is optional.

GROUND FAULT CIRCUIT INTERRUPTER - Ground fault circuit interrupter is optional.

FINISHES - Each pole is finished with DuraGrip®, LSI's baked-on polyester-powder finishing process which electrostatically applies and fuses a polyester powder to the pole. Provides an extremely smooth and uniform finish to withstand extreme weather changes without cracking or peeling, and features a five-year limited warranty. Optional DuraGrip® Plus features the added protection of a 3.0 to 5.0 mil thickness of polyester-powder finish plus an inner coating, as well as a seven-year limited warranty.

DETERMINING THE LUMINAIRE/POLE COMBINATION FOR YOUR APPLICATION:

- Select luminaire from luminaire ordering information
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select pole height
- Select MPH to match wind speed in the application area (See windspeed map).
- Confirm pole EPA equal to or exceeding value from note above
- Consult factory for special wind load requirements and banner brackets

POLE SELECTION CHART: 4"(102mm), 5"(127mm) and 6"(152mm) steel square poles

Height	EPA 70 MPH	EPA 80 MPH	EPA 90 MPH	EPA 100 MPH	Outside Dimensions	Material	Bolt Circle
14' (4.3m)	23.3	16.7	12.2	9.0	4" (102mm)	S11G	B
16' (4.9m)	18.6	13.1	9.3	6.5	4" (102mm)	S11G	B
16' (4.9m)	34.6	25.0	18.5	13.8	5" (127mm)	S11G	C
18' (5.5m)	14.4	9.7	6.5	4.2	4" (102mm)	S11G	B
18' (5.5m)	27.9	19.7	14.1	10.1	5" (127mm)	S11G	C
20' (6.1m)	11.0	7.0	4.2	2.2	4" (102mm)	S11G	B
20' (6.1m)	18.7	12.8	8.8	5.9	4" (102mm)	S07G	B
20' (6.1m)	22.5	15.4	10.5	7.0	5" (127mm)	S11G	C
20' (6.1m)	35.5	25.4	18.4	13.4	5" (127mm)	S07G	D
22' (6.7m)	10.4	6.3	3.4	1.4	4" (102mm)	S11G	B
22' (6.7m)	18.7	12.6	8.4	5.4	4" (102mm)	S07G	B
22' (6.7m)	20.8	13.8	8.9	5.5	5" (127mm)	S11G	C
22' (6.7m)	34.0	23.9	17.0	12.0	5" (127mm)	S07G	D
24' (7.3m)	7.7	4.0	1.5	—	4" (102mm)	S11G	B
24' (7.3m)	15.1	9.7	6.0	3.3	4" (102mm)	S07G	B
24' (7.3m)	16.7	10.5	6.2	3.1	5" (127mm)	S11G	C
24' (7.3m)	28.6	19.6	13.4	8.9	5" (127mm)	S07G	D
24' (7.3m)	46.2	32.6	23.2	16.6	6" (153mm)	S07G	J
26' (7.9m)	5.3	2.1	—	—	4" (102mm)	S11G	B
26' (7.9m)	12.0	7.2	3.9	1.5	4" (102mm)	S07G	B
26' (7.9m)	13.2	7.6	3.8	1.0	5" (127mm)	S11G	C
26' (7.9m)	24.0	15.8	10.3	6.3	5" (127mm)	S07G	D
26' (7.9m)	39.6	27.3	18.9	12.9	6" (152mm)	S07G	J
28' (8.5m)	19.9	12.5	7.5	3.9	5" (127mm)	S07G	D
28' (8.5m)	33.9	22.7	15.1	9.6	6" (152mm)	S07G	J
30' (9.1m)	16.3	9.6	5.0	1.7	5" (127mm)	S07G	D
30' (9.1m)	28.8	18.6	11.6	6.6	6" (152mm)	S07G	J
35' (10.7m)	18.3	10.0	4.3	—	6" (152mm)	S07G	J
39' (11.9m)	11.5	4.3	—	—	6" (152mm)	S07G	J

EPA based on ANSI/ASCE 7-93. Refer to EPA information on next page. For applications in Canada and areas using code requirements other than ANSI/ASCE 7-93, consult factory. If luminaire weight exceeds 250 lbs. (113.4 kg), consult factory.

STEEL SQUARE POLES

POLE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **5SQB5 S07G 24 S PLP SF DGP**

Pole Series	Material	Height[2]	Mounting Configuration	Pole Finish	Options
Bolt-on Arm Mount - See pole selection guide for patterns and fixture matches. **4SQB3 -** 3" Reduced drilling pattern **5SQB3 -** 3" Reduced drilling pattern **4SQB5 -** 5" Traditional drilling pattern **5SQB5 -** 5" Traditional drilling pattern **6SQB5 -** 5" Traditional drilling pattern	S11G – 11 Ga. Steel S07G – 07 Ga. Steel	14' 16' 18' 20' 22' 24' 26' 28' 30'	S – Single/Parallel D180° – Double D90°– Double DN90°– Double T90°– Triple TN120°– Triple Q90°– Quad QN90°– Quad	BRZ – Bronze BLK – Black PLP – Platinum Plus WHT – White SVG - Satin Verde Green GPT - Graphite MSV - Metallic Silver	GA – Galvanized Anchor Bolts SF – Single Flood[3] DF – Double Flood[3] DGP – DuraGrip® Plus LAB – Less Anchor Bolts OSXX - Pole preparation for PMOS Occupancy Sensor[4]
Pole Top Mount - Use with: • Greenbriar Pole Top • Hilton Pole Top **4SQP** **5SQP** **6SQP**	**Consult Pole Selection Chart on opposite page**	35' 39'	PT – Pole Top Mount	**Standard SF and DF pole preparations are located 3/4 of the height of the pole from the base, unless otherwise specified.**	
Tenon Mount - See pole selection guide for tenon and fixture/bracket matches. **4SQN** **5SQN** **6SQN**			N – Tenon Mount (Standard tenon size is 2-3/8" O.D.)		
No Mounting Holes or Pole Caps - Use with: • BKA 4ISF & BKA 5ISF • BKA X4ISF & BKA X5ISF **Internal Slip-fitter[1]** **4SQI** **5SQI**			*		

ACCESSORY ORDERING INFORMATION

(Accessories are field installed)

Description	Order Number	Description	Order Number
4BC – 4" Square Base Cover	122559CLR	Vibration Damper - 4" Square Pole (bolt-on mount only)	172539
5BC – 5" Square Base Cover	122561CLR	Vibration Damper - 5" Square Pole (bolt-on mount only)	172538
6BC – 6" Square Base Cover	122563CLR	Vibration Damper - 6" Square Pole (bolt-on mount only)	178361
ER2 – Weatherproof Duplex Receptacle	122566CLR	PMOS120 - 120V Occupancy Sensor	518030CLR[5]
GFI – Ground Fault Circuit Interrupter	122567CLR	PMOS208/240 - 208, 240V Occupancy Sensor	C/F[5]
MHP – Mounting Hole Plugs (3 plugs)-for use with 5" traditional drill pattern	132336	PMOS277 - 277V Occupancy Sensor	518029CLR[5]
MHD – Mounting Hole Weatherproof Decal-for use with 3" reduced drill pattern	340120		

FOOTNOTES:

1 - See Area Lighting Brackets - Bolt-on and XAS3/XAM3 Area Lighting Brackets pages for Internal Slip-fitter brackets.

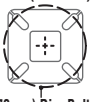
2 - Pole heights will have +/- 1/2" tolerance.

3 - See Flood Lighting Brackets section for choice of FBO brackets.

4 - Order PMOS separately. Change "XX" to indicate height and side of pole location for pole preparation. EX: OS8A indicates preparation is to be 8ft. up from pole base on side A. Optimal distance from ground to sensor is 10ft.

5 - OSXX option required. Not for use with Metal Halide fixtures

BOLT CIRCLE

	B	C	D	J
	4" (102mm) square 10-1/8" (257mm) sq.	**5" (127mm) square 10-1/8" (257mm) sq.**	**5" (127mm) square 10-1/8" (257mm) sq.**	**6" (152mm) square 12" (305mm) sq.**
				
	11" (279mm) Dia. Bolt Circle	**11" (279mm) Dia. Bolt Circle**	**11" (279mm) Dia. Bolt Circle**	**12" (305mm) Dia. Bolt Circle**
Bolt Circle	Slotted 8"-11" (203mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 9"-11" (229mm-279mm)	Slotted 12" (305mm)
Anchor Bolt Size	3/4" x 30" (19mm x 762mm)	3/4" x 30" (19mm x 762mm)	1" x 36" (25mm x 914mm)	1" x 36" (25mm x 914mm)
Anchor Bolt Projection	3-1/4" (83mm)	3-1/4" (83mm)	4" (102mm)	4" (102mm)
Base Plate Opening for Wireway Entry	3-5/8" (92mm)	4-3/4" (121mm)	4-5/8" (117mm)	5-5/8" (143mm)
Base Plate Dimensions	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 3/4" thk. (257mm x 19mm)	10-1/8" sq. x 1" thk. (257mm x 25mm)	12" sq. x 1-1/8" thk. (305mm x 29mm)

Note: Base plate illustrations may change without notice. Do not use for setting anchor bolts. Consult factory for the base plate templates.

EPA INFORMATION

All LSI Industries' poles are guaranteed to meet the EPA requirements listed. LSI Industries is not responsible if a pole order has a lower EPA rating than the indicated wind-loading zone where the pole will be located.
CAUTION: This guarantee does not apply if the pole/bracket/fixture combination is used to support any other items such as flags, pennants, or signs, which would add stress to the pole. LSI Industries cannot accept responsibility for harm or damage caused in these situations.

NOTE: Pole calculations include a 1.3 gust factor over steady wind velocity. Example: poles designed to withstand 80 MPH steady wind will withstand gusts to 104 MPH. EPAs are for locations 100 miles away from hurricane ocean lines. Consult LSI for other areas. Note: Hurricane ocean lines are the Atlantic and Gulf of Mexico coastal areas. For applications in Florida or Canada, consult factory.