

SITE DEVELOPMENT PLANS FOR:



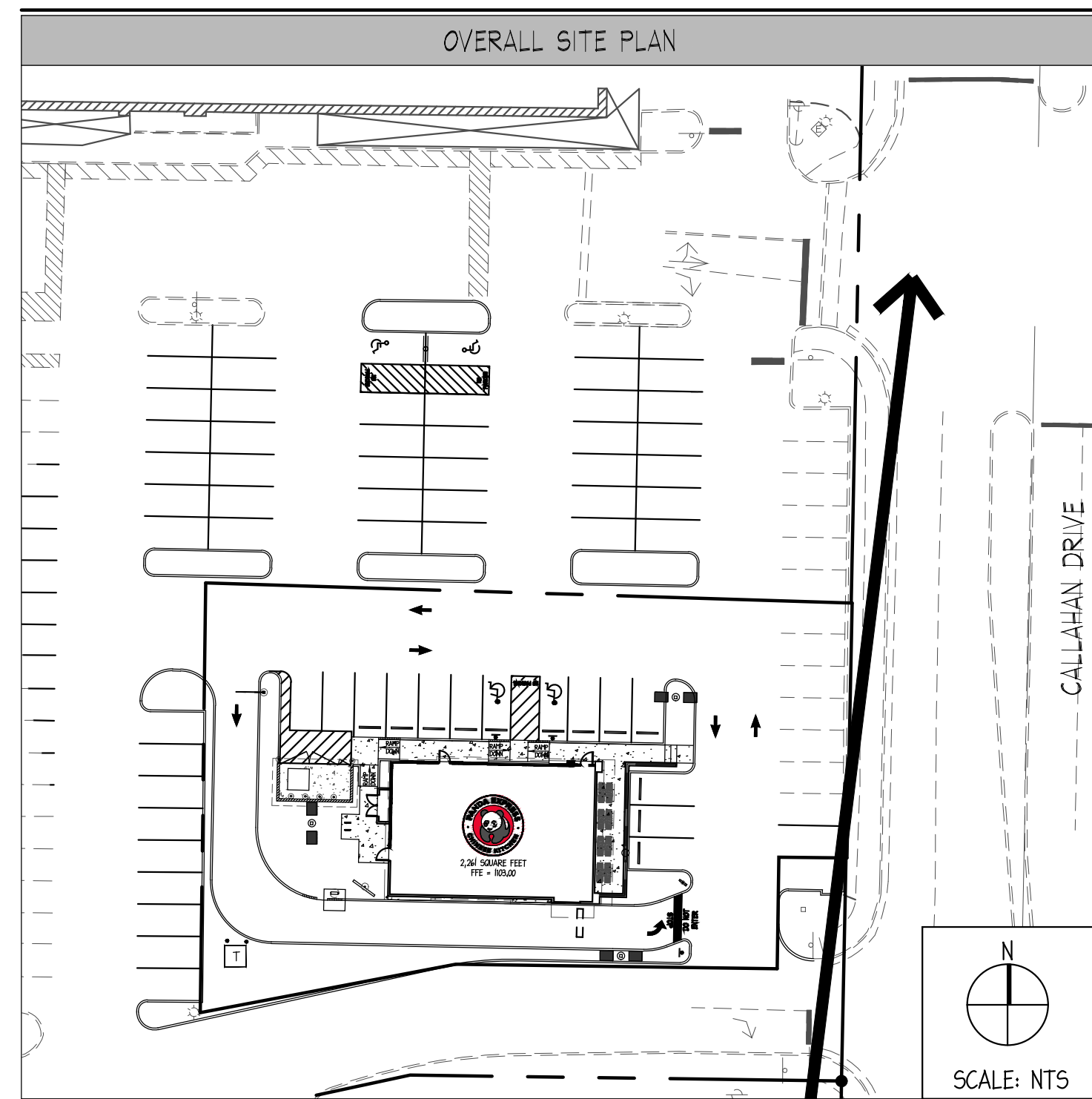
PANDA EXPRESS CLINTON HIGHWAY & CALLAHAN DRIVE KNOXVILLE, TENNESSEE

PREPARED BY:



PREPARED FOR:

PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-9898



NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED
TO USE THE SIGNALIZED TRAFFIC LIGHT AT
CALLAHAN DRIVE.

PROJECT CONTACTS			
SELLER GRAHAM CORPORATION MR. CRAIG CANTRELL 5555 CLINTON HIGHWAY KNOXVILLE, TN 37902 PHONE: (865) 648-7000 EMAIL: CCANTRELL@GRAHAMCORPORATION.COM	DEVELOPER PANDA EXPRESS, INC. MR. BILLY NEWTON 1683 WALNUT GROVE AVENUE ROSEMEAD, CA 91770 PHONE: (832) 683-9885	CIVIL ENGINEER INGENIUM ENTERPRISES, INC. 221 ROSWELL STREET, SUITE 100 ALPHARETTA, GA 30009 PHONE: (770) 437-8850	ARCHITECT RANDY REYNOLDS ARCHITECT MR. RANDY REYNOLDS 315 WALTER ROBERTS ST FRANKLIN, TN 37064 PHONE: (615) 541-0675 FAX: (666) 584-1225
MEP KURZYNSKE & ASSOCIATES 2900 LEBANON PIKE, SUITE 201 NASHVILLE, TN 37214 PHONE: (615) 255-5203 FAX: (615) 255-5207	SITE LIGHTING VILLA LIGHTING MR. RYAN ZINGELMEIER 2929 CHATEAU AVENUE SAINT LOUIS, MISSOURI 6303 PHONE: (314) 633-0403 EMAIL: RYAN.ZINGELMEIER@VILLALIGHTING.COM	MUNICIPAL SEWER AGENCY HALLS DALE-POWELL UTILITY DISTRICT MR. DEREK FREAR 3745 CUNNINGHAM ROAD KNOXVILLE, TN 37918 PHONE: (865) 922-7547 EMAIL: DFREAR@PUD.ORG	MUNICIPAL WATER AGENCY HALLS DALE-POWELL UTILITY DISTRICT MR. DEREK FREAR 3745 CUNNINGHAM ROAD KNOXVILLE, TN 37918 PHONE: (865) 922-7547 EMAIL: DFREAR@PUD.ORG
GAS KNOXVILLE UTILITIES BOARD MR. DAVID O'CONNOR 4505 MIDDLEBROOK PIKE KNOXVILLE, TN 37922 PHONE: (865) 558-2332 EMAIL: DAVID.O'CONNOR@KUB.ORG	TELEPHONE COMPANY FRONTIER COMMUNICATIONS CUSTOMER SERVICE PHONE: 1-800-921-8101	LANDSCAPE ARCHITECT ALAN D. HOLT A.S.L.A. MR. ALAN HOLT P.O. BOX 2549 PANAMA CITY, FL 32402 PHONE: (850) 914-9006 EMAIL: ALAN@ALANDHOLTASLA.COM	ELECTRIC KNOXVILLE UTILITIES BOARD MR. DAVID O'CONNOR 4505 MIDDLEBROOK PIKE KNOXVILLE, TN 37922 PHONE: (865) 558-2332 EMAIL: DAVID.O'CONNOR@KUB.ORG
FIRE FIRE DEPARTMENT MR. STAN SHARP, FIRE CHIEF 900 E. HILL AVENUE, SUITE 430 KNOXVILLE, TN 37915 PHONE: (865) 595-4480 EMAIL: SSHARP@KNOXVILLETN.GOV	SIGNAGE CITY OF KNOXVILLE PLANS & INSPECTIONS DIVISION MR. SCOTT ELDER, ZONING CHIEF 400 MAIN STREET, SUITE 505 KNOXVILLE, TN 37902 PHONE: (865) 215-4473 EMAIL: SELDER@KNOXVILLETN.GOV	LANDSCAPE ARCHITECT ALAN D. HOLT A.S.L.A. MR. ALAN HOLT P.O. BOX 2549 PANAMA CITY, FL 32402 PHONE: (850) 914-9006 EMAIL: ALAN@ALANDHOLTASLA.COM	ELECTRIC KNOXVILLE UTILITIES BOARD MR. DAVID O'CONNOR 4505 MIDDLEBROOK PIKE KNOXVILLE, TN 37922 PHONE: (865) 558-2332 EMAIL: DAVID.O'CONNOR@KUB.ORG

CONTRACTOR SHALL COORDINATE AND VERIFY
LOCATION OF ALL SIGNAGE WITH OWNER PRIOR
TO CONSTRUCTION.

CONTRACTOR SHALL COORDINATE AND ADJUST
LOCATION OF LOOP DETECTORS TO AVOID
UTILITY CONFLICTS PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL INSTALL GENERAL UTILITY
CONDUITS TO PLANTERS AROUND BUILDING AND
PATIO. SEE ARCHITECTURAL/MEP PLANS FOR
CONTINUATION.

THE CONTRACTOR IS RESPONSIBLE FOR
MEETING ALL LOCAL, STATE, AND FEDERAL
CERTIFICATION AND LICENSING REQUIREMENTS
FOR CONSTRUCTION, INCLUDING BUT NOT
LIMITED TO: LAND DISTURBANCE PERMITS,
BUILDING PERMITS, DEMOLITION PERMITS,
NPDES PERMITS, DEWATERING PERMITS, ETC.

CONTRACTOR SHALL PROTECT ALL ITEMS
OUTSIDE LIMITS OF CONSTRUCTION UNLESS
OTHERWISE NOTED IN THE CONSTRUCTION
PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING
UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO
STARTING CONSTRUCTION AND ALERT ENGINEER TO
ANY DISCREPANCIES IMMEDIATELY.

CONTRACTOR SHALL ENSURE 100% COVERAGE OF
ALL LANDSCAPED AREAS WITHIN LIMITS OF
WORK, INCLUDING POTENTIAL OFFSITE AREAS.
COVERAGE SHALL INCLUDE BOTH LANDSCAPING
AND IRRIGATION.

DEMOLITION AND CONSTRUCTION SHALL BE
STAGED ACCORDINGLY SO AS TO MAINTAIN
PARKING FOR EXISTING TENANTS WITHIN THE
SHOPPING CENTER.

A PRE-CONSTRUCTION CONFERENCE IS
REQUIRED TO BE SCHEDULED PRIOR TO
ISSUANCE OF A PERMIT. TO SCHEDULE A
PRE-CONSTRUCTION CONFERENCE PLEASE
CONTACT THE PROJECT'S ENGINEERING
INSPECTOR AT (865) 254-8056

THE GEOTECHNICAL INVESTIGATION PREPARED BY
TERRACON, DATED 06/22/2020 AND ANY SUBSEQUENT
ADDENDUMS IS CONSIDERED PART OF THE CONTRACT
DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY
TO COORDINATE THE REPORT'S RECOMMENDATIONS AND
FINDINGS WITH THE OWNER, ENGINEER AND ARCHITECT
PRIOR TO CONSTRUCTION. IMPLEMENTATION OF THE
REPORT'S RECOMMENDATIONS MAY REQUIRE THE
CONTRACTOR TO PERFORM ADDITIONAL WORK NOT
SHOWN ON THE CIVIL PLANS INCLUDING BUT NOT
LIMITED TO EXCAVATION, REMEDIATION, DEWATERING,
COMPACTION ETC.

1800394ZCD01 - TN811.U1F
24-HOUR CONTACT:
BILLY NEWTON
832-683-9885

PARKING SUMMARY OF OVERALL SHOPPING CENTER PROVIDED BY SELLER

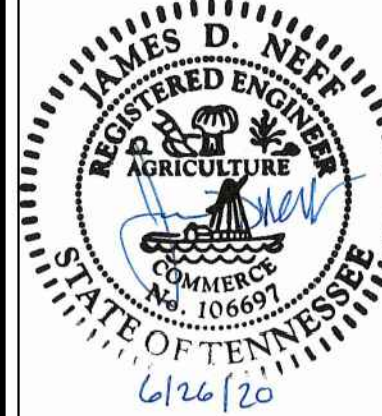
- MINIMUM PARKING FOR THE SHOPPING CENTER: 801 SPACES
- MAXIMUM PARKING FOR THE SHOPPING CENTER: 2,124 SPACES
- PARKING TO REMAIN FOR SHOPPING CENTER: 1,316 SPACES

SITE INFORMATION	
JURISDICTION:	KNOXVILLE, TENNESSEE KNOX COUNTY
ZONING:	PC-1 (PLANNED COMMERCIAL)
CITY BLOCK #:	40860
REQUIRED SETBACKS:	NONE
REQUIRED BUILDING SETBACKS:	FRONT: 50' REAR: 0' SIDE: 0'
REQUIRED PARKING:	MINIMUM PARKING: 6 SPACES PER 1,000 SF 2,261 SF / 1,000 SF = 2.261 X 6 = 14 SPACES MAXIMUM PARKING: 12 SPACES PER 1,000 SF 2,261 SF / 1,000 SF = 2.261 X 12 = 27 SPACES
PROPOSED PARKING:	9' X 18' (REGULAR) = 21 8' X 18' (H.C.) = 2 TOTAL = 23
REQUIRED BICYCLE SPACES:	LESS THAN 50 TOTAL REQUIRED PARKING SPACES = 4 SPACES
PROPOSED BICYCLE SPACES:	4 SPACES
DRIVE AISLE:	24'
SITE AREA CALCULATIONS:	SITE: -10.44 AC. PERVIOUS AREA: -10.06 AC. IMPERVIOUS AREA: -10.38 AC. DISTURBED AREA: -10.45 AC. EXISTING PERVIOUS: -10.02 AC. EXISTING IMPERVIOUS: -10.42 AC.
FLOOD HAZARD:	NO PORTION OF THIS PROPERTY IS LOCATED IN A SPECIAL FLOOD AREA AS PER F.I.R.M. MAP NO. 4708C020F, DATED 05/02/2007.
EXISTING INFORMATION:	PROVIDED BY CANNON & CANNON, DATED 06/25/2020 (SEE SHEET C02.0).

SHEET INDEX		ISSUE 01 - ISSUE FOR CLIENT & SELLER REVIEW	ISSUE 02 - ISSUE FOR CLIENT REVIEW	ISSUE 03 - ISSUE FOR CLIENT REVIEW	ISSUE 04 - ISSUE FOR CLIENT REVIEW	ISSUE 05 - SELLER REVISIONS	ISSUE 06 - ISSUE FOR PERMIT REVIEW	ISSUE 07 - RESUBMIT FOR 3RD PARTY REVIEW	ISSUE 08 - SUBMIT TO THE CITY	ISSUE 09 - ADDRESS SELLER'S COMMENTS	ISSUE 10 - RESUBMIT TO CITY OF KNOXVILLE	ISSUE 11 - ISSUE FOR BID	ISSUE 12 -
NO.	TITLE												
C01.0	COVER SHEET												
C01.1	GENERAL NOTES												
C02.0	SURVEY												
C02.1	DEMOLITION PLAN												
C02.2	DELINEATION OF WORK PLAN												
C03.0	SITE PLAN												
C03.1	STAKING PLAN												
C03.2	HARDSCAPE DETAILS I												
C03.3	HARDSCAPE DETAILS II												
C03.4	HARDSCAPE DETAILS III												
C03.5	HARDSCAPE DETAILS IV												
C04.0	UTILITY PLAN												
C04.1	BUILDING AREA UTILITY PLAN												
C04.2	UTILITY DETAILS I												
C04.3	UTILITY DETAILS II												
C04.4	UTILITY DETAILS III												
C04.5	UTILITY DETAILS IV												
C04.6	PROFILES I												
C04.7	PROFILES II												
C05.0	GRADING AND DRAINAGE PLAN												
C06.0	SWPPP PLAN												
C06.1	ESPC PLAN - CLEARING PHASE												
C06.2	ESPC PLAN - GRADING PHASE												
C06.3	ESPC PLAN - FINAL PHASE												
C06.4	ESPC DETAILS I												
C06.5	ESPC DETAILS II												
C06.6	ESPC DETAILS III												
L01.0	LANDSCAPE PLAN												
L01.1	LANDSCAPE NOTES & DETAILS												
SLO1.0	SITE LIGHTING PLAN												



221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.437.8850
WWW.INGENIUMENTERPRISES.COM



PANDA EXPRESS (D6411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT
GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-9898

REVISION HISTORY	
1	ISSUED FOR PERMIT REVIEW
2	ISSUED FOR CLIENT REVIEW
3	ISSUED FOR CLIENT REVIEW
4	ISSUED FOR CLIENT REVIEW
5	ISSUED FOR CLIENT REVIEW
6	ISSUED FOR CLIENT REVIEW
7	ISSUED FOR CLIENT REVIEW
8	ISSUED FOR CLIENT REVIEW
9	ISSUED FOR CLIENT REVIEW
10	ISSUED FOR CLIENT REVIEW

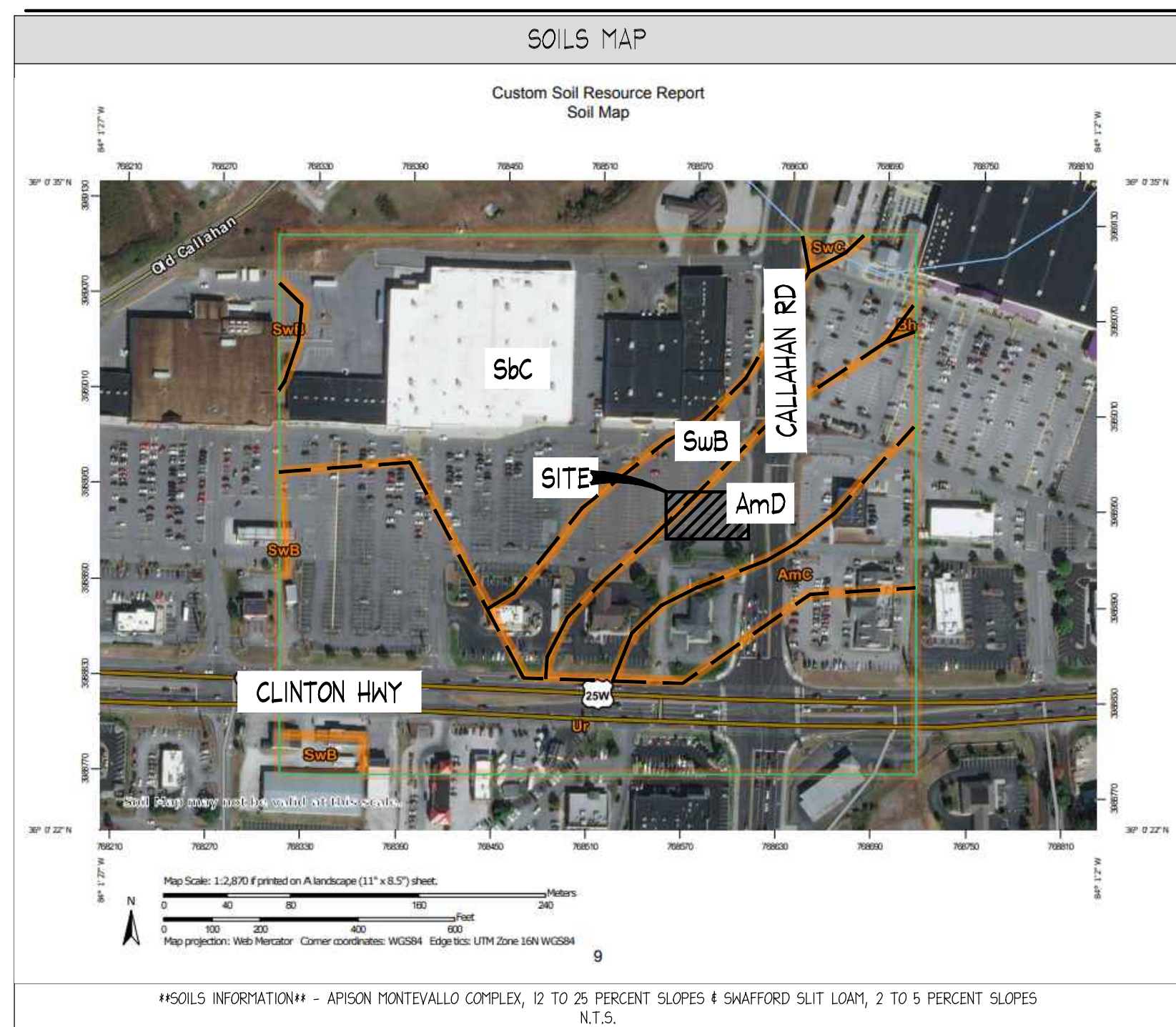
THE CIVIL ENGINEER REGULARLY UPDATES
ELECTRONIC FILES DURING THE DEVELOPMENT OF A
PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY
CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE
DOES NOT NECESSARILY REFLECT THE COMPLETE
SCOPE OR CONTENT AS DEFINED IN THE CONTRACT.
THE CONTENTS IN THESE FILES MAY THEREFORE BE
PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND
SUBJECT TO CHANGE. FURTHERMORE, THE
INFORMATION CONTAINED HEREIN IS THE SOLE
PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL
DESIGN REPRESENTED HEREIN BY THIS INFORMATION
SHALL NOT BE USED, ALTERED, OR REPRODUCED IN
ANY MANNER WITHOUT THE EXPRESSED WRITTEN
CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE
SUBJECT TO FEDERAL COPYRIGHT LAWS AND USE OF
SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF
THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 COLDING
ISSUE DATE 06/26/2020
PROJ TGR: EHI

COVER SHEET

C01.0
SHEET NUMBER

ISSUE FOR BID



ABBREVIATIONS		
ASPH	"	ASPHALT
BC	"	BOTTOM OF CURB
BFP	"	BACKFLOW PREVENTER
BW	"	BOTTOM OF WALL
CAG	"	CURB AND GUTTER
C.B.	"	CHORD BEARING
CB	"	CATCH BASIN
CF	"	CUBIC FEET
CL	"	CENTERLINE
CMP	"	CORRUGATED METAL PIPE
Co	"	GENERAL CLEAN OUT
CONC.	"	CONCRETE
CW	"	COLD WATER SUPPLY
CT	"	CUBIC YARD
D.O.T.	"	DEPARTMENT OF TRANSPORTATION
DI	"	DROP INLET
DS	"	DOWN SPOUT
DIP	"	DUCTILE IRON PIPE
E	"	EAST
EL	"	ELEVATION
EGL	"	ENERGY GRADE LINE
EXIST.	"	EXISTING
FDC	"	FIRE DEPARTMENT CONNECTION
FES	"	FLARED END SECTION
FE	"	FINISH FLOOR ELEVATION
FH	"	FIRE HYDRANT
GC	"	GENERAL CONTRACTOR
GSF	"	GROSS SQUARE FEET
GT	"	GREASE TRAP
GV	"	GATE VALVE
HDPE	"	HIGH DENSITY POLYETHYLENE
HGL	"	HYDRAULIC GRADE LINE
HN	"	HOT WATER SUPPLY
I	"	INTERNAL ANGLE
IN	"	INVERT
IRR	"	IRRIGATION
L	"	LENGTH OF CURVE
L.C.	"	LENGTH OF CURVED
LFEE	"	LOWER FINISH FLOOR ELEVATION
LP	"	LIGHT POLE/FIXTURE
LS	"	LANDSCAPE
LN	"	MANHOLE
N	"	NORTH
PC	"	POINT OF CURVATURE
PI	"	POINT OF INTERSECTION
PIV	"	POST INDICATOR VALVE
PROP	"	PROPOSED
PT	"	POINT OF TANGENCY
PVC	"	POLYVINYL CHLORIDE PIPE
R	"	RADIUS OF CURVE
RCP	"	REINFORCED CONCRETE PIPE
ROD	"	ROOF DRAIN
R/W	"	RIGHT-OF-WAY
S	"	SOUTH
SF	"	SQUARE FEET
SSE	"	SANITARY SEWER EASEMENT
STD	"	STANDARD
SY	"	SQUARE YARD
T	"	TANGENT OF CURVE LENGTH
TC	"	TOP OF CURB
TB	"	THRUST BLOCKING
TH	"	TOP OF WALL
TYP.	"	TYPICAL
W	"	WEST
WM	"	WATER METER
WS.	"	WATER SURFACE
W.S.E.	"	WATER SURFACE ELEVATION
YR	"	YEAR

SEE SURVEY/EXISTING CONDITIONS FOR ABBREVIATIONS SPECIFIC TO THAT SHEET

DEFINITIONS

"ISSUED FOR PERMITTING"
DRAWINGS ARE INTENDED FOR SUBMITTAL TO THE JURISDICTION(S) HAVING AUTHORITY FOR REVIEW, COMMENT, AND/OR APPROVAL. DRAWINGS ARE NOT INTENDED FOR PRICING, BID, OR CONSTRUCTION.

"NOT ISSUED FOR CONSTRUCTION"
DRAWINGS ARE INTENDED FOR SUBMITTAL TO THE JURISDICTION(S) HAVING AUTHORITY FOR REVIEW, COMMENT, AND/OR APPROVAL. DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION.

"ISSUED FOR CONSTRUCTION"
DRAWINGS ARE INTENDED FOR PRICING, BID, AND/OR CONSTRUCTION.

"Rest"

1. THROAT OR GRATE ELEVATION FOR CURB INLETS.
2. TOP OF STRUCTURE FOR JUNCTION BOXES/OCS.
3. TOP OF STRUCTURE FOR SANITARY MANHOLES AND CLEANOUTS.

DESCRIPTION	LINE TYPE/SYMBOL
IRRIGATION CONTROL VALVE	ICV
IRON PIN FOUND	IPF
IRON PIN SET (1/2" RB)	IPS
OPEN TOP PIPE	OT
CRIMP TOP PIPE	CT
CONCRETE MONUMENT FOUND	CMF
NAIL AND CAP	N & C
REBAR	RB
UTILITY POLE	PP
LIGHT POLE	TP ☼
LAND LOT	LL
LAND LOT LINE	LLL
POINT OF BEGINNING	POB
BUILDING LINE	BL
CENTER LINE	CL
PROPERTY LINE	PL
FIRE HYDRANT	FH
CATCH BASIN	CB
DROP INLET	DI
HEADWALL	HW
JUNCTION BOX	JB
DRAINAGE EASEMENT	DE
WATER METER	WM
WATER VALVE	WV
GAS VALVE	GV
MANHOLE	MH
RIGHT-OF-WAY MONUMENT FOUND	☒
GAS LINE	——— GAS ———
WATER LINE	——— WAT ———
SANITARY SEWER LINE	——— SAN ———
STORM DRAINAGE PIPE	——— ——— ——— ———
OVERHEAD ELECTRIC LINE	——— OH ELE ———
OVERHEAD ELECTRIC/TELEPHONE/TV LINE	——— OH E/T/TV ———
OVERHEAD ELECTRIC/TELEPHONE LINE	——— OH E/T ———
UNDERGROUND ELECTRIC	——— UGE ———

GENERAL NOTES

1. INGENUITY ENTERPRISES, INC. (IE) REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPE OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY FILE OR DRAWING PRIOR TO ITS FINAL RELEASE IS NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DENIED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF IE. THE ORIGINAL IDEAS REPRESENTED BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF IE.
2. DEVIATIONS FROM THESE PLANS AND NOTES WITHOUT PRIOR CONSENT OF THE OWNER, HIS REPRESENTATIVE, OR THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER A COMPLETE PROJECT, READY TO USE, AND ALL ITEMS NECESSARY FOR A COMPLETE AND WORKABLE JOB SHALL BE FURNISHED AND INSTALLED. THIS INCLUDES ALL SUPPLY AND WASTE.
4. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN OR ON NEAR THE CONSTRUCTION SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL BARRICADES, WARNING SIGNS, FLASHING LIGHTS AND TRAFFIC CONTROL DEVICES DURING CONSTRUCTION. CONTRACTOR TO COMPLY WITH ALL OSHA REGULATIONS, REQUIREMENTS AND SAFETY MEETING REQUIREMENTS.
5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE FAILURE OF THE PUBLIC OR CONSTRUCTION'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.













PROPOSED LEGEND		
GENERAL	LINETYPE/SYMBOL	REFERENCE
RIGHT-OF-WAY/PROPERTY LINE		SEE PLANS
CENTERLINE		SHEET C03.1
LIMITS OF CONSTRUCTION		SEE PLANS
DETAIL REFERENCE		SEE PLANS
ADDENDUM AND/OR REVISION REFERENCE		SEE PLANS

SITE/HARDSCAPE	LINETYPE/SYMBOL	REFERENCE
CHAIN LINK FENCE		SEE PLANS
RETAINING WALL		SEE PLANS
SCREEN WALL/DUMPSTER ENCLOSURE		SEE ARCHITECTS PLANS
CURB & GUTTER		DETAIL 4, SHEET C03.3
HEADER CURB		DETAIL 5, SHEET C03.3
CONCRETE SIDEWALK		DETAIL 7, SHEET C03.3

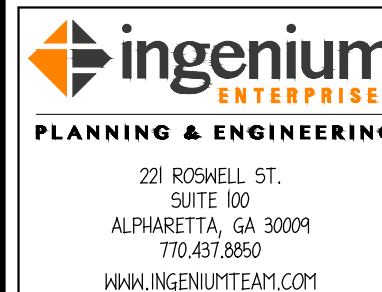
UTILITY	LINETYPE/SYMBOL	REFERENCE
DOMESTIC WATER LINE		2" PEX
FIRE WATER LINE		NOT APPLICABLE
BUILDING FIRE SPRINKLER LINE		NOT APPLICABLE
IRRIGATION WATER LINE		1" POLY
DOMESTIC WATER METER (WM)		1-1/2" DETAIL 2, SHEET C04.5
IRRIGATION METER (IRR)		1"
BACKFLOW PREVENTER (RPZ)		1" DETAIL 3, SHEET C04.5
FIRE VAULT (DDC)		NOT APPLICABLE
DC BACKFLOW PREVENTER		1-1/2" DETAIL 1, SHEET C04.5
WATER TAP OR TEE		8" Øx2"
GATE VALVE (GV)		NOT APPLICABLE
THRUST BLOCK (TB)		NOT APPLICABLE
FIRE HYDRANT (FH)		NOT APPLICABLE
FIRE DEPARTMENT CONNECTION (FDC)		NOT APPLICABLE
SANITARY SINKER (SS)		4" PVC
SANITARY MANHOLE (50"HD)		NOT APPLICABLE
GENERAL CLEAN OUT (CO)		DETAIL 4, SHEET C04.4
SAMPLING MANHOLE		NOT APPLICABLE
SANITARY STRUCTURE NUMBER		SEE PLANS
UNDERGROUND ELECTRIC LINE-PRIMARY		"
UNDERGROUND ELECTRIC LINE-SECONDARY		(2) # 4" PVC
POST INDICATOR VALVE		NOT APPLICABLE
SITE LIGHTING POLE		SEE PLANS
TRANSFORMER PAD		DETAIL 2, SHEET C04.2
METER/CT PEDESTAL		NOT APPLICABLE
UNDERGROUND TELEPHONE LINE		(1) # 4" PVC W/PULL STRING
GENERAL UTILITY CONDUIT		(2) 4" PVC
GAS LINE		"
GAS METERS		"

**** ALL UTILITIES SHALL BE INSTALLED ACCORDING TO UTILITY PROVIDERS AND JURISDICTION STANDARDS AND SPECIFICATIONS.**

GRADING/DRAINAGE	LINE/TYPE/SYMBOL	REFERENCE
GRADE		SEE PLANS
SPOT ELEVATION	\times	SEE PLANS
STORM DRAIN		SEE PLANS
AREA INLET (GRATE)		DETAIL 1, SHEET C04.2
CURB INLET		DETAIL 2, SHEET C04.3
STORM MANHOLE (AREA DRAIN)		DETAIL 1 & 3, SHEET C04.2
DROP INLET (PEDESTAL)		NOT APPLICABLE
STORM STRUCTURE NUMBER		SEE PLANS
LIMITS OF CONSTRUCTION		SEE PLANS

ESPC BMP		LINETYPE/SYMBOL	REFERENCE
CE	CONSTRUCTION EXIT		SEE DETAIL, SHEET C06.4
SP	SILT FENCE		SEE DETAIL, SHEET C06.4
IP	STORM DRAIN INLET PROTECTION		SEE DETAIL, SHEET C06.5
OP	STORM DRAIN OUTLET PROTECTION		N/A
PS	D.A.S. WITH PERMANENT VEGETATION		SEE DETAIL, SHEET C06.6
SO	D.A.S. WITH SOD		SEE DETAIL, SHEET C06.6
ES	D.A.S. WITH TEMPORARY VEGETATION		SEE DETAIL, SHEET C06.6
MU	D.A.S. WITH MULCH		SEE DETAIL, SHEET C06.5
GK	CONCRETE WASHOUT		SEE DETAIL, SHEET C06.5
RECP	ROLLED EROSION CONTROL PRODUCT		N/A
TD	DIVERSION		N/A
	TREE PROTECTION FENCE		N/A

SEE LANDSCAPE/TREE PROTECTION PLANS FOR LEGEND SPECIFIC TO THOSE SHEETS



PANDA EXPRESS (D6411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT
GROUP

1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-9898

REVISION HISTORY	
1	--/--/----
2	--/--/----
3	--/--/----
4	--/--/----
5	--/--/----
6	--/--/----
7	--/--/----
8	--/--/----
9	--/--/----
10	--/--/----

THE CIVIL ENGINEER, REGULARLY UPDATING HIS ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT, AS WELL AS THE DATA INCLUDED IN AN AEC CAD FILE OR RESULTING FROM ITS FINAL RELEASE, DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE. ANY INFORMATION OR DATA INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL IDEAS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS; ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ #	180039
DWG NAME	180039 COL.DWG
ISSUE DATE	06/26/2020
PROJ MGR	EH

GENERAL NOTES

COI.1
SHEET NUMBER

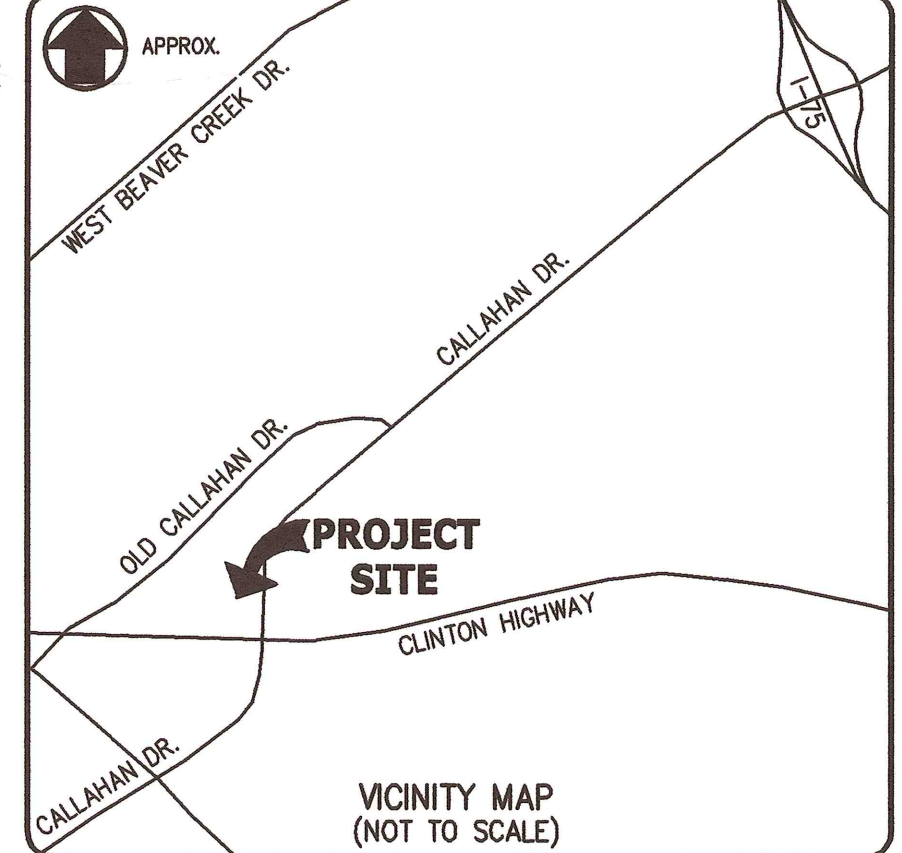
ISSUE FOR BID

CONTROL POINT DATA

CONTROL PT# 1
SET LARGE SPIKE
N 615443.49
E 2554013.34
EL. 1101.55

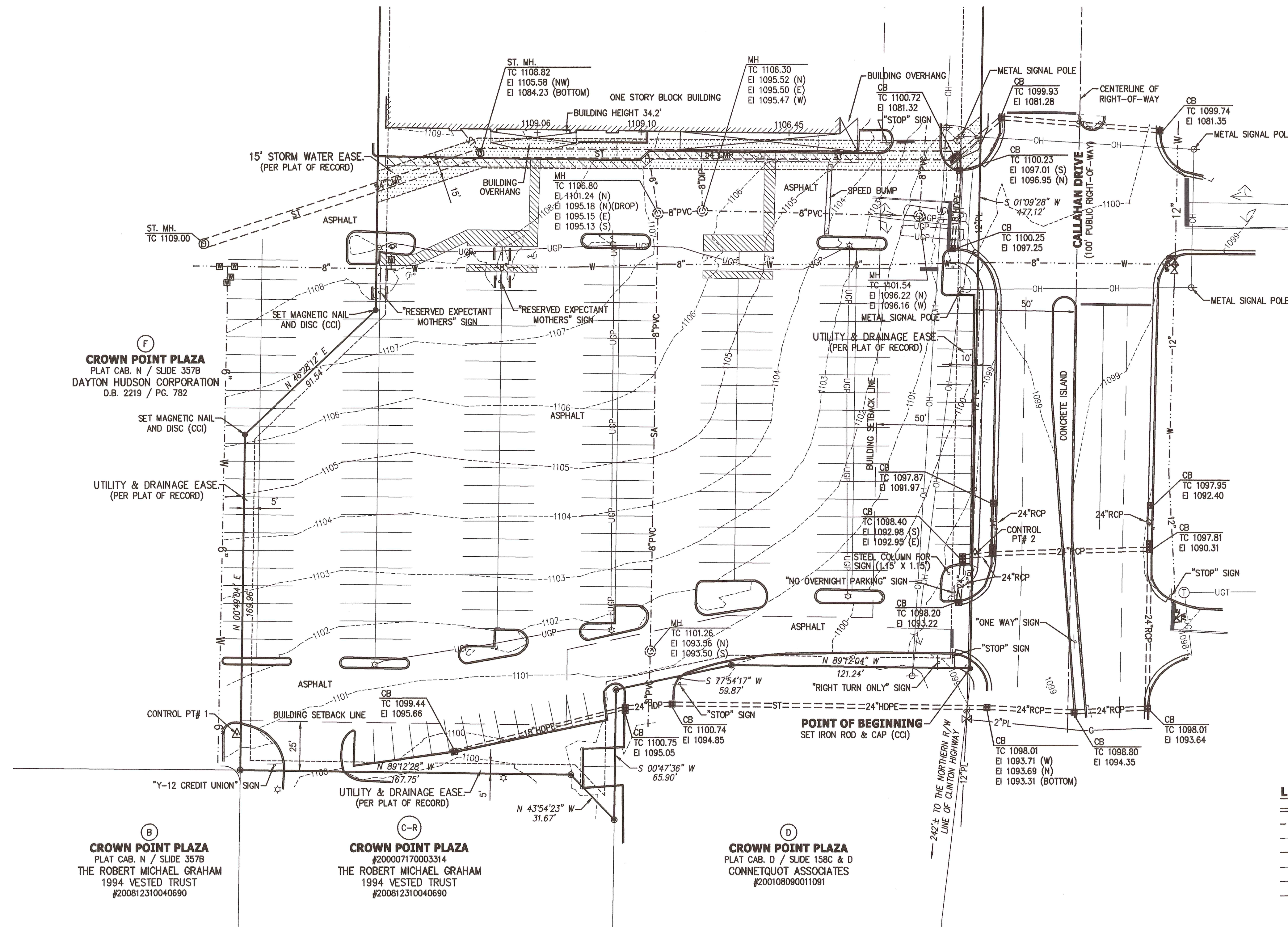
CONTROL PT# 2
SET LARGE SPIKE
N 615534.70
E 2554387.87
EL. 1098.75

0 30 60
SCALE: 1" = 30'
COORDINATES HAVE BEEN DATUM
ADJUSTED BY A FACTOR OF 1.0001



NOTES:

- OWNERSHIP AND REFERENCE
PART OF LOT 3R1R CROWNE POINT PLAZA SUBDIVISION
GRAHAM C.P.
P.O. BOX 12489
KNOXVILLE, TENNESSEE 37912
CLT MAP 67, INSERT L, GROUP B, PART OF PARCEL 4.00
DEED REFERENCE: 200104160069445
PLAT REFERENCE: 200307210008243
- DATE OF FIELD SURVEY: SEPTEMBER 12, 2018
- SUBJECT PROPERTY LIES OUTSIDE THE 100 YEAR FLOODWAY WITHIN ZONE X PER FIRM MAPPING OF BLOUNT COUNTY, TN. COMMUNITY PANEL NO: 47093C0120F DATED 5/02/2007.
- ABOVE GROUND AND UNDERGROUND UTILITIES AS SHOWN WERE LOCATED FROM VISIBLE FIELD EVIDENCE, UTILITY MARKINGS AND/OR DRAWINGS BY OTHERS. VERIFICATION AS TO EXISTENCE, LOCATION, SIZE, MATERIAL AND DEPTH SHOULD BE PURSUED PRIOR TO ANY DECISIONS BEING MADE RELATIVE TO UTILITIES. TO AVOID CONFLICTS AND/OR HAZARDS, NOTIFY TENNESSEE ONE CALL AT 811 PRIOR TO ANY EXCAVATION OR GRADING ACTIVITIES.
- ZONING CLASSIFICATION: RETAIL AND OFFICE PARK (PC-1)
AREA REGULATIONS:
LOT COVERAGE. ANY DEVELOPMENT MAY BE DIVIDED INTO INDIVIDUAL LOTS OR BUILDING SITES, PROVIDED THAT ALL BUILDINGS WITHIN THE DEVELOPMENT SHALL NOT COVER MORE THAN FIFTY (50) PERCENT OF THE DEVELOPMENT'S TOTAL AREA.
PERIPHERAL BOUNDARY. FIFTY-FOOT BUILDING SETBACK SHALL BE PROVIDED FROM THE DEVELOPMENT BOUNDARY LINE OR ANY PUBLIC STREET OR ROAD EXISTING PRIOR TO THE DEVELOPMENT.
FRONT YARD. TWENTY-FIVE-FOOT BUILDING SETBACK SHALL BE PROVIDED FROM STREETS CREATED WITHIN THE DEVELOPMENT.
SIDE AND REAR YARDS. NO SIDE OR REAR YARDS SHALL BE REQUIRED WITHIN THE DEVELOPMENT.



LEGEND

==ST==	STORM SEWER LINE
---SA---	SANITARY SEWER LINE
OH	OVERHEAD UTILITIES
---W---	UNDERGROUND WATER LINE
UGT	UNDERGROUND PHONE LINE
UGP	UNDERGROUND POWER LINE
CG	UNDERGROUND GAS LINE
■	CATCH BASIN
⊙	STORM MANHOLE
CMP	CORRUGATED METAL PIPE
RCP	REINFORCED CONCRETE PIPE
PVC	POLYVINYL CHLORIDE PIPE
HOPE	HIGH DENSITY POLYETHYLENE PIPE
→	ANCHOR WIRE
⊕	POWER POLE
⊕	LIGHT POLE
⊕	POWER EQUIPMENT
⊕	TELEPHONE VAULT
⊕	WATER VALVE
⊕	FIRE HYDRANT
⊕	WATER METER
⊕	GAS VALVE
⊕	SANITARY MANHOLE
⊕	SANITARY CLEAN OUT
⊕	SIGN

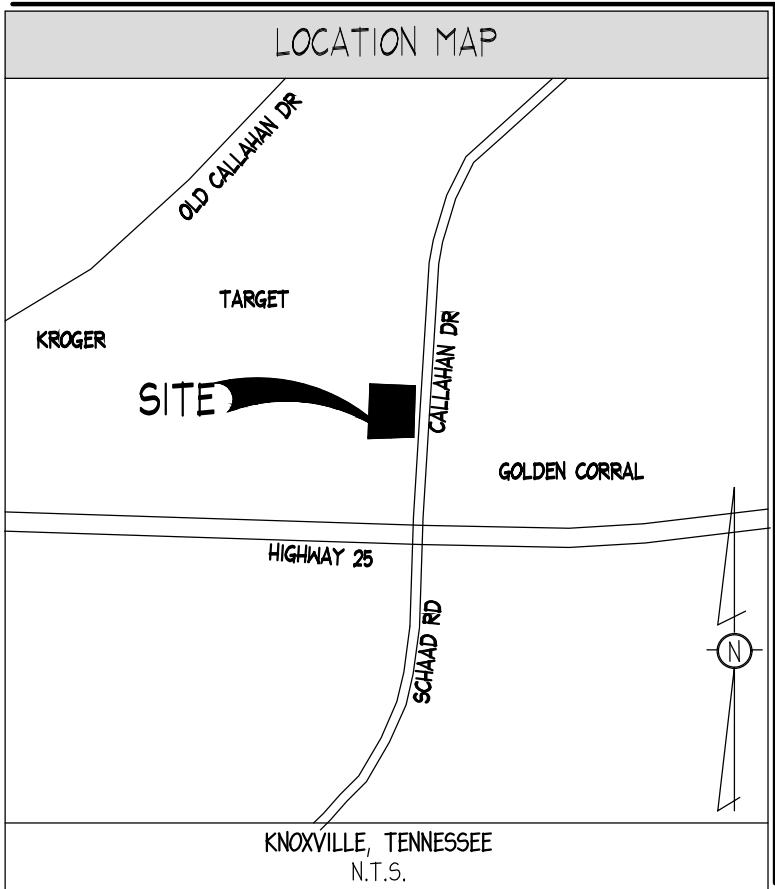
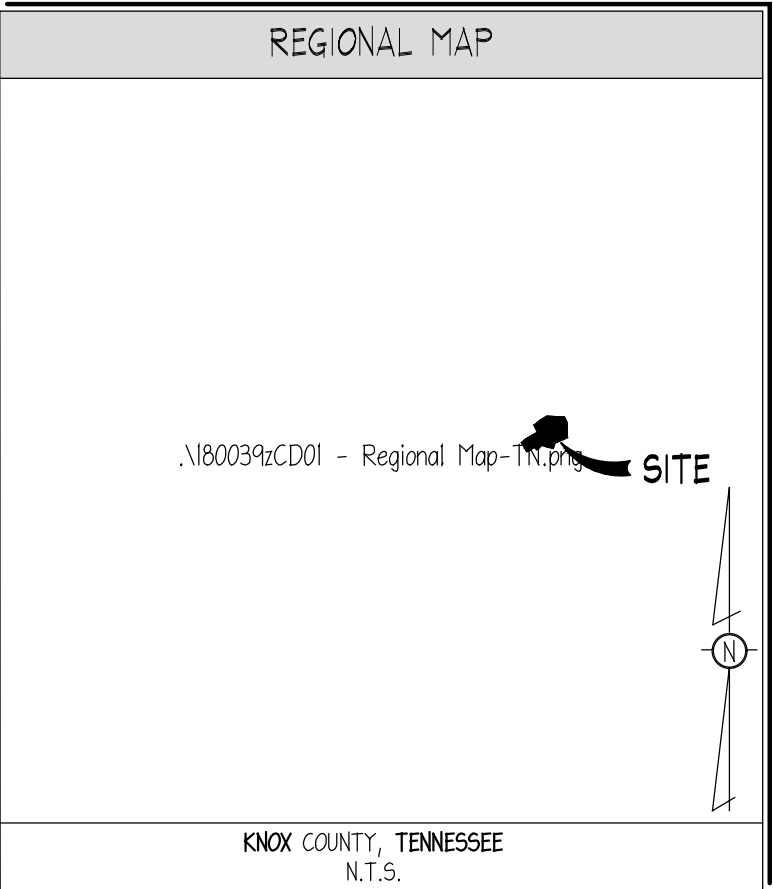
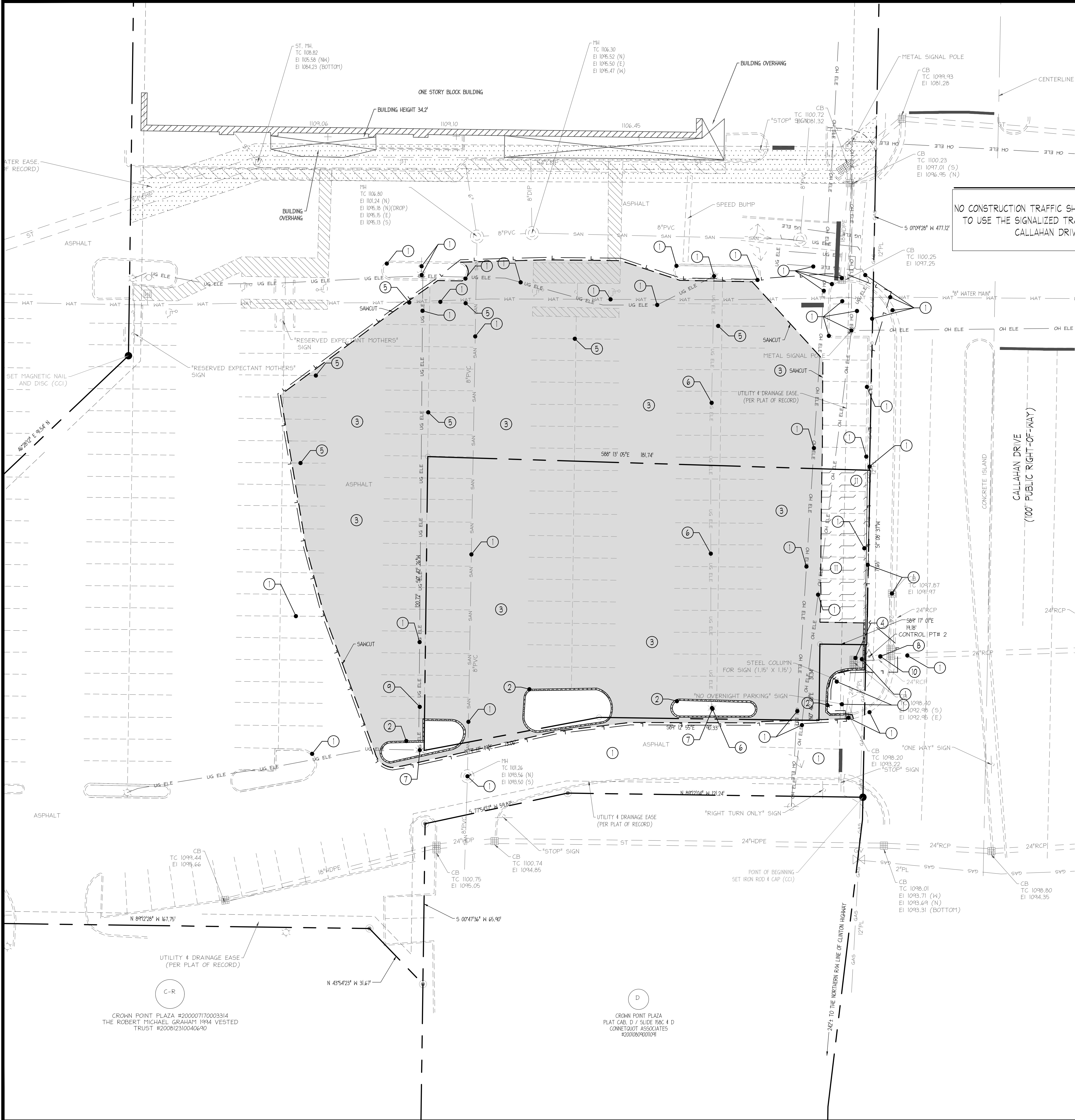
CERTIFICATE OF CLASS AND ACCURACY
OF SURVEY

I hereby certify that this is a category 1 survey
and the ratio of precision of the unadjusted survey
is not less than 1:15,000 as shown thereon.

Tenn. Reg. No. 1332

811
Know what's below
Call before you dig

REVISIONS	DATE
 CANNON & CANNON INC. CONSULTING ENGINEERS - FIELD SURVEYORS TEL: 865.670.8555 8550 Kingston Pike WWW.CANNON-CANNON.COM Knoxville, TN 37919	
CLIENT:	INGENIUM ENTERPRISES, INC. 3650 MANSELL ROAD, SUITE 495 ALPHARETTA, GA 30022 (770) 437-8850
PROJECT:	PART OF LOT 3R1R CROWNE POINT PLAZA SUBDIVISION 6636 CLINTON HIGHWAY DISTRICT 6, WARD 40, CITY BLOCK 40860 KNOXVILLE, TENNESSEE
EXISTING CONDITIONS	
CCI PROJECT NO.	1116-0005
DRAWING DATE	SEPTEMBER 25, 2018
PM	RGL PC SEB
DRAWN	JDW
 1116-08	



- ### DEMOLITION LEGEND
- PROTECT ALL ITEMS DURING ALL PHASES OF CONSTRUCTION (SEE GENERAL DEMOLITION NOTE #1). THE CONTRACTOR SHALL ENSURE THE INTEGRITY OF ALL ITEMS DENOTED TO BE PROTECTED THAT ARE ADJACENT TO ITEMS DENOTED TO BE DEMOLISHED AND WILL SAFELY REPAIR ANY SUCH ITEMS TO THE REQUIRED JURISDICTIONAL STANDARDS.
 - SAWCUT AND REMOVE EXISTING CONCRETE, SIDEWALKS, CURB AND GUTTER AND ASSOCIATED APPURTENANCES INCLUDING, BUT NOT LIMITED TO, REINFORCEMENT AND STONE BASE.
 - REMOVE EXISTING ASPHALT AND ASSOCIATED APPURTENANCES INCLUDING, BUT LIMITED TO, REINFORCEMENT AND STONE BASE.
 - CONTRACTOR SHALL REMOVE GRATE, CLEAN OUT EXISTING INLET AND REPLACE GRATE. ADDITIONAL CONTRACTOR SHALL CORE DRILL FOR FUTURE PIPES AND BRICK UP CONNECTION FOR THE REMOVED PIPE.
 - EXISTING STRIPING TO BE REMOVED DURING ASPHALT SAWCUT/REMOVAL. CONTRACTOR SHALL REPLACE AFTER NEW PAVING INSTALLED, PER PROPOSED SITE PLAN. (SHEET C03.0)
 - REMOVE EXISTING UNDERGROUND ELECTRIC LINE AND RELOCATE EXISTING LIGHT POLE AS SHOWN ON THE SITE PLAN (SEE SHEET C03.0). CONTRACTOR SHALL COORDINATE WITH SHOPPING CENTER OWNER REGARDING THE RELOCATION, TEMPORARY OUTAGES, AND ENSURING EXISTING LIGHTING ON THE SAME CIRCUIT CONTINUE TO FUNCTION AS INTENDED.
 - CONTRACTOR SHALL PRESERVE EXISTING LIGHT POLE AND ELECTRICAL CONNECTIONS AND RE-ROUTE TO PANDA EXPRESS PANEL.
 - CONTRACTOR SHALL COMPLETELY REMOVE EXISTING STORM PIPE AND MUST REPAIR ANY STRUCTURES THAT WERE TIED TO THE PIPE. A FORMAL INSPECTION BY CITY ENGINEER STAFF OF THE REPAIR IS REQUIRED BEFORE COVERING UP THE STRUCTURE. CONTRACTOR SHALL CONTACT THE CITY OF KNOXVILLE DEPARTMENT OF ENGINEERING (645-215-2148), PRIOR TO REMOVING ANY STORMWATER PIPES.
 - CONTRACTOR SHALL REMOVE EXISTING LIGHTING CONDUIT TO ACCOMMODATE FUTURE STORMWATER INFRASTRUCTURE. REMAINING LINE SHALL BE ABANDONED IN PLACE. SEE NOTE #7 FOR RE-ROUTING CONDUIT OF THE EXISTING LIGHT POLE TO THE PANDA EXPRESS PANEL.
 - CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR THE EXISTING GAS LINE FOR THE REMOVAL OF THE EXISTING AND INSTALLATION OF THE FUTURE 24" RCP TO THE STRUCTURE IN THE ROOM.
 - CONTRACTOR SHALL FULLY OVERLAY EXISTING SPACES AND RE-STRIPE AS NECESSARY.

- ### GENERAL DEMOLITION NOTES
- ALL ITEMS TO BE PROTECTED SHALL BE PROTECTED THROUGHOUT ALL PHASES OF CONSTRUCTION UNTIL FINAL ACCEPTANCE BY CITY OF KNOXVILLE/KNOX COUNTY IS RECEIVED.
 - CONTRACTOR TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS WITH ALL DEMOLITION ACTIVITIES. IF ADDITIONAL REQUIREMENTS ARE REQUIRED FOR HAZARDOUS WASTE REMOVAL INCLUDING BUT NOT LIMITED TO ASBESTOS, SEPTIC FIELDS, LEAD, PCB, TCE, OR OTHER WASTE OR CONTAMINANT, IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH MANDATES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - CONTRACTORS SHALL COORDINATE WITH ALL UTILITY COMPANIES CONCERNING THE ABANDONMENT, RELOCATION AND/OR DEMOLITION OF UTILITIES PRIOR TO CONSTRUCTION. NO WORK IS TO BE PERFORMED ON LIVE LINES UNLESS APPROVED IN WRITING BY THE UTILITY IN ALL CASES. A REPRESENTATIVE FROM THE UTILITY SHALL BE PRESENT FOR INITIAL ABANDONMENT AND/OR LIVE CUTS. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR UTILITIES AND SHALL PROTECT THEM AT ALL TIMES.
 - CONTRACTOR IS RESPONSIBLE FOR PROCUREMENT OF ALL NECESSARY PERMITS.
 - DEMOLITION SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, HAULING, PERMITTING, FEES, AND COORDINATION WITH PUBLIC AND/OR PRIVATE UTILITY REQUIRED TO REMOVE AND PROPERLY DISPOSE OF ANY ITEM NECESSARY TO PERFORM THE REQUIRED DEMOLITION AS INDICATED ON THE PLANS.
 - RELOCATION SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, HAULING, PERMITTING, FEES, AND COORDINATION WITH PUBLIC AND/OR PRIVATE UTILITY REQUIRED TO REMOVE, RELOCATE, AND INSTALL NEW ITEMS AS INDICATED ON THE PLANS.
 - ABANDONMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, PERMITTING, FEES, AND COORDINATION WITH PUBLIC AND/OR PRIVATE UTILITY REQUIRED TO ADEQUATELY ABANDON ITEMS AS INDICATED ON THE PLANS.
 - THE CONTRACTOR SHALL COORDINATE ALL TREE AND LANDSCAPE REMOVAL WITH THE LANDSCAPE PLANS. ANY DISCREPANCY BETWEEN THIS DEMOLITION PLAN AND THE LANDSCAPE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY.
 - THE CONTRACTOR IS FULLY AND COMPLETELY RESPONSIBLE FOR LOCATION, VERIFICATION, PROTECTION, STORAGE, MAINTENANCE, DEMOLITION, REMOVAL, RELOCATION OR ALTERATION OF ALL EXISTING SITE UTILITIES, SITE IMPROVEMENTS, STRUCTURES, OR CONSTRUCTION ELEMENTS AS REQUIRED TO COMPLETE THE WORK THAT ARE SHOWN ON THE PLANS AND OR THAT ARE OBSERVABLE IN THE FIELD, WHETHER CONSPICUOUSLY VISIBLE OR NOT. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING IMPROVEMENTS, UTILITIES, AND SITE CONDITIONS PRIOR TO BIDDING AND CONSTRUCTION.
 - THIS DEMOLITION PLAN IS FOR GRAPHICAL REFERENCE ONLY. ITEMS NOT DEPICTED ON THESE PLANS MAY BE REQUIRED TO BE PROTECTED, REMOVED, OR RELOCATED. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE LOCATIONS OF ALL EXISTING STRUCTURES, UTILITIES, AND APPURTENANCES WITHIN THE LIMITS OF CONSTRUCTION. DEMOLITION INCLUDES BUT IS NOT LIMITED TO THE ITEMS SHOWN ON THIS PLAN.
 - THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR ANY EXISTING UNDERGROUND OR OVERHEAD UTILITIES.
 - SAWCUT DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD STAKE AND CONSULT ENGINEER TO VERIFY PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL COORDINATE WITH THE CITY AND UTILITY PROVIDER TO RELOCATE POWER POLE.

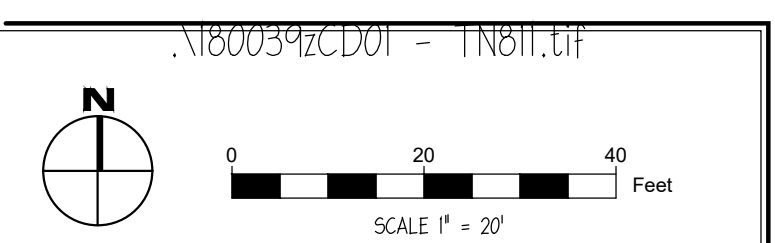
CONTRACTOR SHALL PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

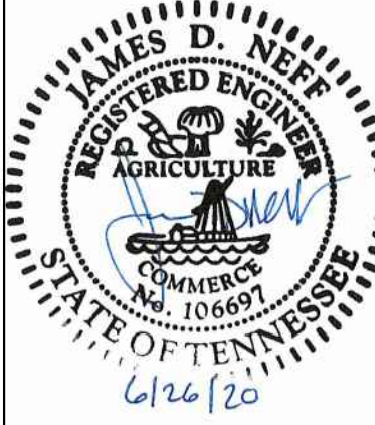
24-HOUR CONTACT:
BILLY NEWTON
832-683-9885

ANY OFFSITE DEMOLITION AND EASEMENTS REQUIRED TO EXTEND UTILITIES TO THE SITE IS THE RESPONSIBILITY OF THE GRAHAM CORPORATION.

DEMOLITION AND CONSTRUCTION SHALL BE STAGED ACCORDINGLY SO AS TO MAINTAIN PARKING FOR EXISTING TENANTS WITHIN THE SHOPPING CENTER.



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.457.8650
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (D6411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	ISSUED FOR BIDDING
2	ISSUED FOR BIDDING
3	ISSUED FOR BIDDING
4	ISSUED FOR BIDDING
5	ISSUED FOR BIDDING
6	ISSUED FOR BIDDING
7	ISSUED FOR BIDDING
8	ISSUED FOR BIDDING
9	ISSUED FOR BIDDING
10	ISSUED FOR BIDDING
11	ISSUED FOR BIDDING
12	ISSUED FOR BIDDING

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS OF THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL LOGS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS AND USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

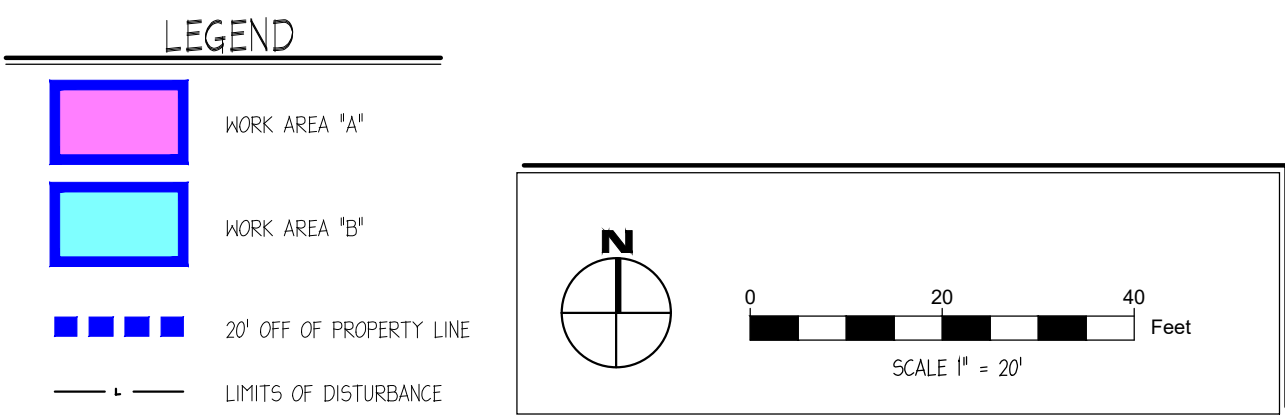
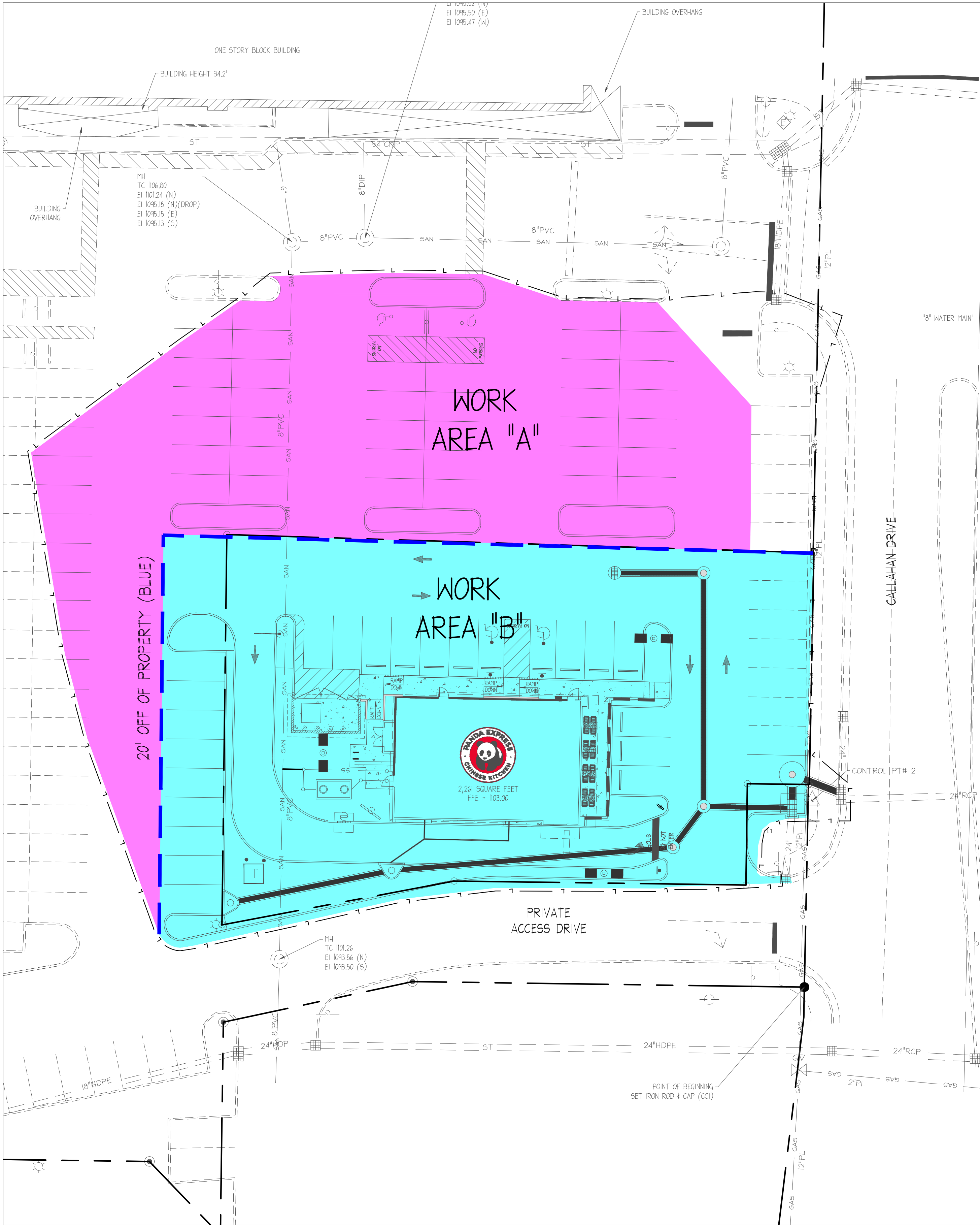
PROJ # 180039
DWG NAME 180039_C02.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EH

DEMOLITION PLAN

C02.1

SHEET NUMBER

ISSUE FOR BID



SHEET INDEX		
NO.	TITLE	BIDDING NOTES
C01.0	COVER SHEET	ALL BIDDERS SHALL REVIEW IN ITS ENTIRETY. SELLER RESPONSIBLE FOR RECOMMENDATIONS NOTED IN THE GEOTECHNICAL REPORT AS DESCRIBED IN THE BOX NOTE, INCLUDING ANY REQUIRED UNDERCUTTING.
C01.1	GENERAL NOTES	ALL BIDDERS SHALL REVIEW IN ITS ENTIRETY.
C02.0	SURVEY	NOTE: CONDITIONS FOR BUYER WILL BE DIFFERENT THAN SHOWN ON THIS SURVEY, ONCE SELLER COMPLETES WORK.
C02.1	DEMOLITION PLAN	ALL DEMOLITION WORK SHOWN ON THE ABOVE NOTED PLAN IN AREAS A AND B SHALL BE PERFORMED BY THE SELLER, APART FROM THE WORK ASSOCIATED WITH THE STORMWATER CONNECTION AT THE ROM (REMOVAL OF PIPE, CORE DRILLING OF EXISTING STRUCTURE, ETC.) AND MILLING AND OVERLAYING OF THE PARKING SPACES IMMEDIATELY ABUTTING CALLAHAN DRIVE ON THE BUYER'S PROPERTY. SPECIFICS SHALL BE NOTED IN PSA EXHIBIT E SECTION I.
C02.2	DELINEATION OF WORK PLAN	ALL BIDDERS SHALL REVIEW IN ITS ENTIRETY
C03.0	SITE PLAN	ALL SITE WORK IN AREA A SHALL BE COMPLETED BY THE SELLER. ALL SITE WORK IN AREA B SHALL BE COMPLETED BY THE BUYER.
C03.1	STAKING PLAN	ALL SITE WORK IN AREA A SHALL BE COMPLETED BY THE SELLER. ALL SITE WORK IN AREA B SHALL BE COMPLETED BY THE BUYER. BOTH BUYER AND SELLER SHALL AGREE TO STAKING POINT IN THE FIELD PRIOR TO CONSTRUCTION.
C03.2	HARDSCAPE DETAILS I	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C03.3	HARDSCAPE DETAILS II	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C03.4	HARDSCAPE DETAILS III	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C03.5	HARDSCAPE DETAILS IV	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C04.0	UTILITY PLAN	SELLER SHALL COMPLETE ALL WORK IN BOTH AREAS A AND B AS NEEDED TO DELIVER UTILITIES AS DEFINED SHALL IN PSA EXHIBIT E SECTION 2 AND AS INDICATED ON THE PLANS. ANY OFFSITE WORK REQUIRED TO COMPLETE SAID WORK (EVEN NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE SELLER)
C04.1	BUILDING AREA UTILITY PLAN	SAME AS C4.0 BIDDING NOTE. PLEASE FIND THE CONNECTION LOCATIONS OF EACH UTILITY DENOTED.
C04.2	UTILITY DETAILS I	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C04.3	UTILITY DETAILS II	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C04.4	UTILITY DETAILS III	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C04.5	UTILITY DETAILS IV	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C04.6	PROFILES I	PROFILES WITHIN WORK AREA A SHALL BE REFERENCED BY THE SELLER, PROFILES IN WORK AREA B SHALL BE REFERENCED BY THE BUYER, APART FROM THE SEWER WORK SELLER WILL BE DOING IN WORK AREA B.
C04.7	PROFILES II	PROFILES WITHIN WORK AREA A SHALL BE REFERENCED BY THE SELLER, PROFILES IN WORK AREA B SHALL BE REFERENCED BY THE BUYER, APART FROM THE SEWER WORK SELLER WILL BE DOING IN WORK AREA B.
C05.0	GRADING AND DRAINAGE PLAN	GRADING WORK SHALL BE COMPLETED BY THE SELLER IN BOTH AREAS A AND B, WITH THE SPECIFICS NOTED IN PSA EXHIBIT E SECTION 1. BUYER IS RESPONSIBLE FOR ALL STORMWATER WORK, AND FINE GRADING IN AREA B, ONCE SELLER'S WORK HAS BEEN COMPLETED AND HAS BEEN ACCEPTED BY BUYER. BUYER RESPONSIBLE FOR RECORDING ALL STORM EASEMENTS. SELLER RESPONSIBLE FOR DELIVERING PAD PER THE WORK AND PER THE GEOTECHNICAL REPORT, INCLUDING PERFORMING 5' UNDERCUT OF THE BUILDING PAD AREA AND MEETING ALL RECOMMENDATIONS.
C06.0	SWPPP PLAN	SELLER REQUIRED TO KEEP RECORDS AS OUTLINED FOR AREAS A AND B. ONCE COMPLETED, BUYER WILL CONTINUE TO KEEP RECORDS.
C06.1	ESPC PLAN - CLEARING PHASE	ALL WORK SHOWN IN AREAS A AND B SHALL BE COMPLETED BY THE SELLER, APART FROM STORM INLET PROTECTION SHALL BE PROVIDED BY THE BUYER.
C06.2	ESPC PLAN - GRADING PHASE	ALL WORK SHOWN IN AREAS A AND B SHALL BE COMPLETED BY THE SELLER, APART FROM STORM INLET PROTECTION SHALL BE PROVIDED BY THE BUYER.
C06.3	ESPC PLAN - FINAL PHASE	ALL WORK SHOWN IN AREA A SHALL BE COMPLETED BY THE SELLER, ALL WORK IN AREA B SHALL BE COMPLETED BY THE BUYER.
C06.4	ESPC DETAILS I	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C06.5	ESPC DETAILS II	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
C06.6	ESPC DETAILS III	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER.
L01.0	LANDSCAPE PLAN	ALL LANDSCAPING WORK IN AREA A SHALL BE COMPLETED BY THE SELLER. ALL SITE WORK IN AREA B SHALL BE COMPLETED BY THE BUYER. NOTE, CONTRACTOR SHALL PROVIDE SELLER GROUND COVER OPTIONS FOR THE NEWLY CREATED ISLANDS AT THE END OF THE PARKING BAYS.
L01.1	LANDSCAPE NOTES & DETAILS	DETAILS FOR ITEMS IN WORK AREA A SHALL BE COMPLETED BY THE SELLER. DETAILS FOR ITEMS IN WORK AREA B SHALL BE COMPLETED BY THE BUYER. IT SHALL BE KNOWN BIDDERS SHALL BID RIVER ROCK AS THE MULCHING MATERIAL UNDER THE SHRUBS IN AREA B, PER THE PANDA EXPRESS STANDARD AND PRICE EDGING OR STABILIZATION AS NEEDED FOR ANY STEEP AREA.
SL01	SITE LIGHTING PLAN	SEE SHEETS C02.1, C03.0, C04.0, AND E-106 FOR REFERENCE. SELLER RESPONSIBLE FOR RELOCATION OF POWER POLE AT THE SOUTH PROPERTY FRONTAGE AS SHOWN ON THESE PLANS. SELLER RESPONSIBLE FOR MAINTAINING LIGHT LEVELS IN SHOPPING CENTER THROUGHOUT THE PROJECT. BUYER RESPONSIBLE FOR RE-ROUTING CONDUIT AND WIRING TO THE TWO 3H LIGHT POLES ON THE NORTH SIDE OF DRIVE AISLE AND TWO NEW PANDA EXPRESS LIGHT POLES.

NOTE: ALL BIDDERS SHALL REVIEW EVERY SHEET IN ITS RESPECTIVE ENTIRETY

DELINEATION OF WORK NOTES

DELINEATION OF WORK:

IT IS THE RESPONSIBILITY OF ALL BIDDERS TO REVIEW ALL BID DOCUMENTS AS DEFINED BELOW AND PRICE THE SCOPE OF ASSIGNED TO EACH RESPECTIVE DEVELOPER. ANY GAPS OR OVERLAP IN SCOPE IDENTIFIED BY THE BIDDERS SHALL BE BROUGHT TO THE ATTENTION THE DEVELOPMENT TEAM IMMEDIATELY. IF ANY SCOPE ITEM IDENTIFIED ON THESE DOCUMENTS IS EXCLUDED FROM THE BIDDERS PROPOSAL IT SHALL BE CLEARLY DENOTED AND BROUGHT TO THE ATTENTION OF BOTH RESPECTIVE DEVELOPERS AND INGENIUM ENTERPRISES.

BID DOCUMENTS ARE DEFINED AS:

- CONSTRUCTION DRAWINGS BY INGENIUM ENTERPRISES INC. AND RANDY REYNOLDS, ARCHITECT, DATED JUNE 26, 2020, INCLUDING THIS SHEET (C02.2), AND ANY ATTACHED DESIGN BULLETINS.
- GEOTECHNICAL INVESTIGATION BY TERRACON CONSULTANTS, INC. DATED JUNE 22, 2020.
- REAL ESTATE PURCHASE CONTRACT BETWEEN GRAHAM GP AND CFT NV DEVELOPMENTS, LLC EXECUTED 08/20/2020.
- SIGN PACKAGE BY ALLEN INDUSTRIES

THE DEVELOPMENT TEAM SHALL BE DEFINED AS:

- GRAHAM CORPORATION
- PANDA EXPRESS, INC.
- INGENIUM ENTERPRISES, INC.

ALL POTENTIAL EXCLUSIONS SHALL BE SUBMITTED TO THE BID COORDINATOR AND APPROVED BY BOTH SELLER AND BUYER PRIOR TO EXECUTING FINAL AGREEMENTS.

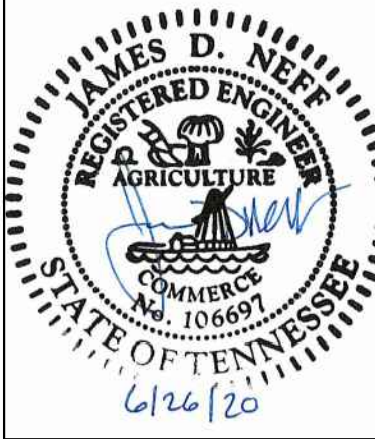
FOR THE PURPOSES OF THIS DELINEATION OF WORK PLAN, SELLER SHALL MEAN GRAHAM CORPORATION BUYER SHALL MEAN PANDA EXPRESS, INC.

PLEASE NOTE, PSA EXHIBIT E SECTION 3. NOTES 10' CONTINUOUSLY AROUND THE NEWLY CREATED BUYER PARCEL SHALL BE RESPONSIBILITY OF THE BUYER. SUBSEQUENT REVISIONS TO AGREEMENT NOTED THAT THE AREA IMMEDIATELY TO WEST SHALL BE EXTENDED TO 20'. THE AREA TO THE NORTH OF THE NEWLY CREATED PARCEL SHALL BE REDUCED TO 0'. THE EXHIBIT ON THE LEFT SIDE OF THIS SHEET REFLECTS THE UPDATED LIMITS.

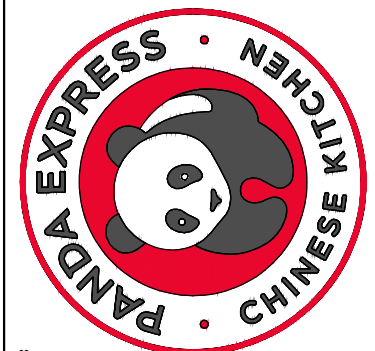


ingenium
ENTERPRISES
PLANNING & ENGINEERING

221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.457.8650
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT GROUP
1603 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0808

REVISION HISTORY	
1	ISSUED FOR BIDDING

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL LOGS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

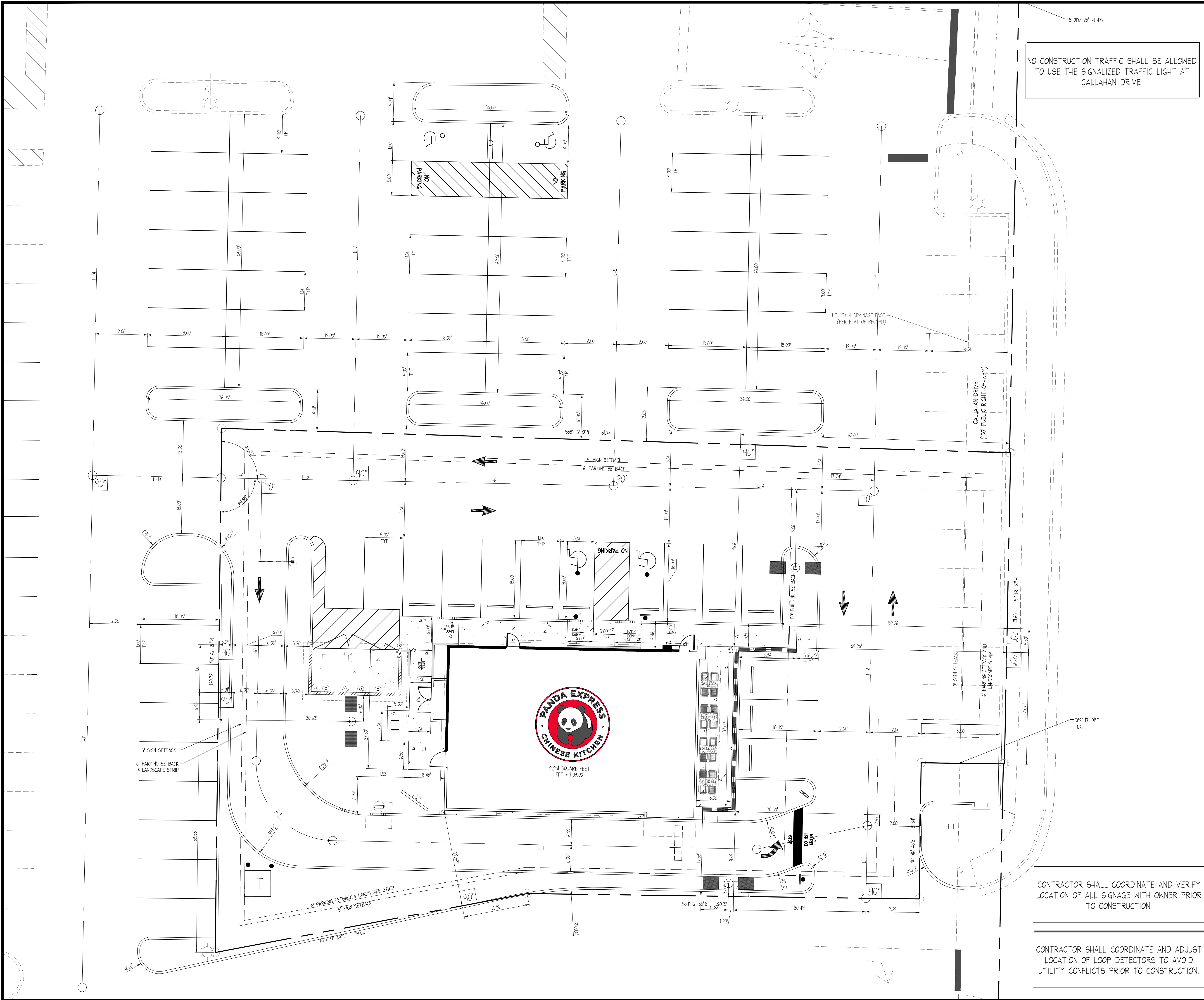
PROJ # 180039
DWG NAME 180039 C02.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EH

DELINEATION OF WORK PLAN

C02.2
SHEET NUMBER

ISSUE FOR BID





STAKING NOTES

1. ALL RADI ARE 3.0' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE MEASURED TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. SEE SHEET C01.1 FOR GENERAL NOTES.

LINE TABLE				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L-1	16.72'	S01°04'28"W	2554355.27, 615525.38	2554354.93, 615508.66
L-2	77.06'	S01°04'34"W	2554356.83, 615602.43	2554355.27, 615525.38
L-3	85.07'	S01°04'28"W	2554358.53, 615686.47	2554356.81, 615601.43
L-4	60.00'	N88°50'32"W	2554356.83, 615602.43	2554296.85, 615603.64
L-5	84.07'	S01°04'19"W	2554298.54, 615687.64	2554296.85, 615603.64
L-6	60.00'	N88°50'32"W	2554296.85, 615603.64	2554236.86, 615604.85
L-7	84.07'	S01°04'28"W	2554238.55, 615688.90	2554236.85, 615604.85
L-8	21.00'	N88°50'32"W	2554236.86, 615604.85	2554215.86, 615605.28
L-9	9.40'	N88°50'32"W	2554215.86, 615605.28	2554206.46, 615605.47
L-10	65.00'	S01°04'11"W	2554215.86, 615605.28	2554214.54, 615640.29
L-11	97.66'	S88°50'32"E	2554232.18, 615521.93	2554329.82, 615591.96
L-12	26.03'	N77°58'05"E	2554329.82, 615591.96	2554355.27, 615525.38
L-13	29.60'	S88°50'32"E	2554176.87, 615606.06	2554206.46, 615605.47
L-14	85.07'	S01°04'28"W	2554176.86, 615640.11	2554176.85, 615605.06
L-15	117.98'	S01°04'35"W	2554176.87, 615606.06	2554174.48, 615488.11

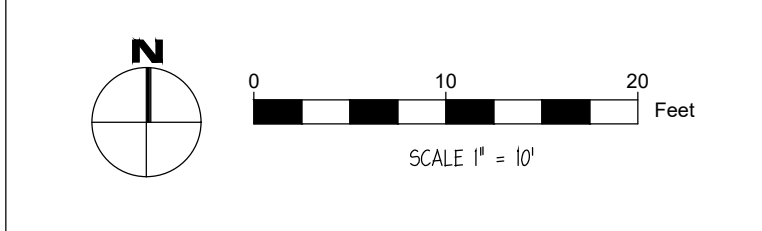
CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD LENGTH	CHORD BEARING
C-1	28.27'	18.00'	90.0000	25.46'	S43°50'32"E

CONTRACTOR SHALL INSTALL GENERAL UTILITY CONDUITS TO PLANTERS AROUND BUILDING AND PATIO. SEE ARCHITECTURAL/MEP PLANS FOR CONTINUATION.

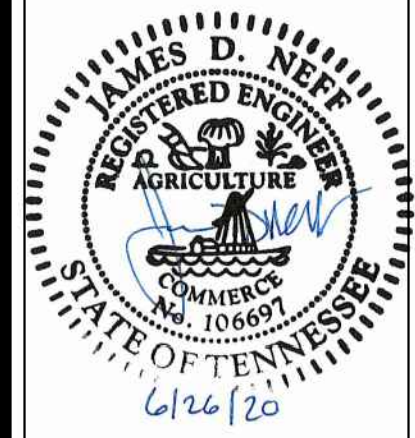
CONTRACTOR SHALL PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

24-HOUR CONTACT:
BILLY NEWTON
832-683-9885



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.437.8850
WWW.INGENIUMTEAM1.COM



PANDA EXPRESS (D6411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	ISSUED FOR BIDDING

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HEREIN BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF THESE PLANS WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

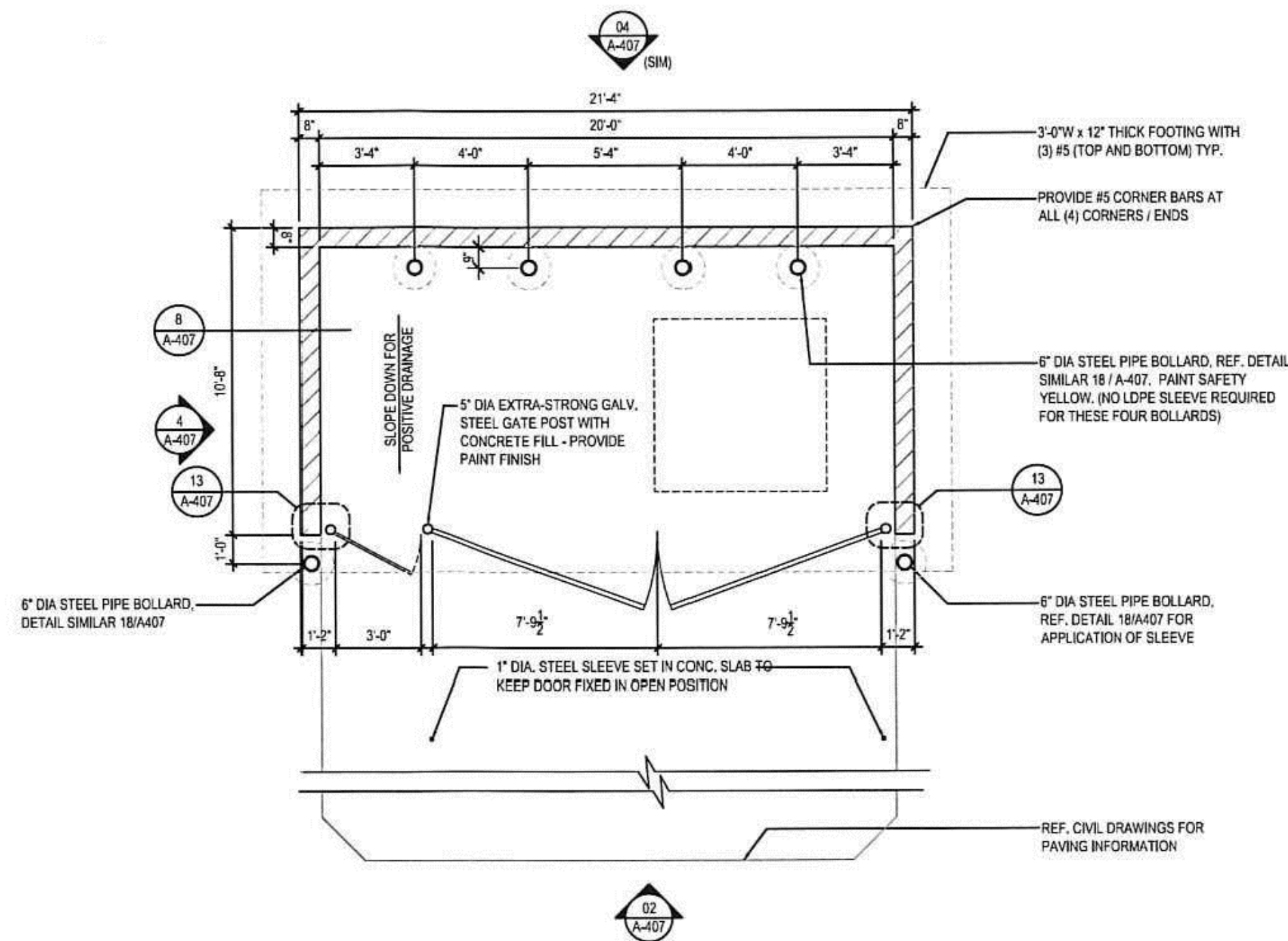
PROJ # 180039
DWG NAME 180039_C03.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EHI

STAKING PLAN

C03.1
SHEET NUMBER

ISSUE FOR BID

DETAIL FOR REFERENCE ONLY. CONTRACTOR SHALL
REFER TO ARCHITECTURAL PLANS FOR
CONSTRUCTION DETAIL OF TRASH ENCLOSURE.

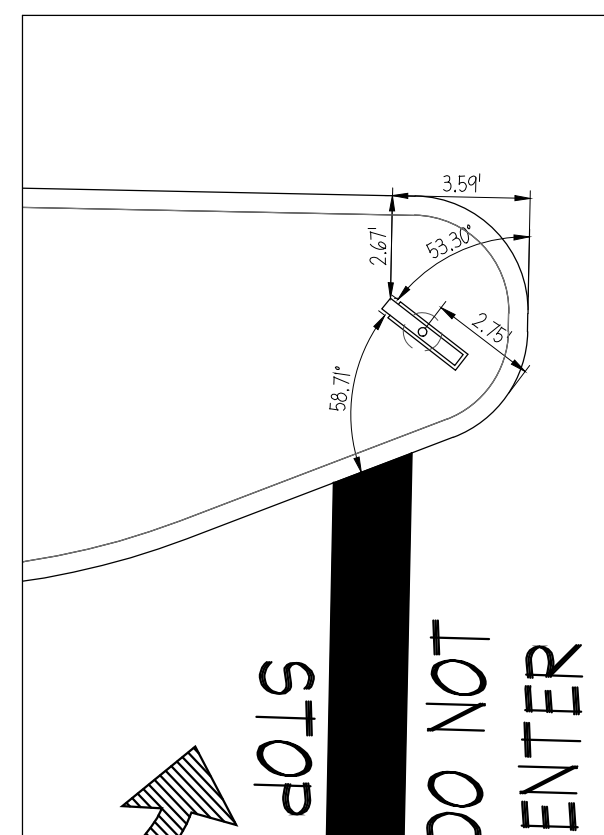
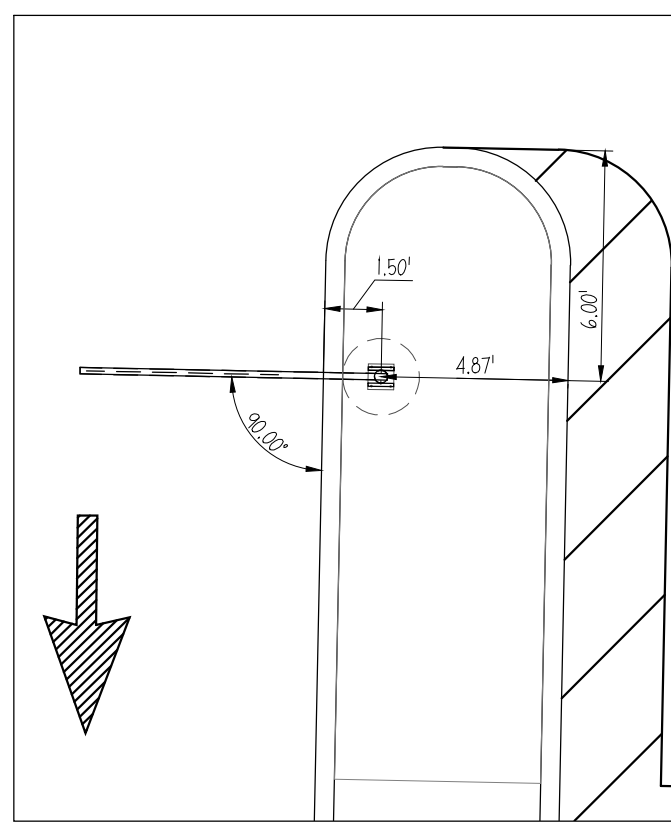
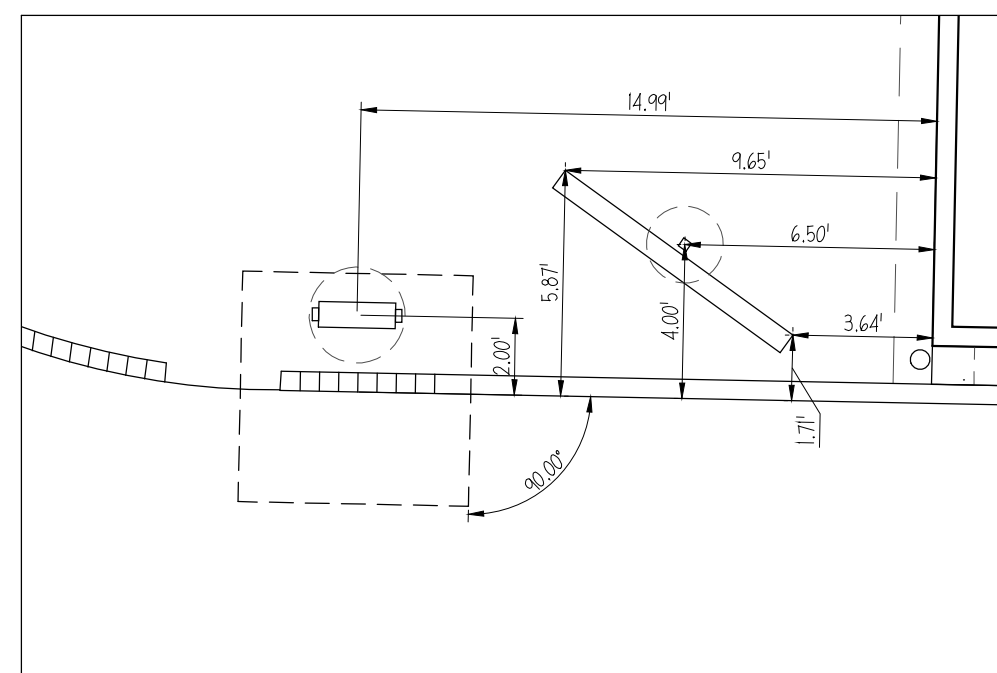


NOTE:
FLOOR OF DUMPSTER AREA MUST BE SMOOTH, CLEANABLE AND SEALED WITH (AQUA MIX SEALER'S CHOICE GOLD) CEMENT SEALER.

NOTE:
DUMPSTER PAD SHALL BE
CONSTRUCTED WITH A RAISED
SURFACE (2' TO 3') TO PREVENT
RUN-ON FROM THE SURROUNDING
PAVED AREA.

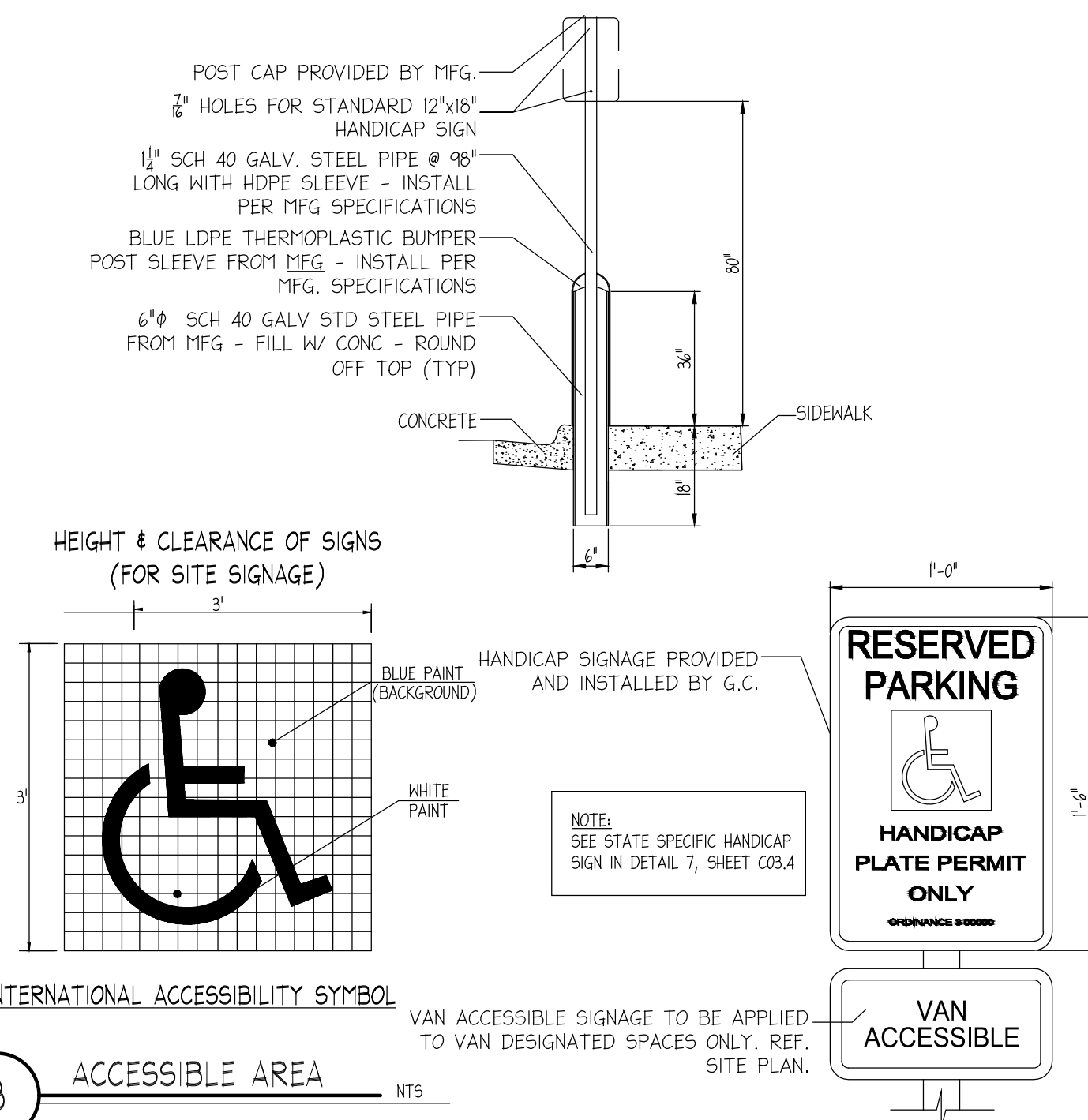
NOTE:
FLOOR OF DUMPSTER AREA MUST BE
SMOOTH, CLEANABLE AND SEALED
WITH (AQUA MIX SEALER'S CHOICE
GOLD) CEMENT SEALER.

DUMPSTER ENCLOSURE NTS

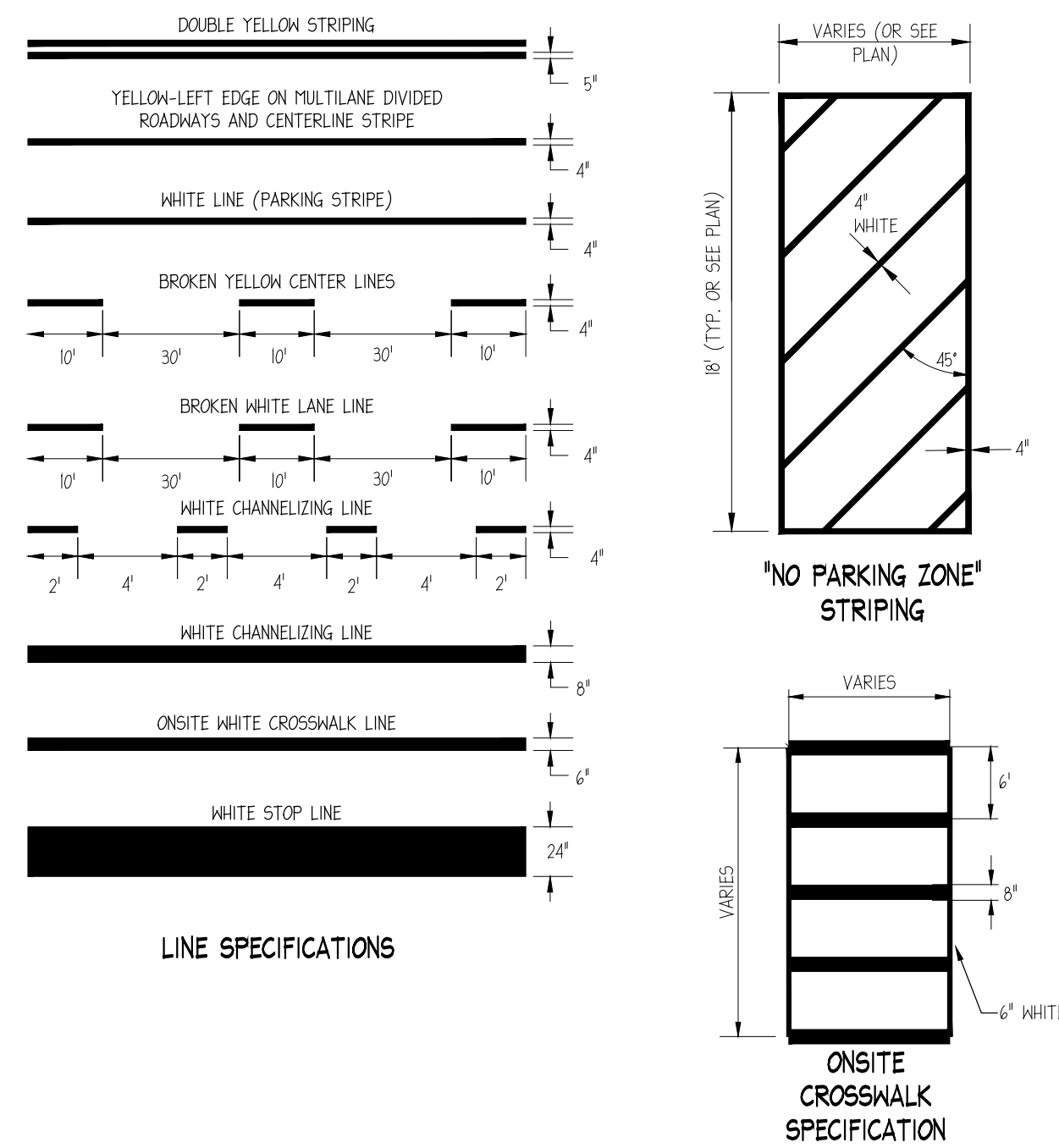


CONTRACTOR SHALL TAKE SPECIAL NOTE OF HEIGHT OF ELEMENTS AND ENSURE THEY ARE PLACED AT THE PANDA EXPRESS DESIRED HEIGHT. THIS IS DUE TO DO THE CURB TRANSITIONS SHOWN IN THE IMMEDIATE VICINITY OF THE ELEMENTS.

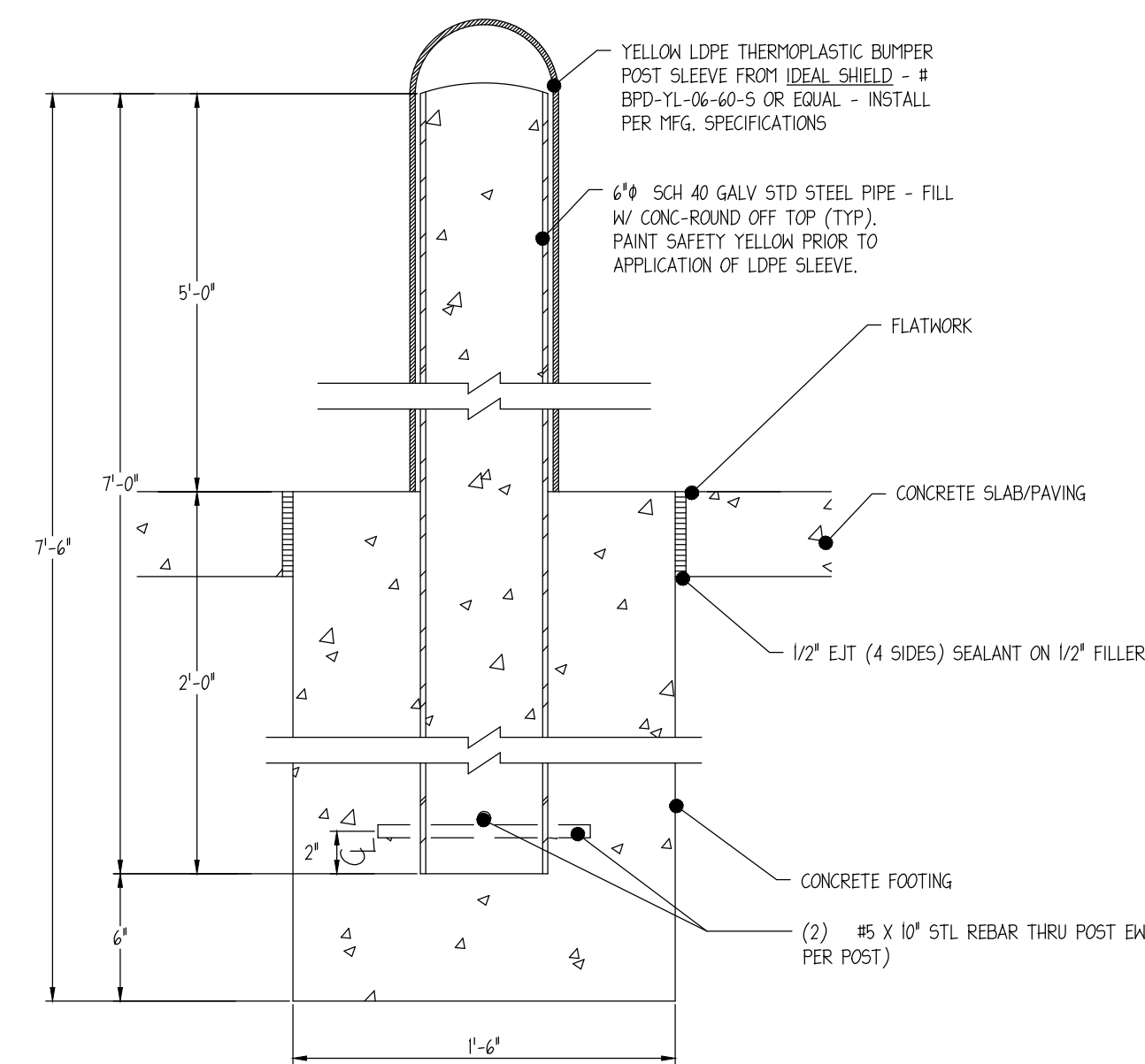
DRIVE THRU ELEMENTS SCALE 1" = 5'



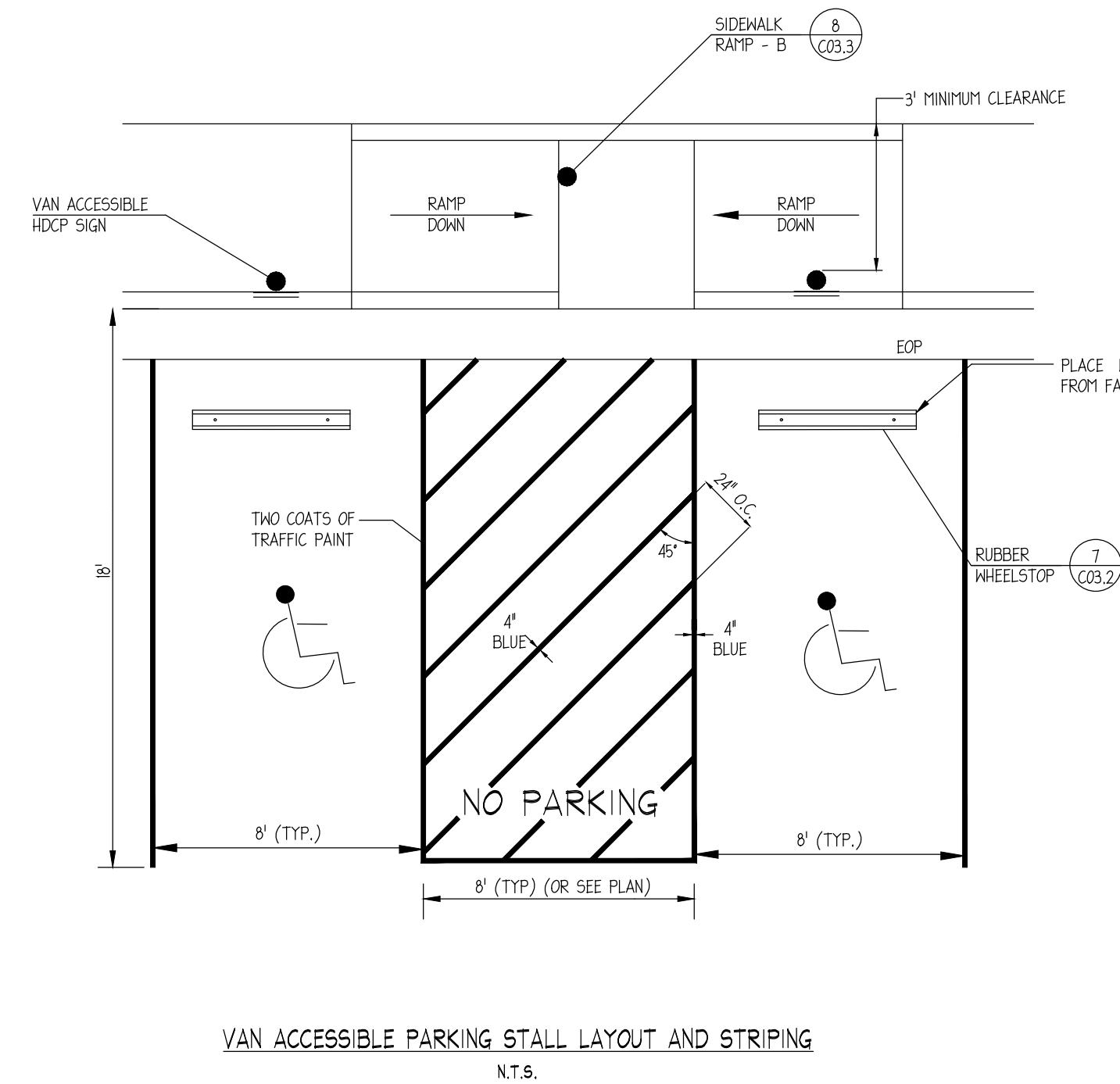
ACCESSIBLE AREA



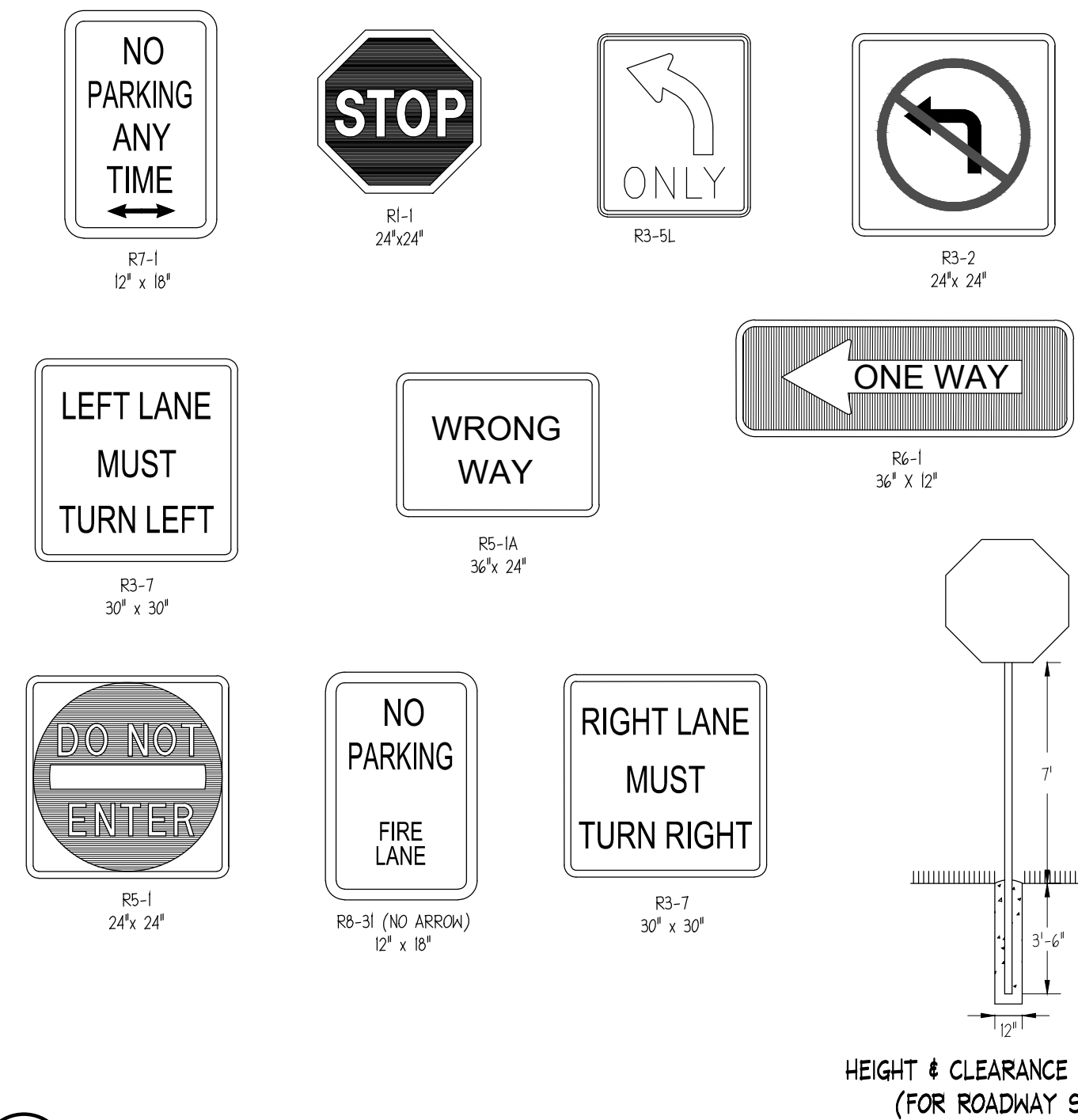
PAVEMENT STRIPING AND MARKING



BOLLARD

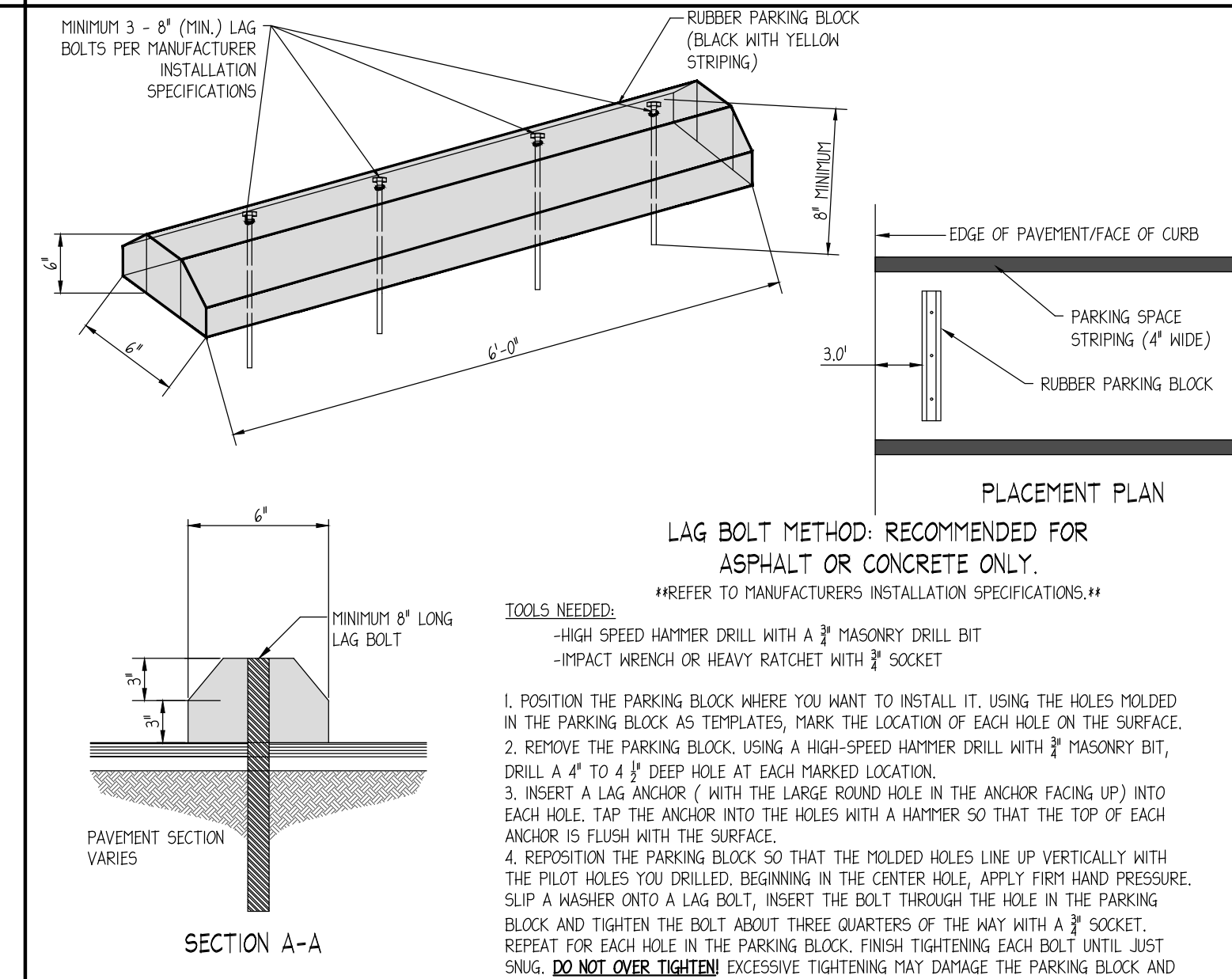


VAN ACCESSIBLE PARKING STALL LAYOUT AND STRIPING
N.T.S.



HEIGHT & CLEARANCE OF SIGNS
(FOR ROADWAY SIGN)

SITE SIGNAGE



RUBBER WHEELSTOP



PANDA EXPRESS (D6411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

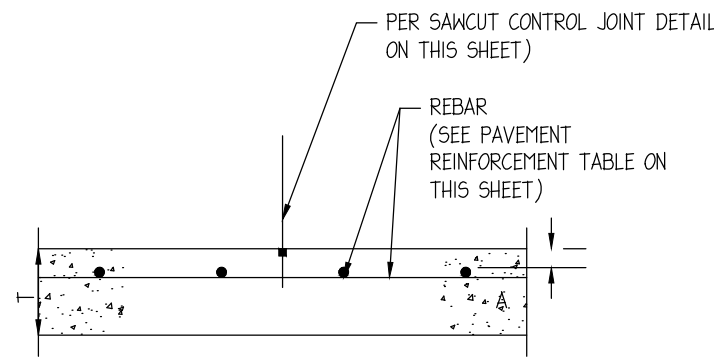
PANDA RESTAURANT
GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-9898

REVISION HISTORY			
1	--/--/----	1	--/--/----
2	--/--/----	2	--/--/----
3	--/--/----	3	--/--/----
4	--/--/----	4	--/--/----
5	--/--/----	5	--/--/----
6	--/--/----	6	--/--/----
7	--/--/----	7	--/--/----
8	--/--/----	8	--/--/----

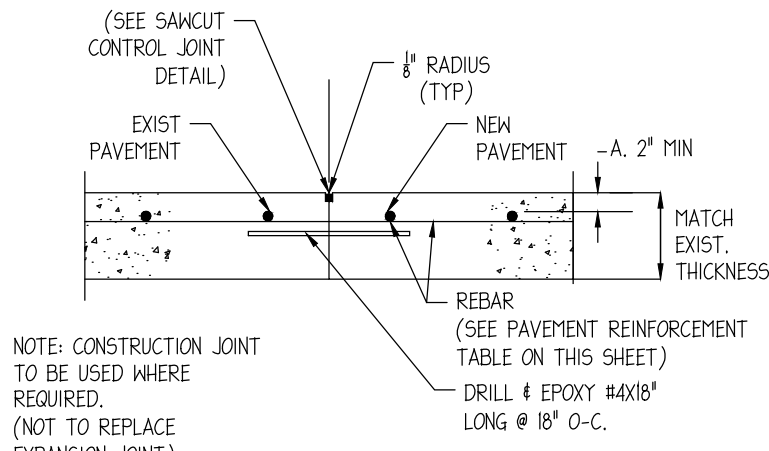
THE CIVIL ENGINEER, REGULARLY UPDATES HIS/HER ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. THE USER OF THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND NOT BE USED FOR ANY OTHER PURPOSE. ANY INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL IDEAS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

HARDSCAPE DETAILS I
C03.2
SHEET NUMBER

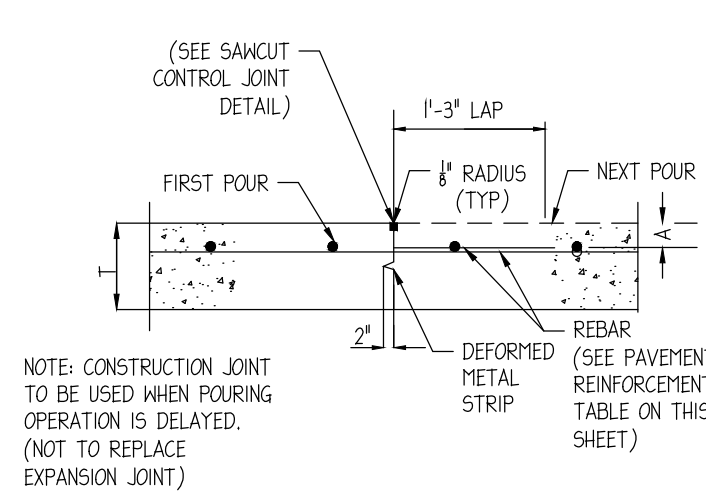
ISSUE FOR BID



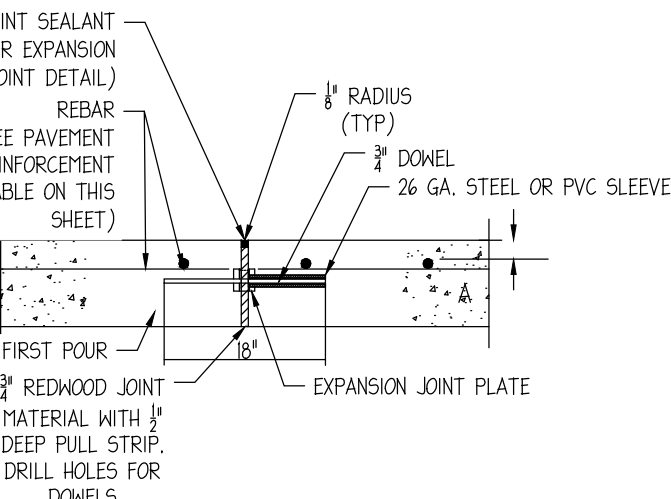
SAWCUT JOINT
N.T.S.



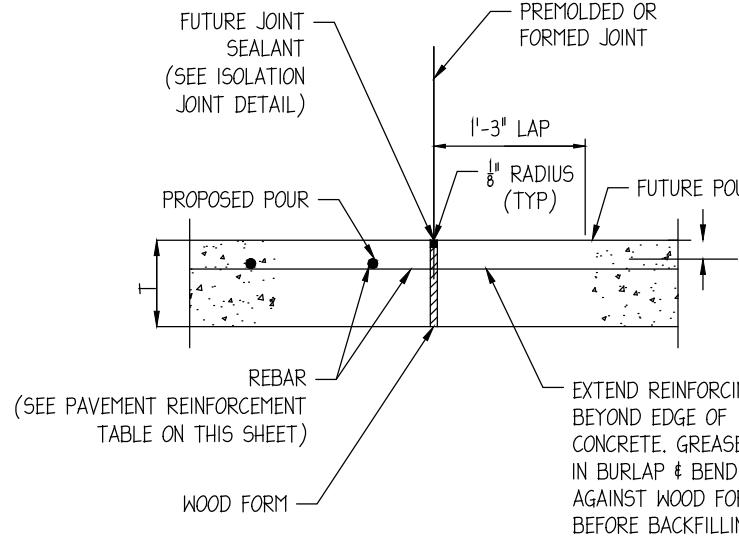
CONCRETE TO CONCRETE TIE IN
N.T.S.



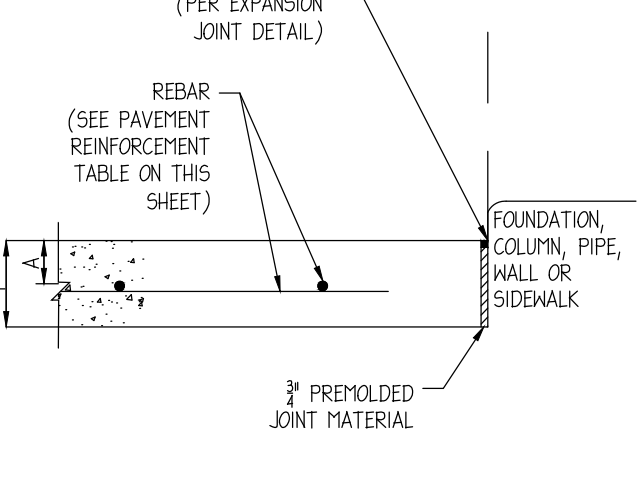
CONSTRUCTION JOINT
N.T.S.



SAWCUT JOINT
N.T.S.

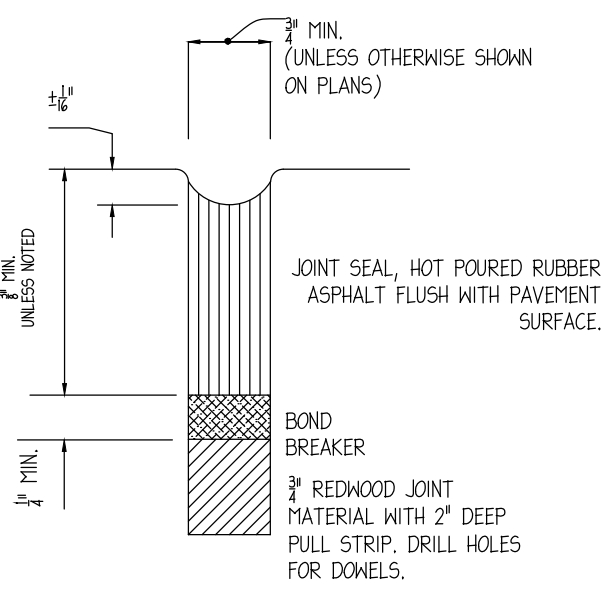


CONCRETE TO CONCRETE TIE IN
N.T.S.

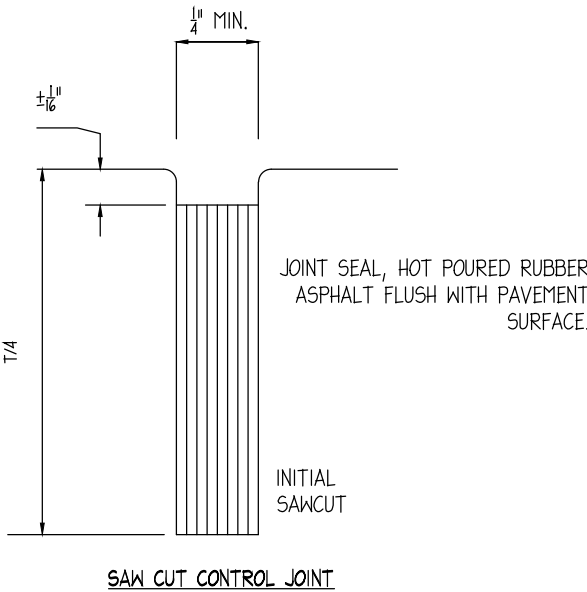


CONSTRUCTION JOINT
N.T.S.

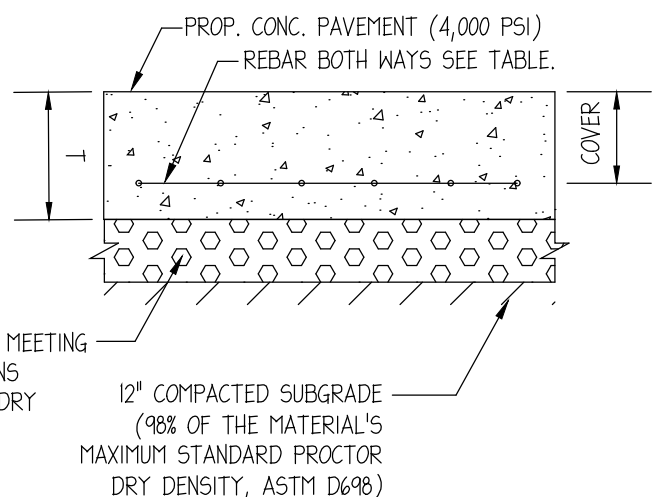
- NOTES:**
1. REINFORCING STEEL BAR SIZE/SPACING SPECIFICATIONS IN GEOTECH REPORT SHALL SUPERSEDE ABOVE TABLE.
 2. REINFORCING STEEL SIZE/SPACING IS BASED ON MIN. 60,000 PSI TENSILE STRENGTH REINFORCING STEEL AS SHOWN.
 3. CONCRETE PAVING MIX DESIGN SHALL HAVE MINIMUM 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. GEOTECHNICAL REPORT CONCRETE PAVING MIX DESIGN SHALL SUPERSEDE VALUES HEREIN.
 4. MAXIMUM JOINT SPACING SHALL BE PER JOINT LAYOUT PLAN (IF PROVIDED) BUT SHALL NOT EXCEED VALUES IN TABLE.
 5. MAXIMUM JOINT SPACING IN GEOTECHNICAL REPORT SHALL SUPERSEDE VALUES IN ABOVE TABLE.
 6. USE STATE DOT SUBBASE UNLESS OTHERWISE SPECIFIED BY GEOTECHNICAL REPORT.
 7. ALL JOINTS IN PAVING SHALL BE REFLECTED IN CURBING AND SHALL HAVE ALL THEIR RESPECTIVE JOINTING MATERIALS PRESENT (I.E. EXPANSION JOINTS SHALL HAVE THEIR RESPECTIVE FILLER BOARD AND CAULK REPLACED).
 8. CURB EXPANSION JOINTS - IF THERE IS AN EXPANSION JOINT IN THE PAVING, THE EXPANSION JOINT MUST FOLLOW THROUGH THE CURB. THE REINFORCING STEEL MUST ALSO BE CUT AT THE EXPANSION JOINT AND NOT ALLOWED TO RUN THROUGH THE JOINT CONTINUOUSLY. A SAW CUT EXPANSION JOINT IS NOT ACCEPTABLE BECAUSE NORMAL EXPANSION AND CONTRACTION WILL CAUSED THE CONCRETE TO PUSH AGAINST THE TWO SECTIONS AND ONE SIDE WILL EVENTUALLY FAIL. IF AN EXPANSION JOINT IS LEFT OUT AND MUST BE SAW CUT IN, THE CURB SHOULD BE CUT TWICE AND A 3/4\"/>



EXPANSION JOINT
N.T.S.



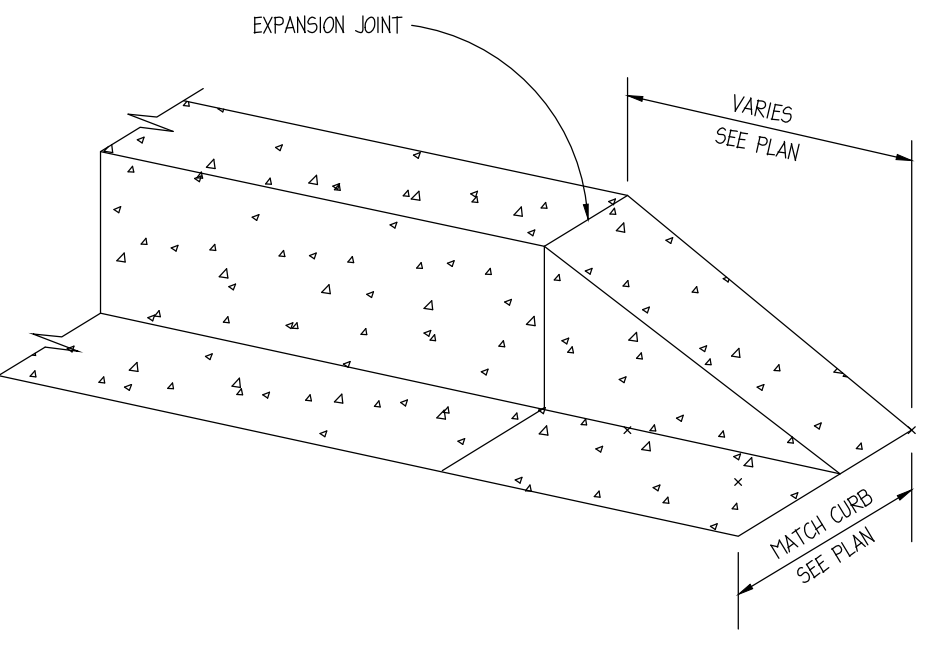
SAWCUT CONTROL JOINT
N.T.S.



4\"/>

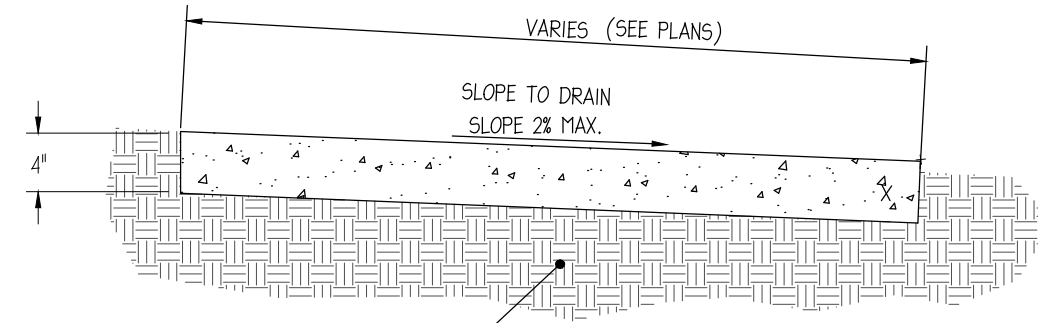
CONCRETE SECTION DESIGNATION	(T) SLAB THICKNESS (IN.)	(COVER) COVER (IN.) (2\"/>
------------------------------	--------------------------	----------------------------

1 CONCRETE SECTION
N.T.S.

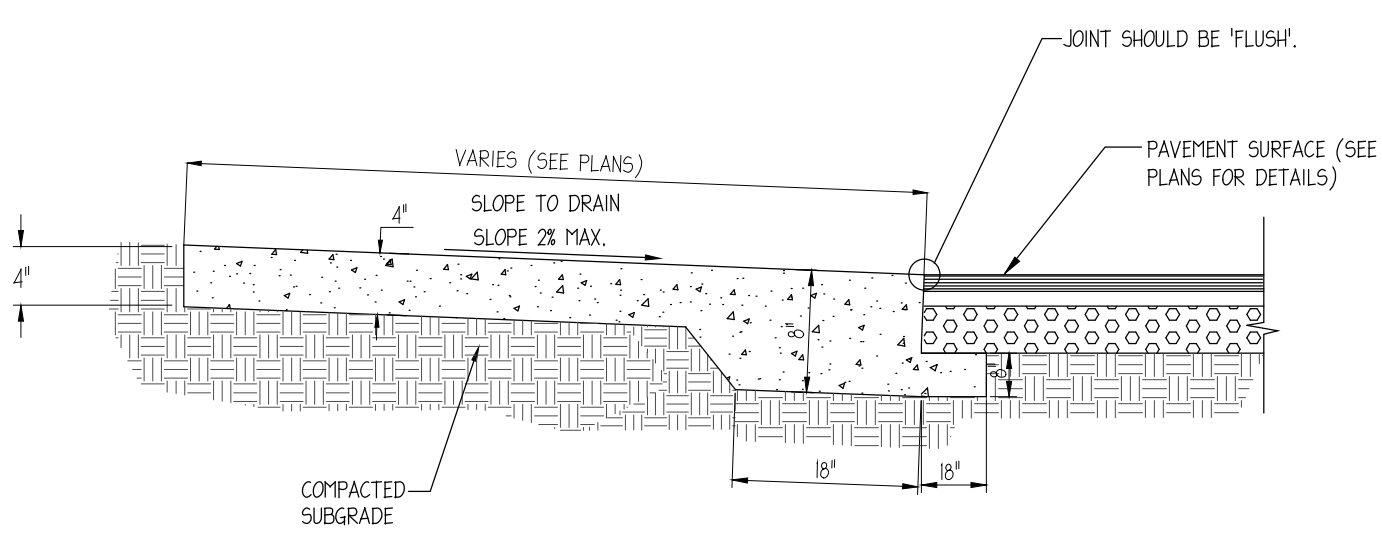


ISOMETRIC VIEW
TYPICAL CURB & GUTTER

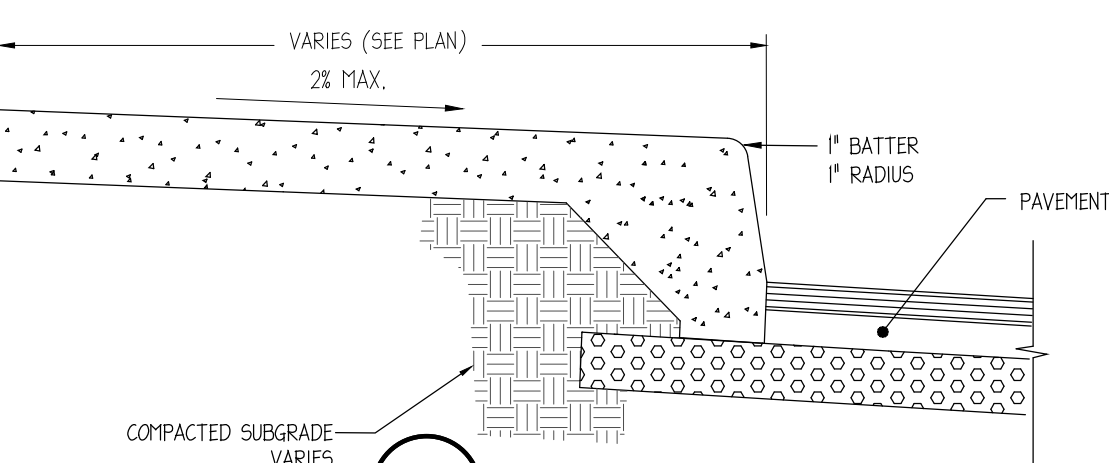
6 CURB TRANSITION
N.T.S.



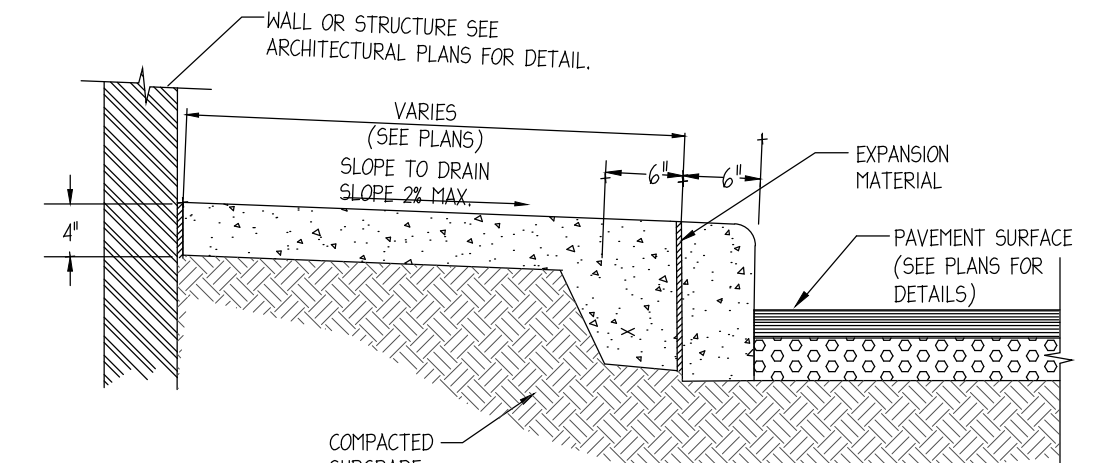
A



B



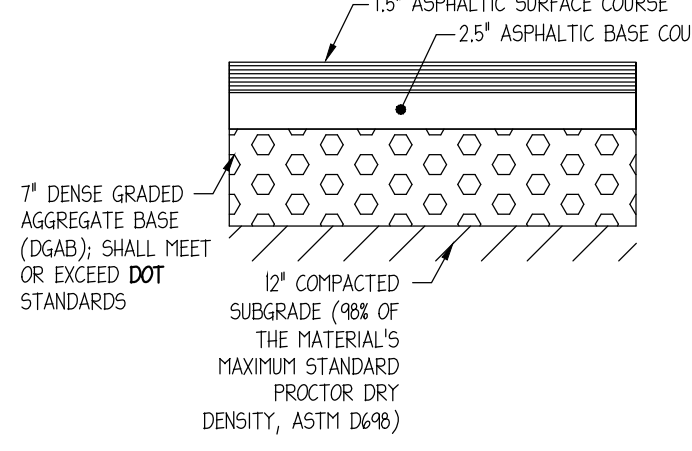
C



D

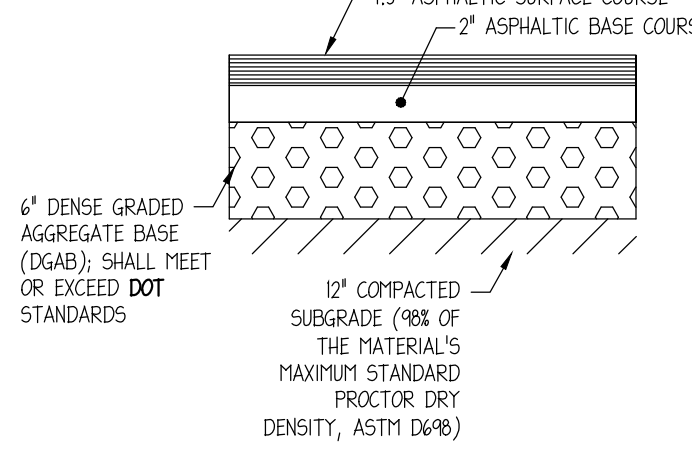
- CONCRETE NOTES:**
- f_c = 4,000 PSI
 - PROVIDE CONTROL JOINTS AT 5' O.C.
 - PROVIDE EXPANSION JOINTS ONLY WHERE CONCRETE PAVEMENT ABUTS FIXED OBJECTS, CURB AND GUTTER, AND OTHER PAVEMENT TYPES.

7 CONCRETE SIDEWALK
N.T.S.



HEAVY-DUTY ASPHALT

A

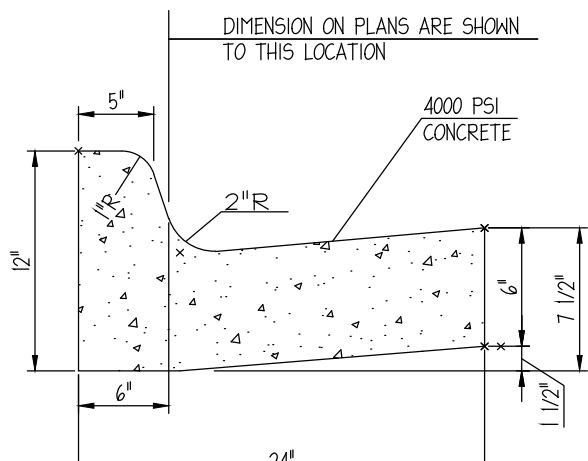


LIGHT-DUTY ASPHALT

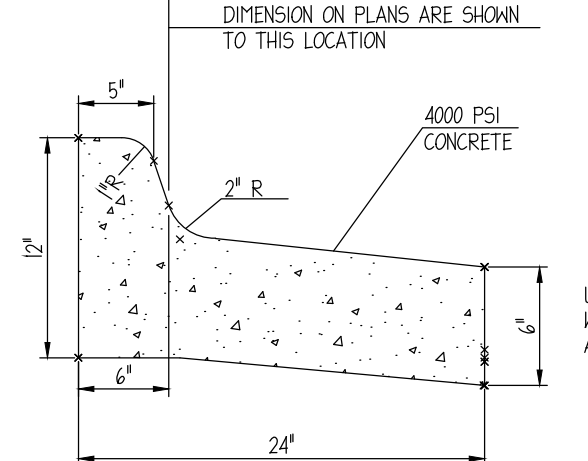
B

- ASPHALT NOTES:**
- THE ASPHALT SURFACE COURSE SHOULD CONFORM TO THE MOST RECENT EDITION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (DOT) STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, FOR HOT MIX ASPHALTIC CONCRETE SURFACE COURSE.
 - THE BASE COURSE SHOULD CONFORM TO THE DOT STANDARDS FOR BASE COURSE COMPACTED TO 100 PERCENT OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY.
 - TACK COAT SHOULD BE PROVIDED ATOP EACH PAVEMENT SECTION.

2 PAVEMENT SECTION
N.T.S.

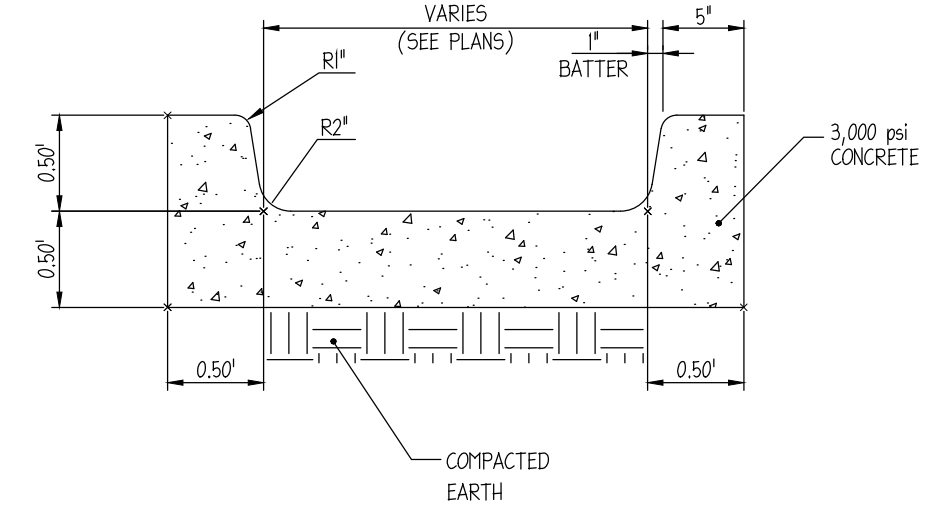


NORMAL CURB & GUTTER



REVERSE CURB & GUTTER

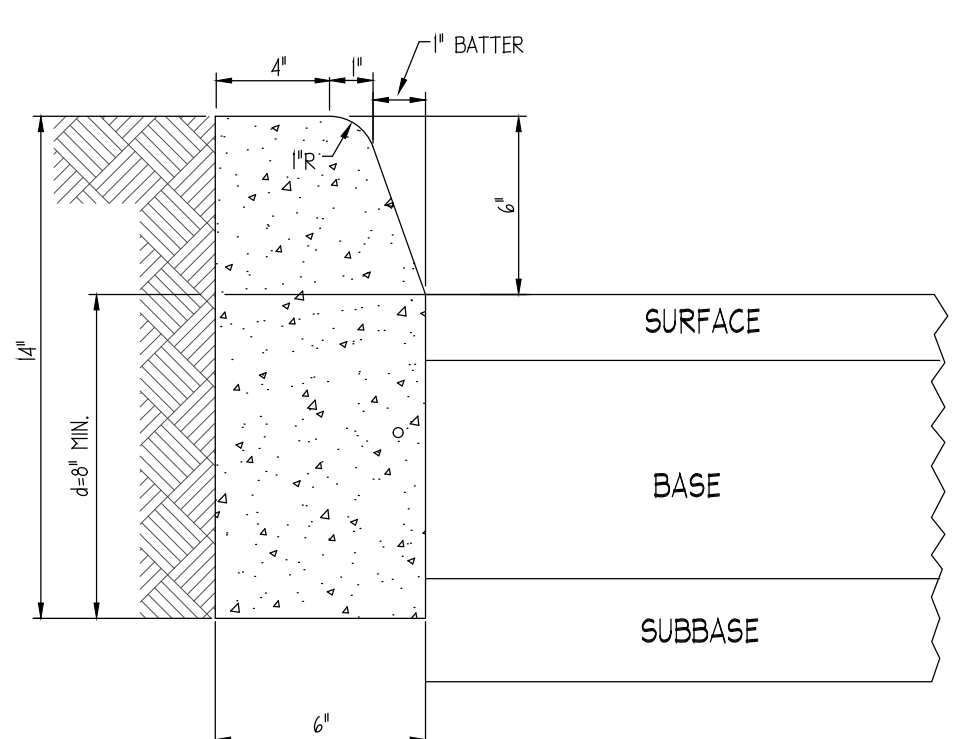
4 24\"/>



SLOPE FLUME ACCORDING TO GRADING AND DRAINAGE PLAN

- CONCRETE NOTES:**
- f_c = 4,000 PSI
 - PROVIDE CONTROL JOINTS AT 5' O.C.
 - PROVIDE EXPANSION JOINTS ONLY WHERE CONCRETE PAVEMENT ABUTS FIXED OBJECTS, CURB AND GUTTER, AND OTHER PAVEMENT TYPES.
 - 6\"/>

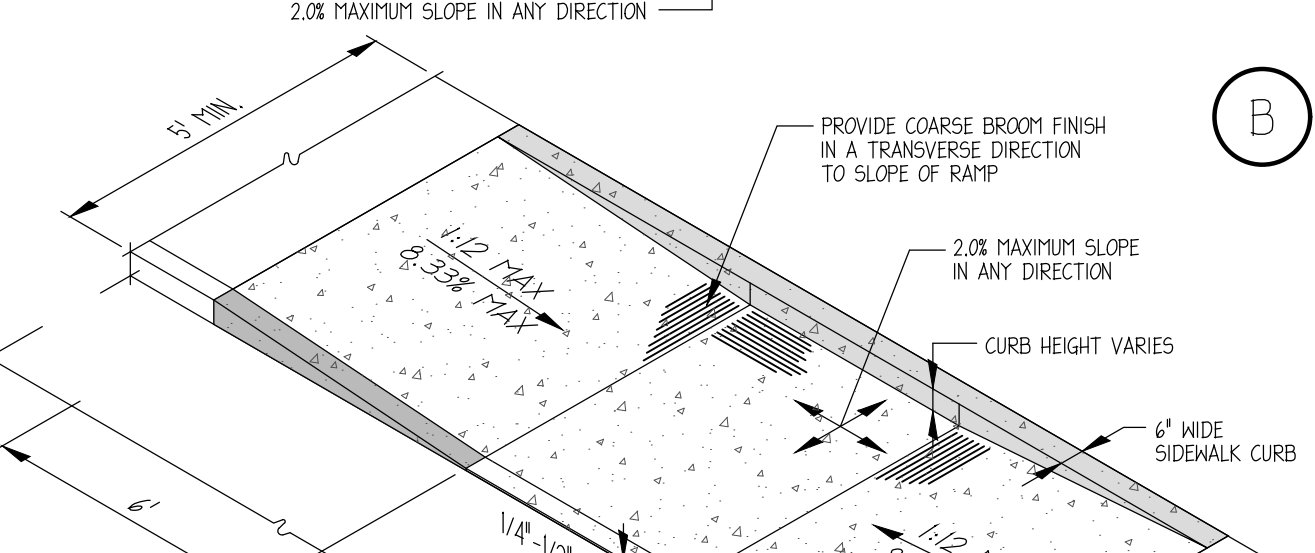
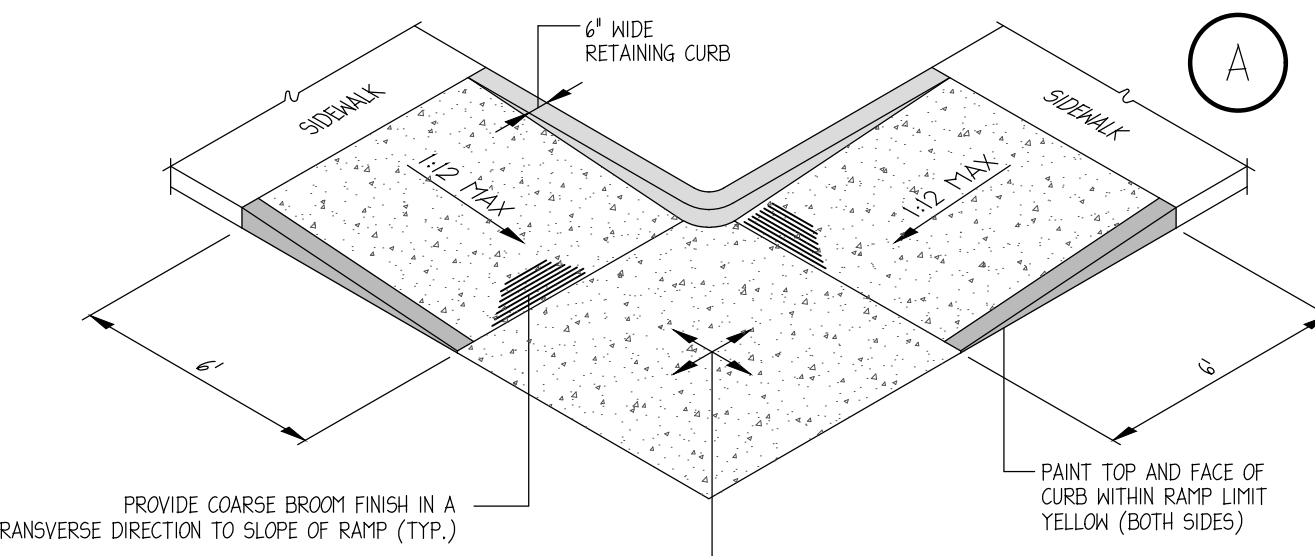
3 CONCRETE FLUME
N.T.S.



CURB SECTION SHALL MATCH THAT OF EXISTING SHOPPING CENTER DEVELOPMENT.

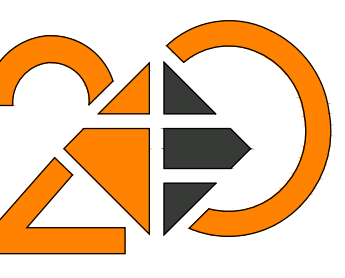
- NOTES:**
- THE DIMENSION 4\"/>

5 6\"/>



PAINT TOP AND FACE OF CURB WITHIN RAMP LIMIT YELLOW (BOTH SIDES)

8 CURB RAMP
N.T.S.



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30001
770.487.0650
WWW.INGENIUMTEAM1.COM



PANDA EXPRESS (D6411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY
1. 06/26/2020
2. 06/26/2020
3. 06/26/2020
4. 06/26/2020
5. 06/26/2020
6. 06/26/2020
7. 06/26/2020
8. 06/26/2020
9. 06/26/2020
10. 06/26/2020

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL MEAL REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

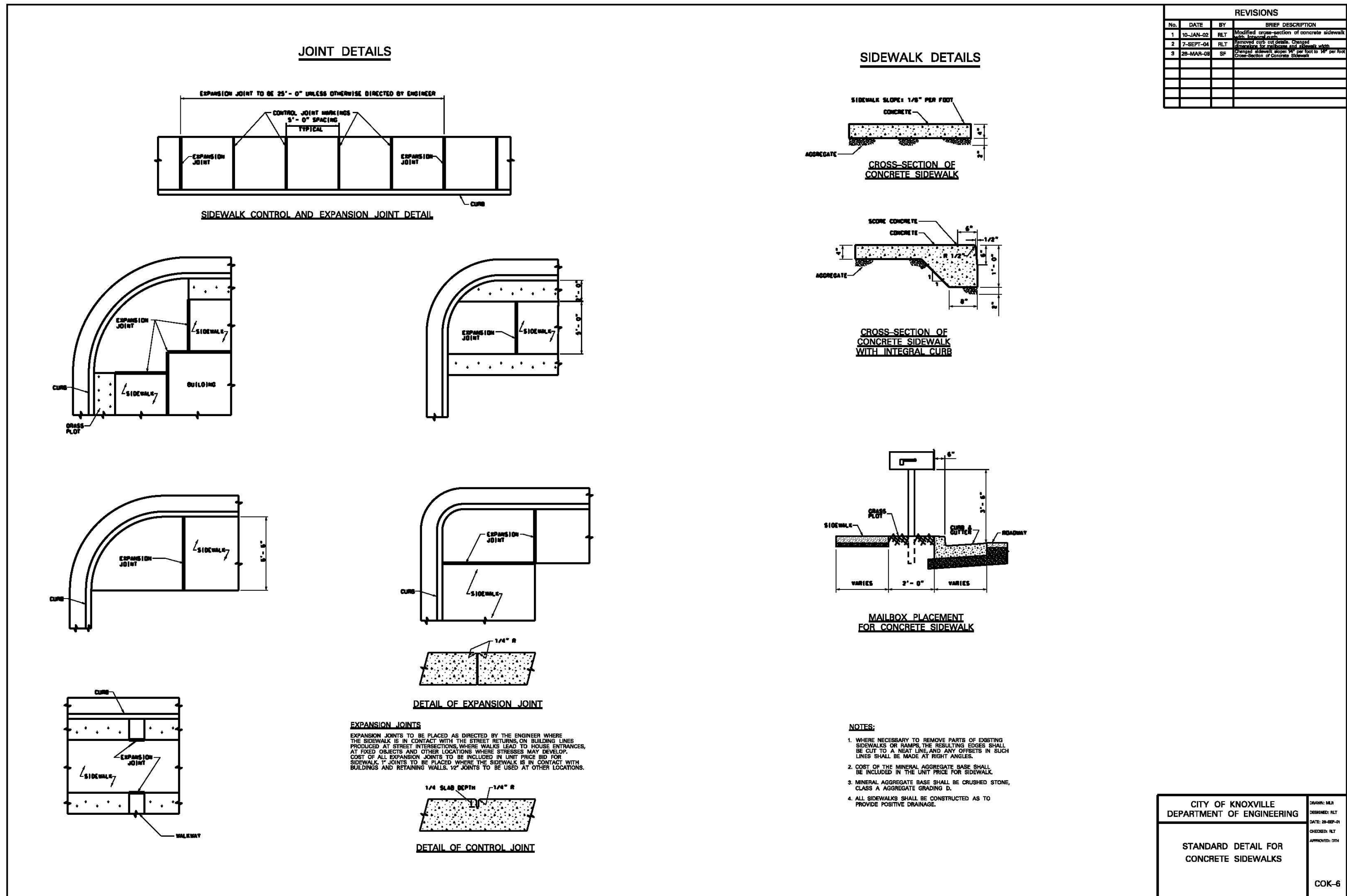
PROJ # 180039
DWG NAME 180039 C03.DWG
ISSUE DATE 06/26/2020
PROJ. TYP: E/H

HARDSCAPE DETAILS II

C03.3

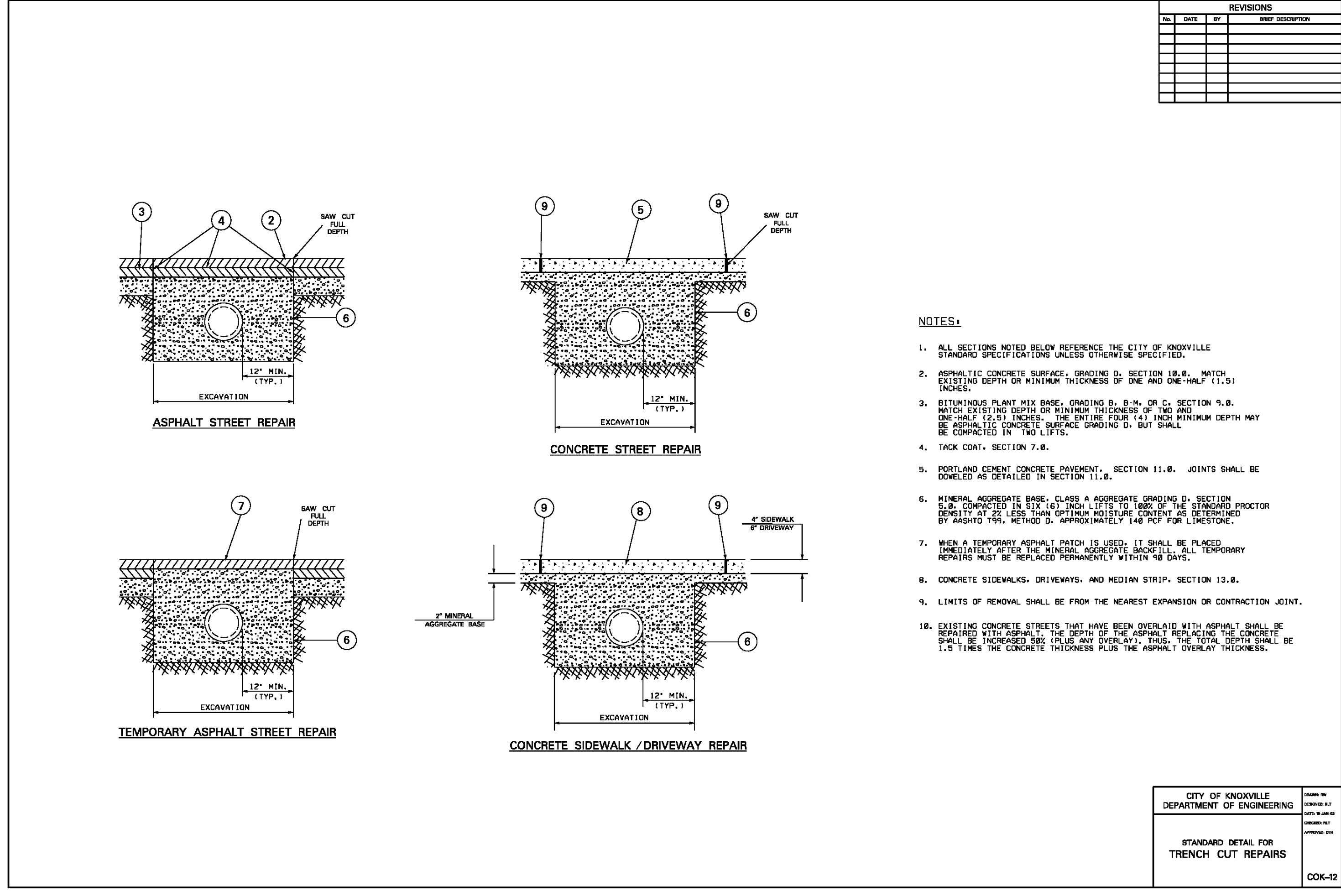
SHEET NUMBER

ISSUE FOR BID

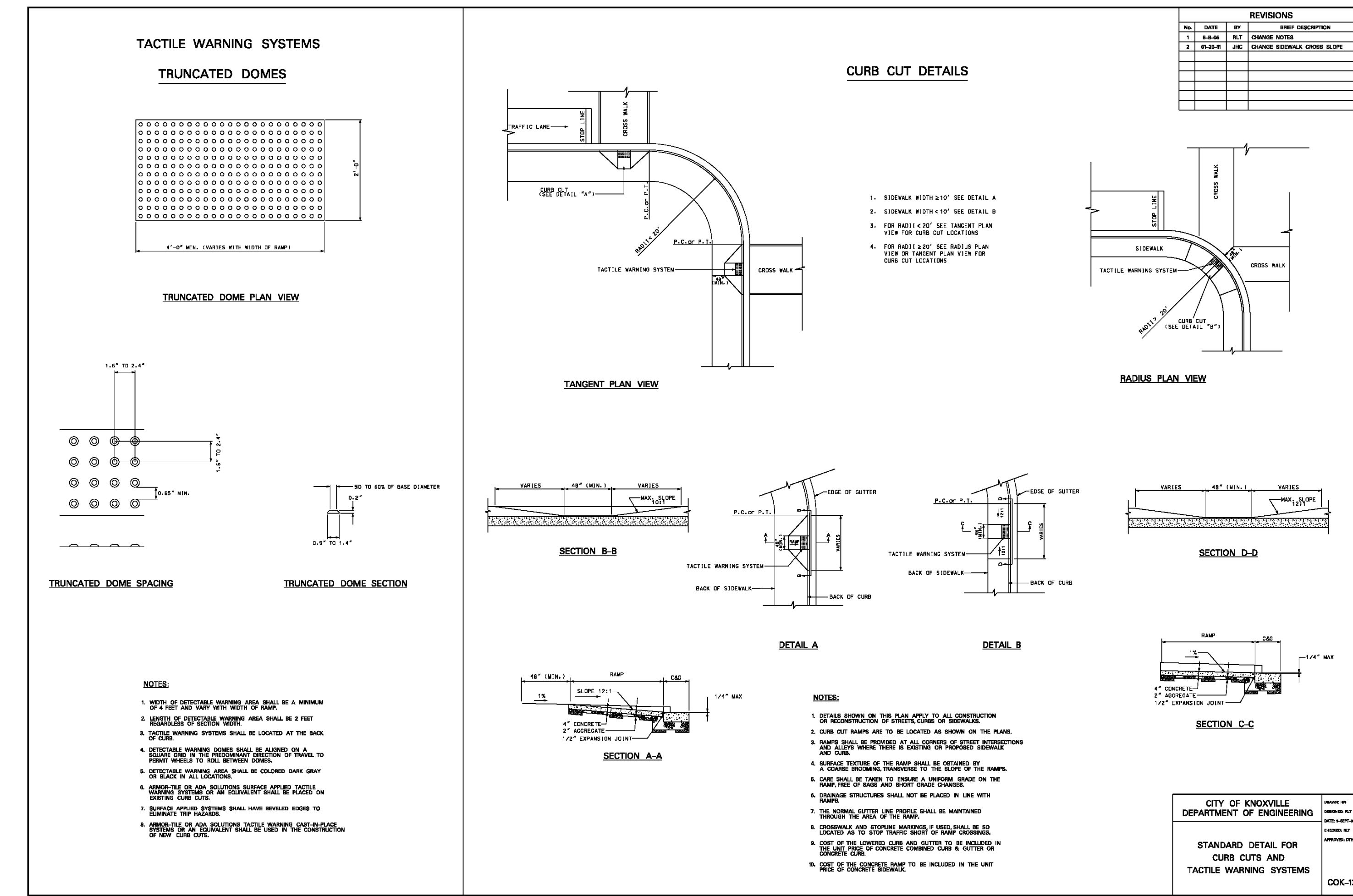


1 CONCRETE SIDEWALK IN RIGHT-OF-WAY NTS

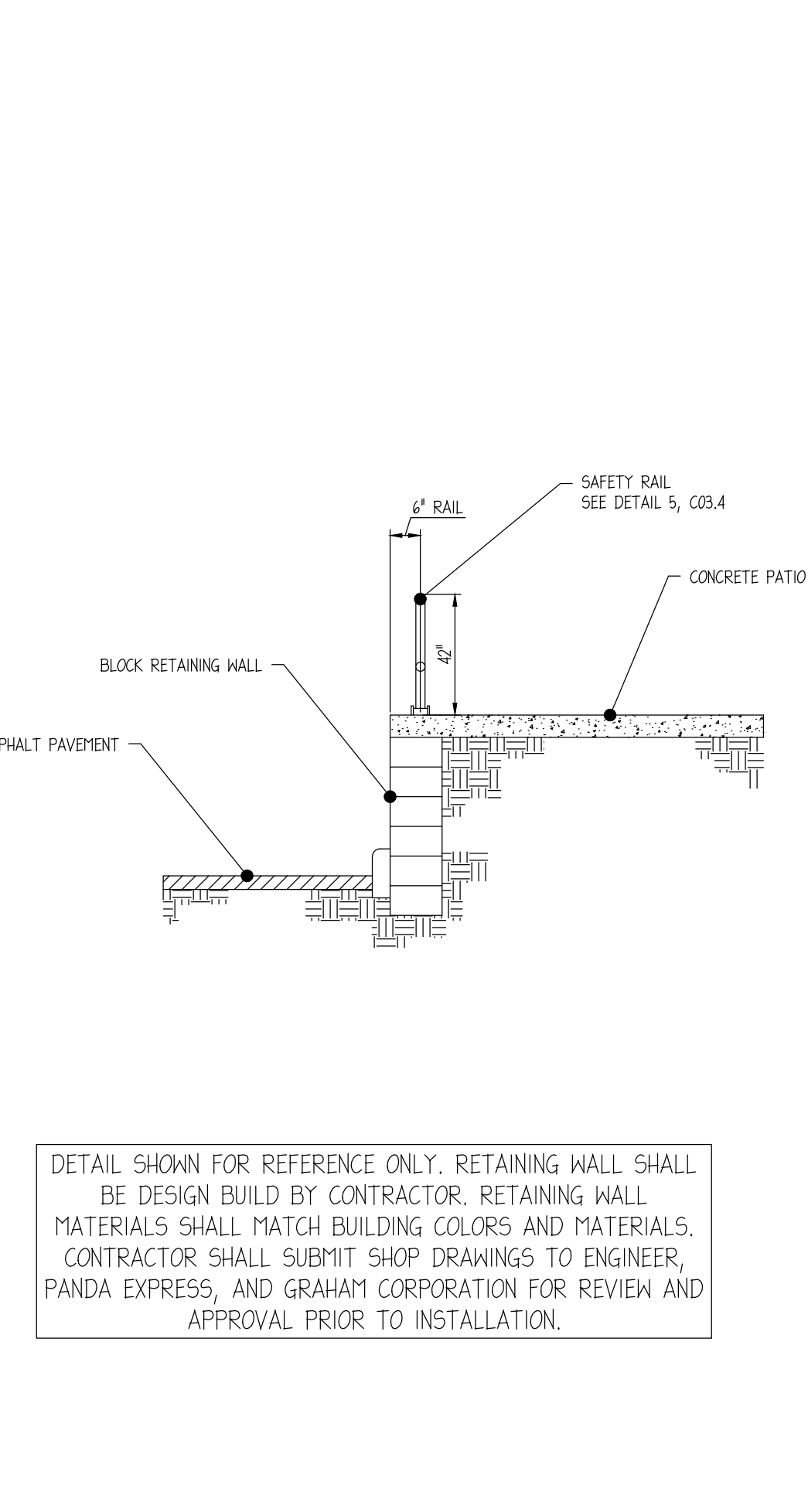
NOTE TO CONTRACTOR:
REFER TO DETAIL 3, SHEET C03.4
FOR ADDITIONAL DETAIL



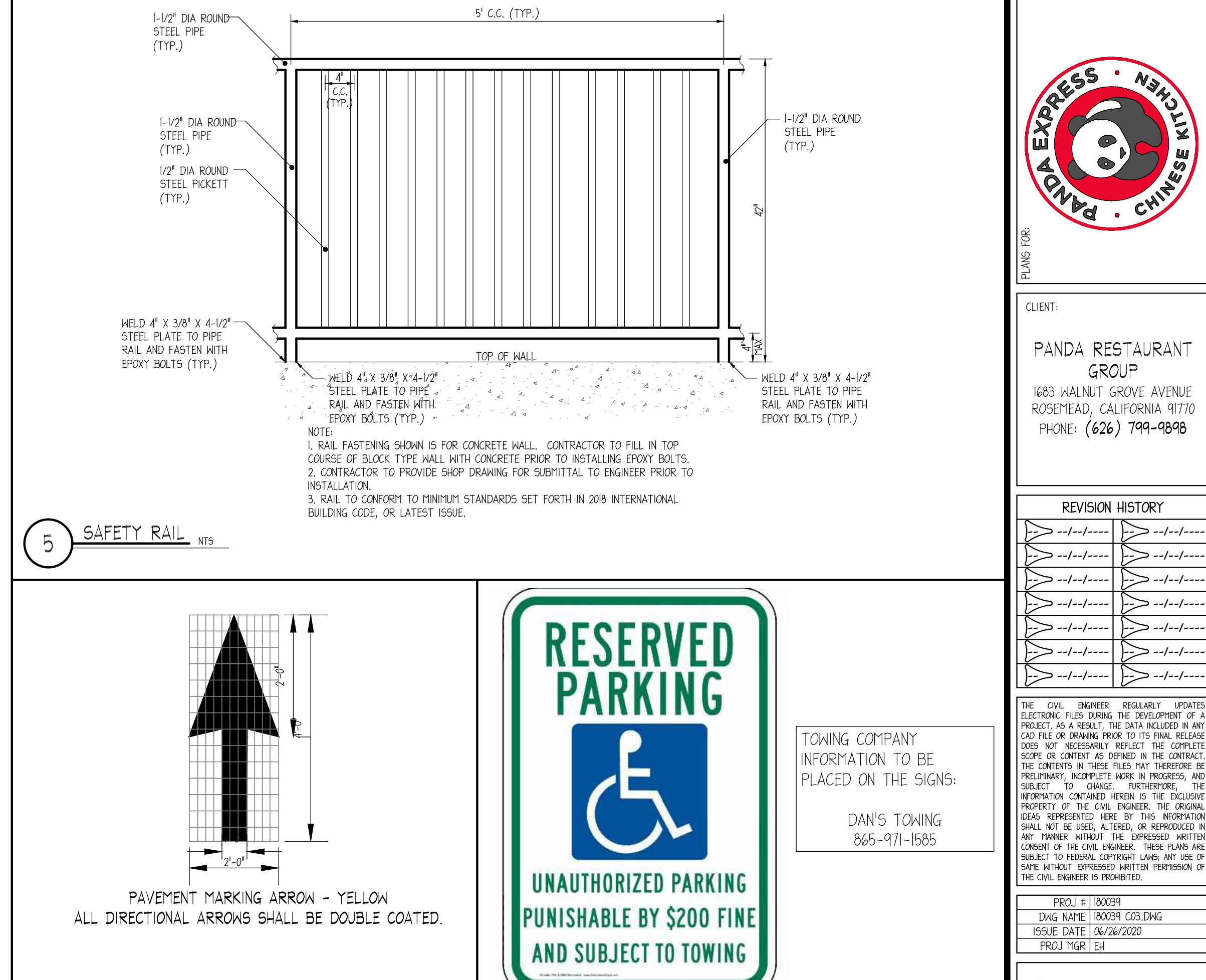
2 TRENCH CUT REPAIRS NTS



3 CURB CUTS AND TACTILE WARNING SYSTEMS NTS



4 WALL SECTION NTS



6 DIRECTIONAL ARROW NTS

7 TN STATE HANDICAP SIGN NTS



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY
1. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
2. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
3. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
4. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
5. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
6. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
7. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
8. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
9. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.
10. REVISED FOR TOWING COMPANY INFORMATION TO BE PLACED ON THE SIGNS.

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF THESE PLANS WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ. # 180039
DWG. NAME 180039 C03.DWG
ISSUE DATE 06/26/2020
PROJ. TGR: EHI

HARDSCAPE DETAILS III

C03.4

SHEET NUMBER

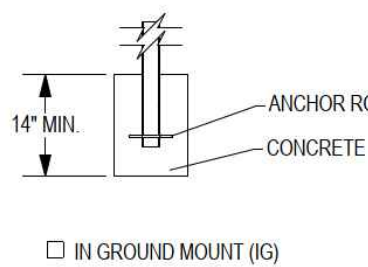
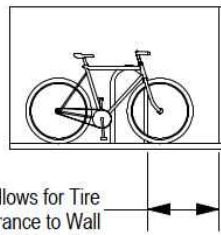
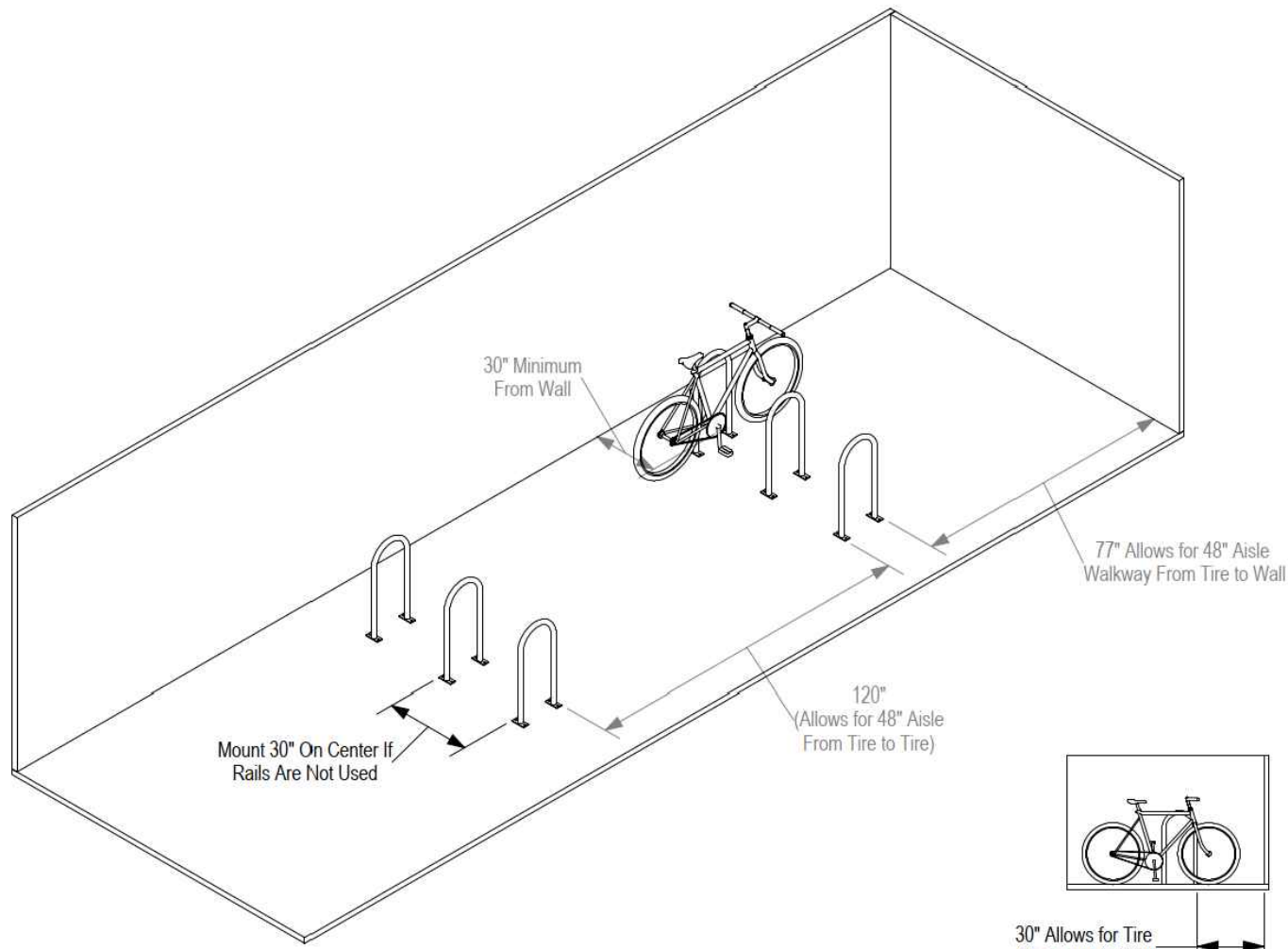
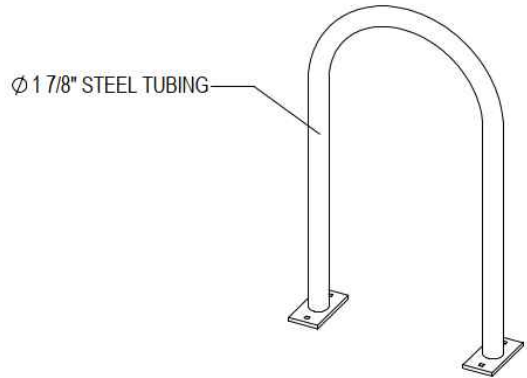
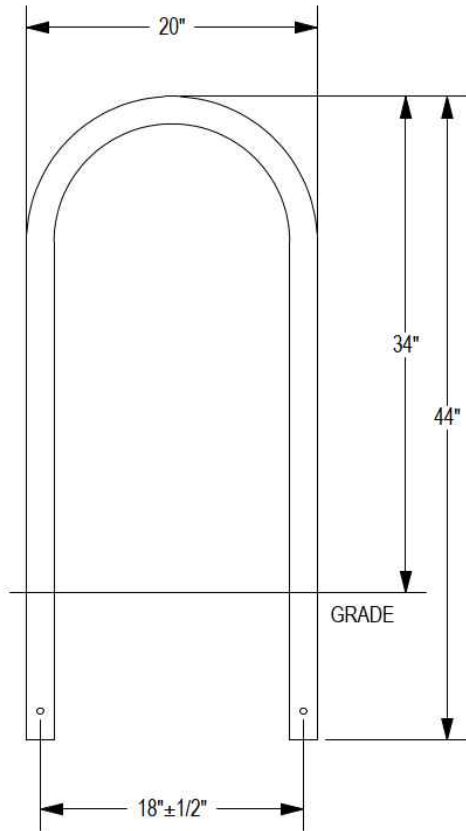
ISSUE FOR BID



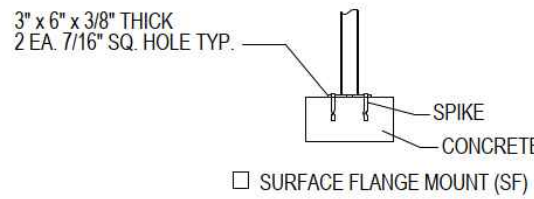
MADRAX DIVISION
GRABER MANUFACTURING, INC.
1080 UNIEK DRIVE
WAUKESHA, WI 53097
P(800) 448-7931, P(608) 849-1080, F(608) 849-1081
WWW.MADRAX.COM, E-MAIL: SALES@MADRAX.COM



MADRAX DIVISION
GRABER MANUFACTURING, INC.
1080 UNIEK DRIVE
WAUKESHA, WI 53097
P(800) 448-7931, P(608) 849-1080, F(608) 849-1081
WWW.MADRAX.COM, E-MAIL: SALES@MADRAX.COM



CHECK DESIRED MOUNT



U Rack Installation Guide CHECK LOCAL CODES

Installation Guide Applies to The Following Madrax Bike Racks:

- U Rack
- Square U Rack
- U-Two
- U's On Rails
- Lofty
- Metro

There must be at least a six foot clear walkway from buildings to comply with the American with Disabilities Act. The bicycle rack cannot be located directly in front of a store entrance or exit, nor in a driveway. The bicycle rack cannot be located closer to the curb than two feet. Three feet from curb is ideal, although in certain circumstances, the distance may be greater.

The footprint of a bicycle is approximately 2 feet by 6 feet. Some handlebars can be as much as 30 inches wide.

- NOTES:
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 2. CONSULTANT TO SELECT COLOR (FINISH). SEE MANUFACTURER'S SPECIFICATIONS.
 3. SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.

CONFIDENTIAL DRAWING AND INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GRABER MANUFACTURING, INC. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

©2017 GRABER MANUFACTURING, INC. ALL PROPRIETARY RIGHTS RESERVED.

PRODUCT: U190-IG(SF)
DESCRIPTION: U BIKE RACK
DATE: 10-4-18
ENG: SMC
CONFIDENTIAL DRAWING AND INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GRABER MANUFACTURING, INC. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

©2018 GRABER MANUFACTURING, INC. ALL PROPRIETARY RIGHTS RESERVED.

- NOTES:
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 2. CONSULTANT TO SELECT COLOR (FINISH). SEE MANUFACTURER'S SPECIFICATIONS.
 3. SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.

NOTE TO CONTRACTOR:
CONTRACTOR SHALL INSTALL TWO U-RACK FOR A TOTAL OF 4 SPACES.

1 BIKE RACK NT5



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.487.0650
WWW.INGENIUMTEAM1.COM



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:
PANDA RESTAURANT
GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

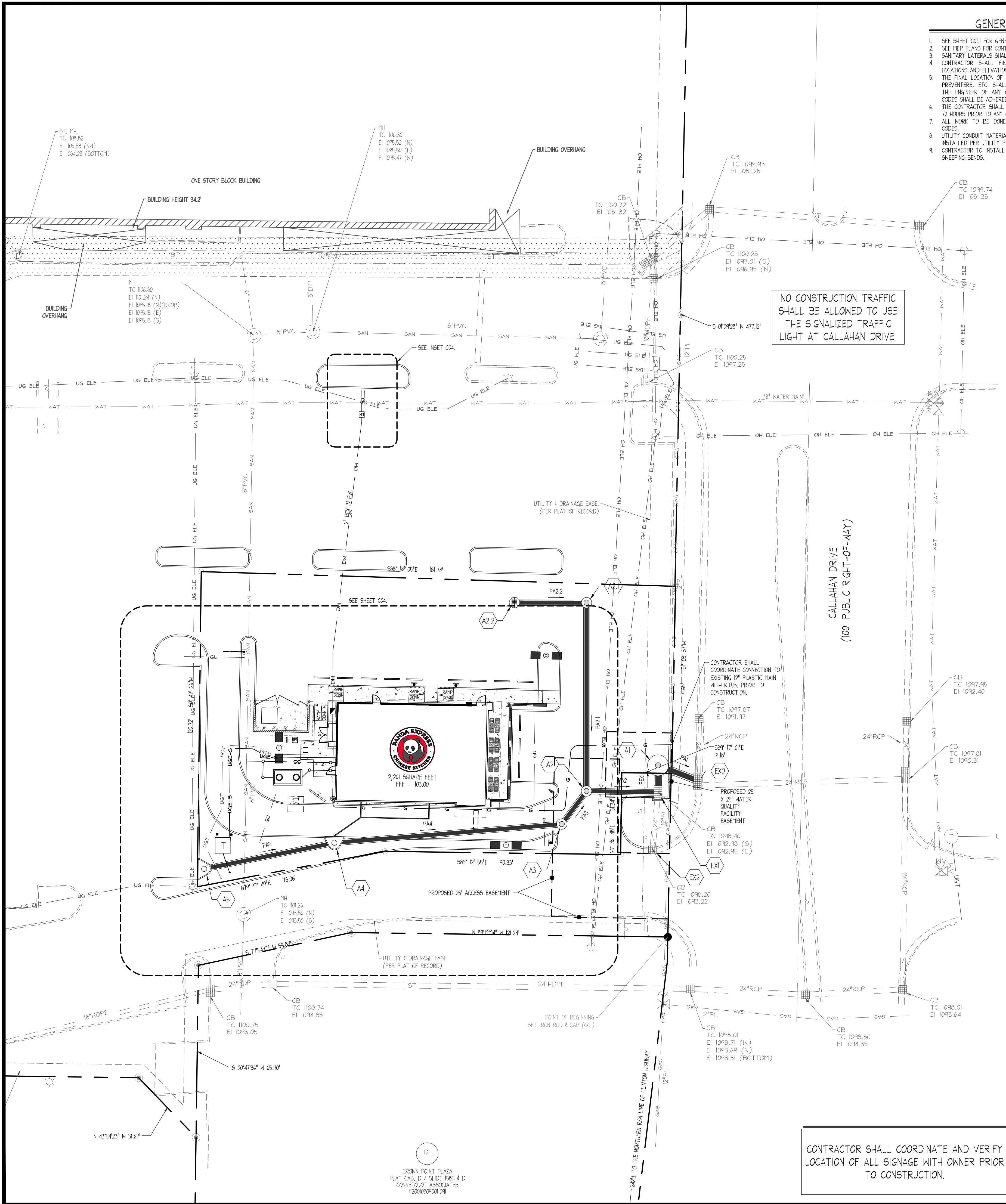
THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039_C03.DWG
ISSUE DATE 06/26/2020
PROJ TYGR EHI

HARDSCAPE DETAILS IV

C03.5
SHEET NUMBER

ISSUE FOR BID



GENERAL UTILITY NOTES

- SEE SHEET C04.1 FOR GENERAL NOTES.
- SEE MEP PLANS FOR CONTINUATION OF ALL UTILITIES INTO BUILDING.
- SANITARY LATERALS SHALL HAVE A MINIMUM FALL OF 1/8".
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION.
- THE FINAL LOCATION OF FIRE HYDRANTS, VALVES, WATER LINES, BACKFLOW PREVENTERS, ETC. SHALL BE DETERMINED DURING CONSTRUCTION. NOTIFY THE ENGINEER OF ANY CHANGES TO LOCATION OR CONFIGURATION. NFPA CODES SHALL BE ADHERED TO.
- THE CONTRACTOR SHALL CONTACT PUBLIC UTILITIES INSPECTIONS AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ALL WORK TO BE DONE IN STRICT ACCORDANCE WITH LOCAL GOVERNING CODES.
- UTILITY CONDUIT MATERIAL FOR ELECTRIC, TELEPHONE, AND CABLE SHALL BE INSTALLED PER UTILITY PROVIDER SPECIFICATIONS.
- CONTRACTOR TO INSTALL SCHEDULE 40 PVC CONDUIT AND PULL STRING WITH SWEEPING BENDS.

UTILITY LEGEND

UTILITY	LINE TYPE/SYMBOL	REFERENCE
DOMESTIC WATER LINE	— DW — DW —	2" PEX
FIRE WATER LINE	— FW — FW —	NOT APPLICABLE
BUILDING FIRE SPRINKLER LINE	— FWS — FWS —	NOT APPLICABLE
IRRIGATION WATER LINE	— IRR — IRR —	1" POLY
DOMESTIC WATER METER (WM)	— WM —	1-1/2" DETAIL 2, SHEET C04.5
IRRIGATION METER (IRM)	— IRM —	1"
BACKFLOW PREVENTER (BFP)	— BFP —	1" DETAIL 3, SHEET C04.5
FIRE VAULT (DDC)	— DDC —	NOT APPLICABLE
DC BACKFLOW PREVENTER	— BFP —	1-1/2" DETAIL 1, SHEET C04.5
WATER TAP OR TEE	— T —	1" 8"x2"
GATE VALVE (GV)	— GV —	NOT APPLICABLE
THRUST BLOCK (TB)	— TB —	NOT APPLICABLE
FIRE HYDRANT (FH)	— FH —	NOT APPLICABLE
FIRE DEPARTMENT CONNECTION (FDC)	— FDC —	NOT APPLICABLE
SANITARY SEWER (SS)	— SS — SS —	4" PVC
SANITARY MANHOLE (SMH)	— SMH —	NOT APPLICABLE
GENERAL CLEAN OUT (CO)	— CO —	DETAIL 4, SHEET C04.4
SAMPLING MANHOLE	— SMH —	NOT APPLICABLE
SANITARY STRUCTURE NUMBER	— SN —	SEE PLANS
UNDERGROUND ELECTRIC LINE-PRIMARY	— UGE-P — UGE-P —	"
UNDERGROUND ELECTRIC LINE-SECONDARY	— UGE-S — UGE-S —	(2) # 4" PVC
POST INDICATOR VALVE	— PIV —	NOT APPLICABLE
SITE LIGHTING POLE	— LP —	SEE PLANS
TRANSFORMER PAD	— TP —	DETAIL 2, SHEET C04.2
METER/CT PEDESTAL	— CT —	NOT APPLICABLE
UNDERGROUND TELEPHONE LINE	— UGT — UGT —	(1) # 4" PVC W/PULL STRING
GENERAL UTILITY CONDUIT	— GU — GU —	(2) 4" PVC
GAS LINE	— G — G —	"
GAS METERS	— GM —	"

■ ALL UTILITIES SHALL BE INSTALLED ACCORDING TO UTILITY PROVIDERS AND JURISDICTION STANDARDS AND SPECIFICATIONS.

SANITARY STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
S1	STUB	1102.94	1098.32 (P52)	
S2	8" CLEANOUT DETAIL 4, SHEET C04.4	1102.88	1098.52 (P53) 1098.44 (P52.1)	1098.44 (P52)
S2.1	8" CLEANOUT DETAIL 4, SHEET C04.4	1102.92	1098.46 (P52.2)	1098.96 (P52.1)
S2.2	BUILDING STUB	1101.70		1099.00 (P52.2)
S3	8" CLEANOUT DETAIL 4, SHEET C04.4	1102.53	1098.64 (P54)	1098.64 (P53)
S4	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.77		
S4 IN	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.68	1098.72 (P55)	
S4 OUT	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.87		1098.72 (P54)
S5	8" CLEANOUT DETAIL 4, SHEET C04.4	1102.82	1098.80 (P56)	1098.80 (P55)
S6	8" CLEANOUT DETAIL 4, SHEET C04.4	1102.93	1098.96 (P57)	1098.96 (P56)
S7	BUILDING STUB	1101.70		1099.00 (P57)

SANITARY PIPE TABLE

NAME	SIZE	LENGTH	SLOPE	MATERIAL
P52	4"	6'	2.00%	PVC
P52.1	4"	26'	2.00%	PVC
P52.2	4"	2'	2.00%	PVC
P53	4"	6'	2.00%	PVC
P54	6"	4'	2.00%	PVC
P55	4"	4'	2.00%	PVC
P56	4"	8'	2.00%	PVC
P57	4"	2'	2.00%	PVC

CONTRACTOR SHALL PROVIDE ALLOWANCE FOR BOOSTER PUMP IN CASE DELIVERY WATER PRESSURE IS NOT MET.

NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED TO USE THE SIGNALIZED TRAFFIC LIGHT AT CALLAHAN DRIVE.

CONTRACTOR SHALL COORDINATE AND ADJUST LOCATION OF LOOP DETECTORS TO AVOID UTILITY CONFLICTS PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL INSTALL GENERAL UTILITY CONDUITS TO PLANTERS AROUND BUILDING AND PATIO. SEE ARCHITECTURAL/MEP PLANS FOR CONTINUATION.

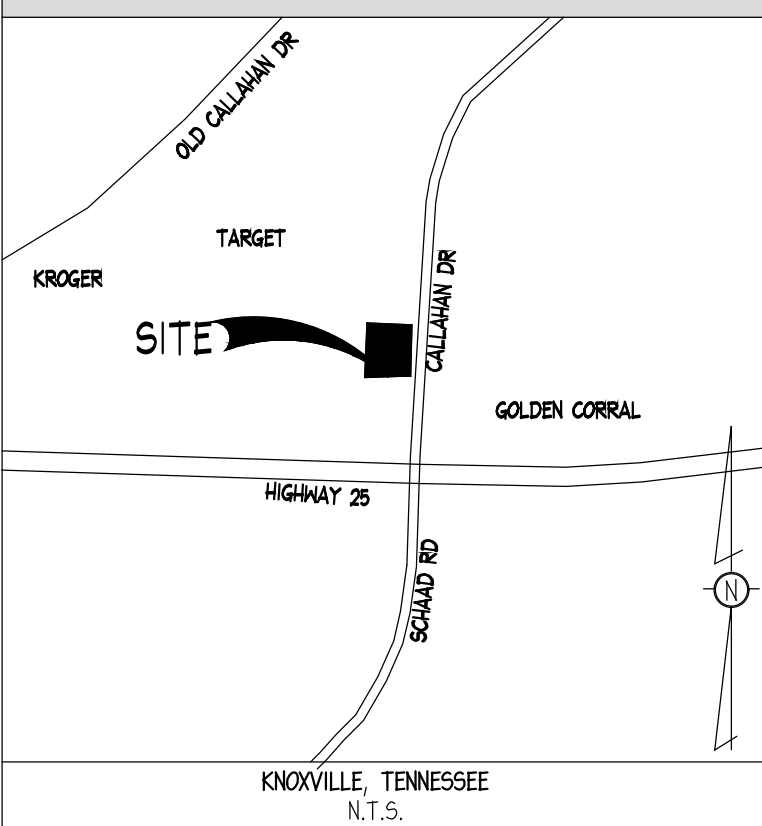
CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

CONTRACTOR SHALL COORDINATE AND VERIFY LOCATION OF ALL SIGNAGE WITH OWNER PRIOR TO CONSTRUCTION.



24-HOUR CONTACT:
BILLY NEWTON
832-683-9885

LOCATION MAP



UTILITY INFORMATION

WATER				
	GC	SELLER/DEVELOPER	UTILITY	ADDITIONAL NOTES
LINE EXTENSION TO PROPERTY LINE		●		■
PIPING FROM PROPERTY LINE TO BUILDING	●			■
TAPPING THE MAIN			●	■
WATER VAULT		●		■
WATER (METER) PIT		●		■
DOMESTIC METER			●	■
FIRE METER				N/A
IRRIGATION METER			●	■
DOMESTIC BFP	●			■
FIRE BFP	●			■
IRRIGATION BFP	●			■
OBTAINING EASEMENTS				N/A
OBTAINING ROW WORK PERMITS				N/A

SANITARY SEWER

	GC	SELLER/DEVELOPER	UTILITY	ADDITIONAL NOTES
TAPPING OF THE MAIN			●	■
LINE EXTENSION SERVICE LATERAL (INSIDE PROPERTY)	●			■
OBTAINING EASEMENTS				N/A
OBTAINING ROW PERMIT				N/A

ELECTRIC

	GC	SELLER/DEVELOPER	UTILITY	ADDITIONAL NOTES
PRIMARY CONDUIT			●	■
PRIMARY CABLE			●	■
PRIMARY FINAL CONNECTION			●	■
TRANSFORMER			●	■
TRANSFORMER PAD	●			■
POLE			●	■
SECONDARY CABLE	●			■
SECONDARY CONDUIT	●			■
SECONDARY FINAL INSPECTION	●			■
METER			●	■
CT CABINET	●			■
CT METER CONDUIT	●			■
SOCKET	●			■
OBTAINING EASEMENTS			●	■
ROW WORK PERMITS	●			■

TELEPHONE

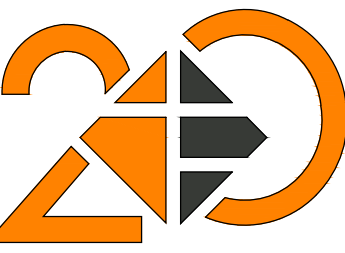
	GC	SELLER/DEVELOPER	UTILITY	ADDITIONAL NOTES
CONDUIT			●	■
TRENCH & BACKFILL			●	■
CABLE & WIRE			●	■
OBTAINING EASEMENTS			●	■
OBTAINING ROW WORK PERMITS			●	■

GAS

	GC	SELLER/DEVELOPER	UTILITY	ADDITIONAL NOTES
TAP			●	■
PIPING			●	■
TRENCH & BACKFILL			●	■
METER			●	■
REGULATOR			●	■
OBTAINING EASEMENTS			●	■
OBTAINING ROW WORK PERMITS	●			■



0 20 40 Feet
SCALE 1" = 20'



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.637.8860
WWW.INGENIUMTEAM1.COM



PANDA EXPRESS (D0411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-9898

REVISION HISTORY

NO.	DESCRIPTION	DATE
1	ISSUE FOR BID	06/26/2020

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE WITHOUT FURTHER NOTICE. THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DATA REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS AND USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 COALDING
ISSUE DATE 06/26/2020
PROJ FILE: EH

UTILITY PLAN

C04.0

SHEET NUMBER

ISSUE FOR BID



NOTE: ALL CATCH BASINS, AREA DRAIN GRATES, AND MANHOLE COVER REQUIRE PERMANENTLY CAST ENVIRONMENTAL MESSAGE, I.E. "NO DUMPING, DRAINS TO RIVER".

NOTE: CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE MANUFACTURER'S FINAL DESIGN PRIOR TO ORDERING UNIT.

PROJECT INFORMATION

PROJECT NO.	2019-001
PROJECT NAME	PANDA EXPRESS - CLINTON HWY
PROJECT LOCATION	CLINTON HWY, KNOXVILLE, TN
DESIGNED BY	ADVANCED DRAINAGE SYSTEMS, INC.
CHECKED BY	ADVANCED DRAINAGE SYSTEMS, INC.
DATE	11-19-13

ADVANCED DRAINAGE SYSTEMS, INC.

PANDA EXPRESS - CLINTON HWY
KNOXVILLE, TN

BAYSAYER BARRACUDA SPECIFICATIONS

MATERIALS AND DESIGN

CONCRETE STRUCTURES, REINFORCED FOR 4000 PSI TENSILE STRENGTH AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MANHOLE AND STRUCTURAL DESIGN OF THE STRUCTURE SHALL BE PERMANENT AND DURABLE.

IF THE MANHOLE STRUCTURE IS MADE FROM AN ALUMINUM OR POLYMER MATERIAL, THE MATERIAL SHALL BE REINFORCED TO WITHSTAND THE TENSILE STRENGTH OF 4000 PSI. THE STRUCTURE SHALL BE REINFORCED TO WITHSTAND THE TENSILE STRENGTH OF 4000 PSI. THE STRUCTURE SHALL BE REINFORCED TO WITHSTAND THE TENSILE STRENGTH OF 4000 PSI.

REINFORCEMENT

REINFORCEMENT SHALL BE 4000 PSI TENSILE STRENGTH AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MANHOLE AND STRUCTURAL DESIGN OF THE STRUCTURE SHALL BE PERMANENT AND DURABLE.

INSTALLATION

THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

BARRACUDA MAINTENANCE

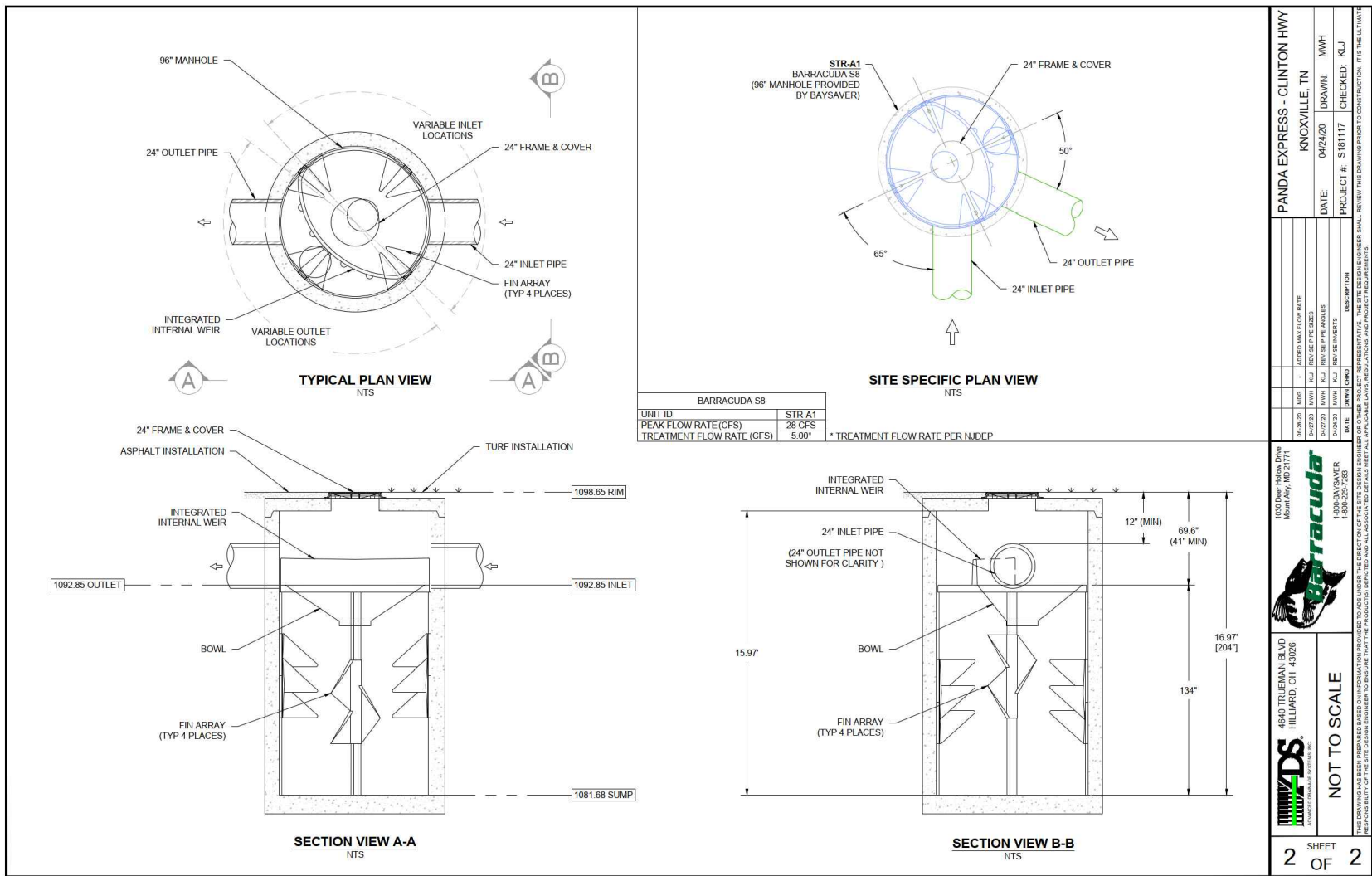
REINFORCEMENT SHALL BE 4000 PSI TENSILE STRENGTH AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MANHOLE AND STRUCTURAL DESIGN OF THE STRUCTURE SHALL BE PERMANENT AND DURABLE.

REINFORCEMENT

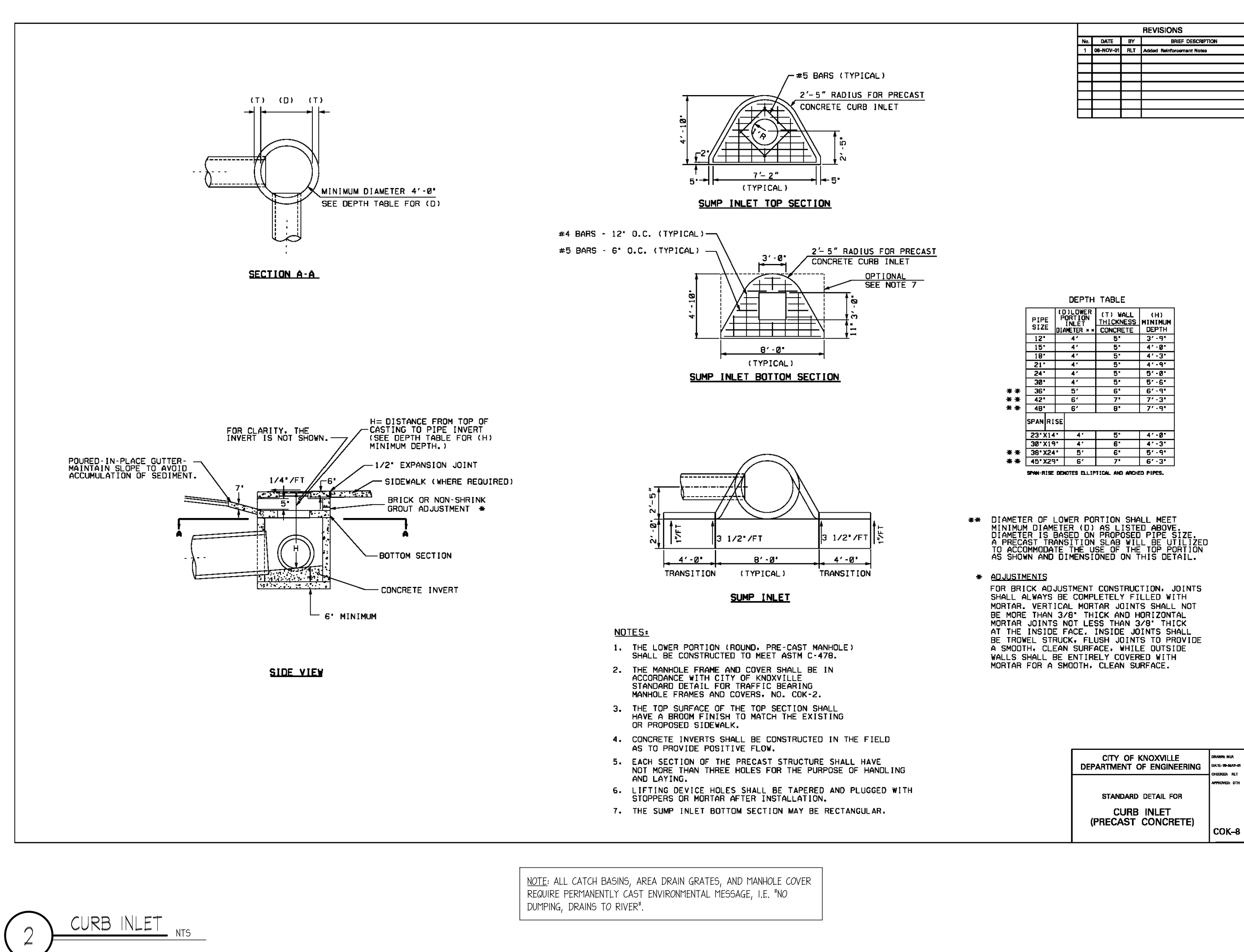
REINFORCEMENT SHALL BE 4000 PSI TENSILE STRENGTH AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MANHOLE AND STRUCTURAL DESIGN OF THE STRUCTURE SHALL BE PERMANENT AND DURABLE.

INSTALLATION

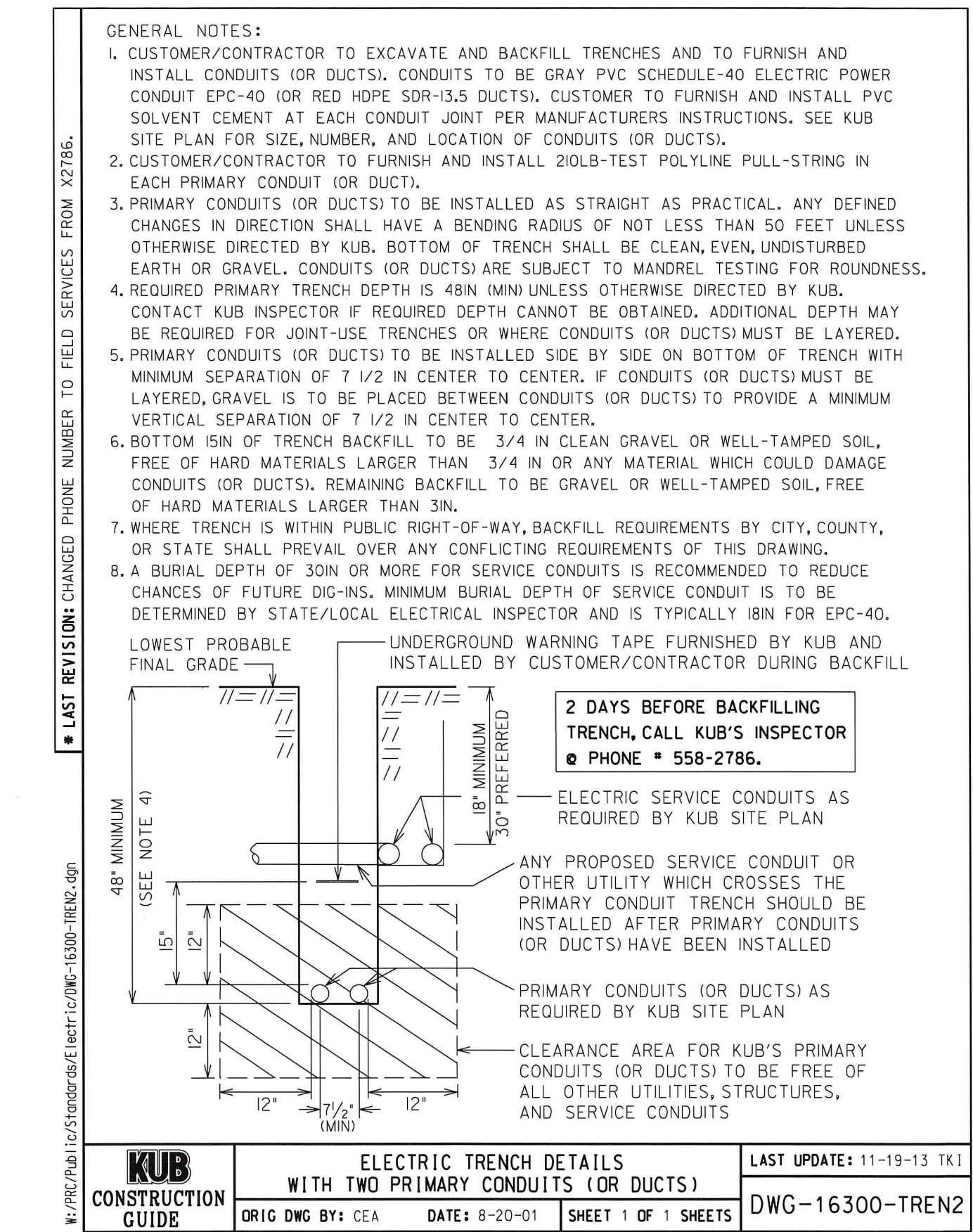
THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.



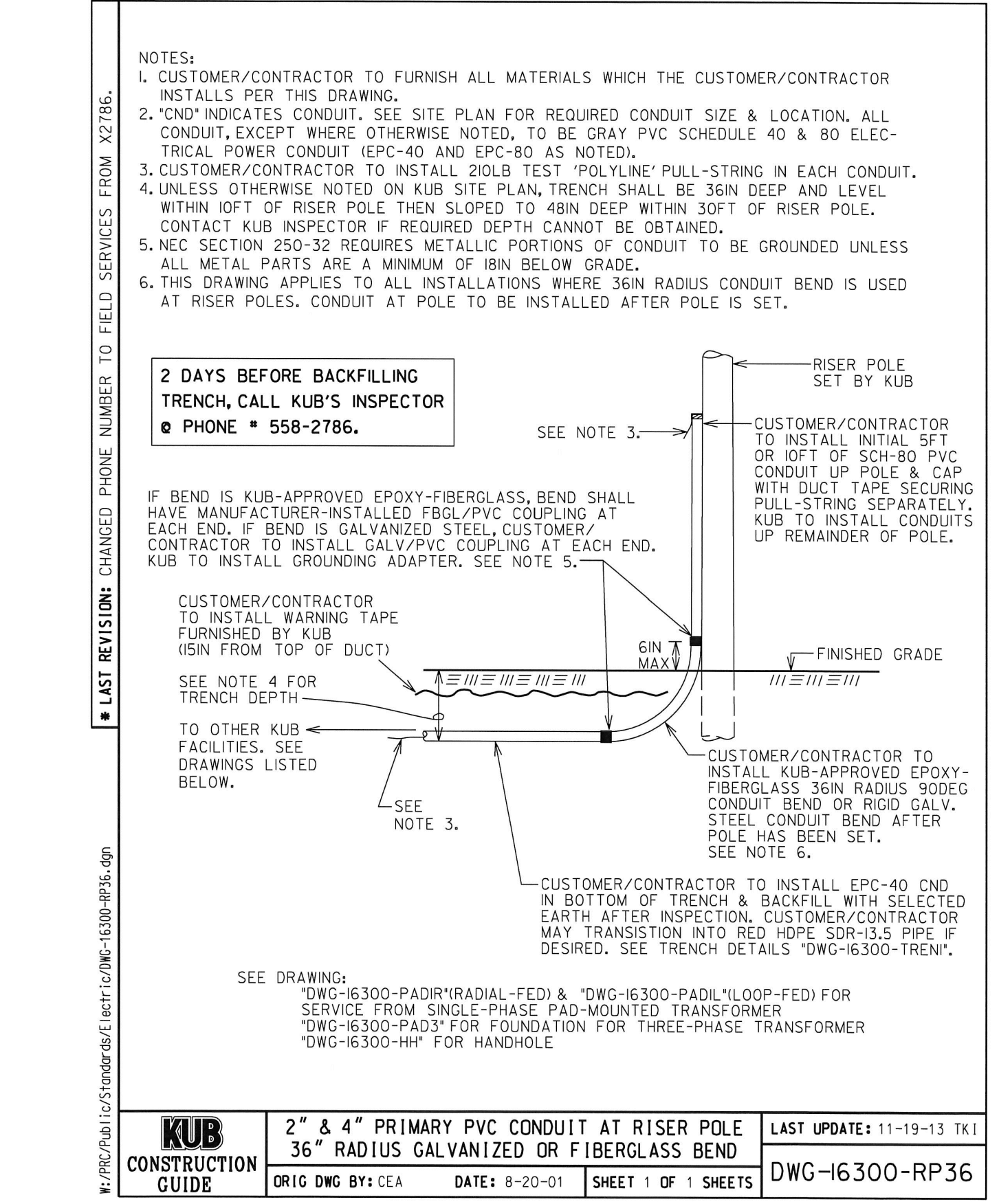
58 BARACUDA NTS



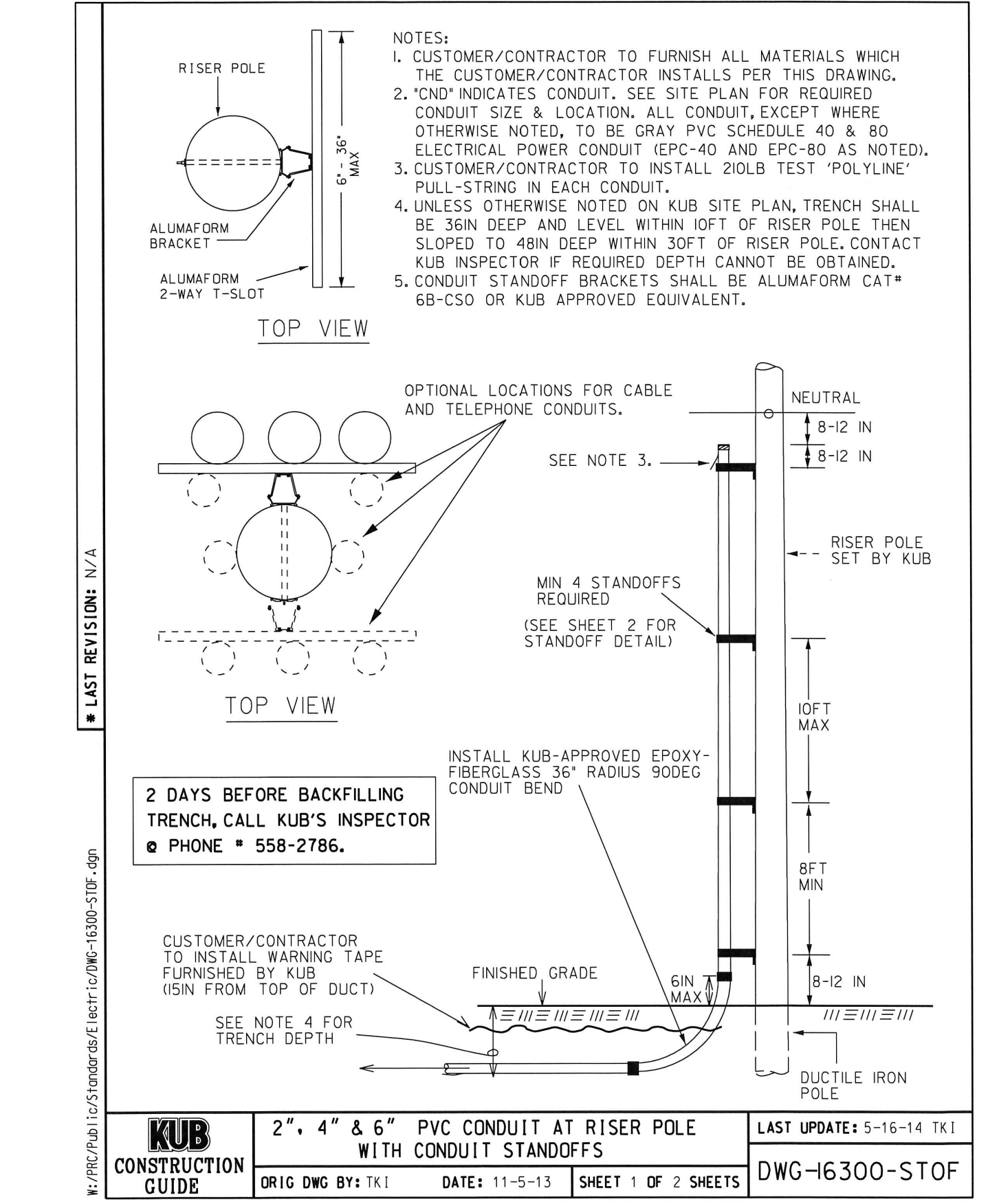
CURB INLET NTS



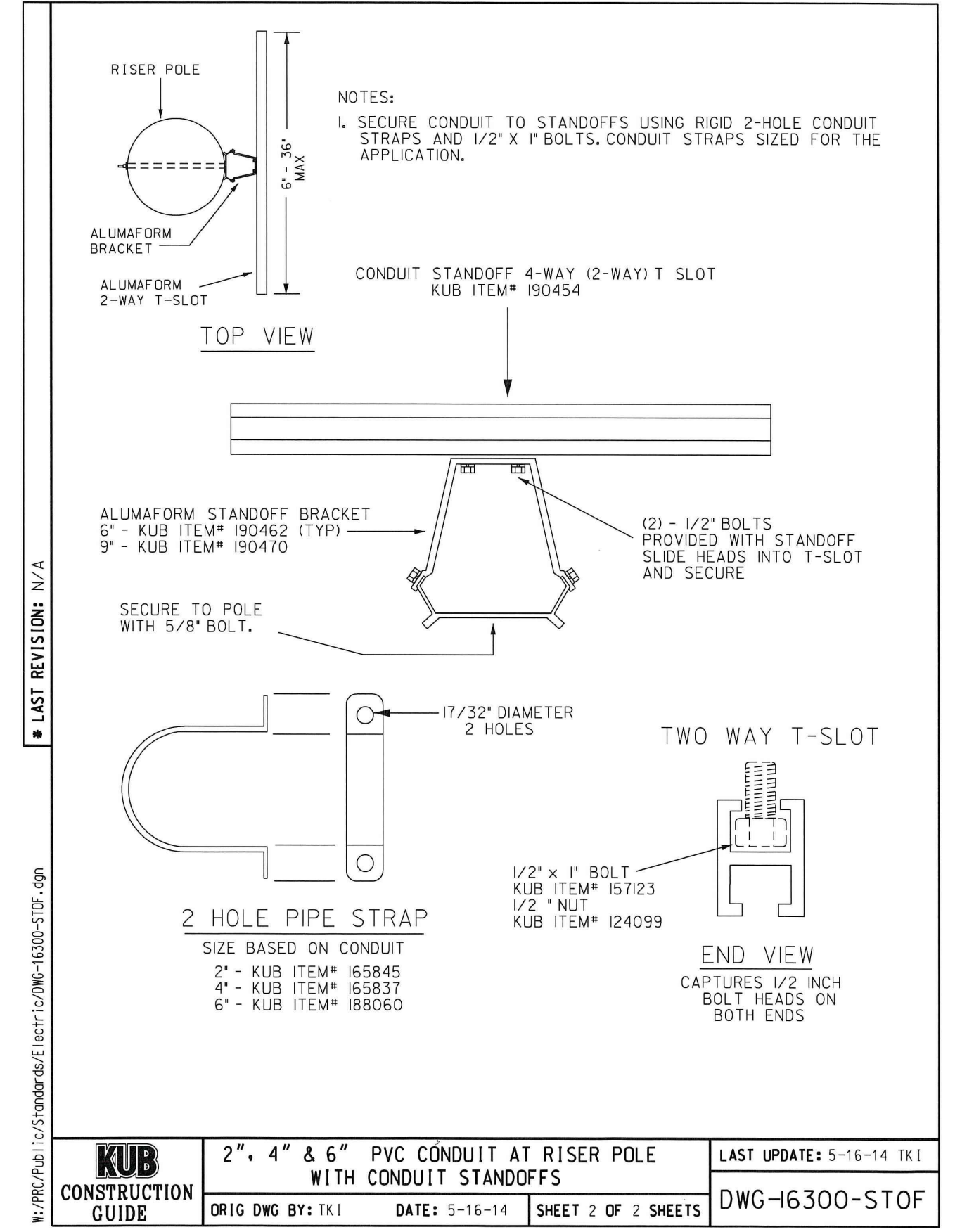
TRENCH DETAIL NTS



RISER POLE NTS



RISER POLE WITH CONDUITS NTS



2-HOLE PIPE STRAP NTS

ingenium
PLANNING & ENGINEERING

221 ROUTE 100
SUITE 100
ALPHARETTA, GA 30001
770.487.0659
WWW.INGENIUMTEAM.COM

JAMES D. NEFF
REGISTERED ENGINEER
IN THE STATE OF TENNESSEE
No. 106691
6/16/20

PANDA EXPRESS (06411)
CLINTON HWY & CALLAHAN DR
KNOXVILLE, TENNESSEE

PANDA EXPRESS - CHINESE

CLIENT:

PANDA RESTAURANT GROUP
1603 HAZARD GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY

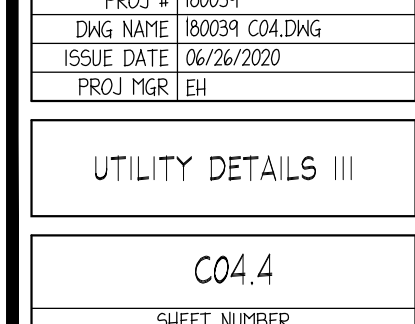
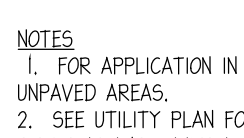
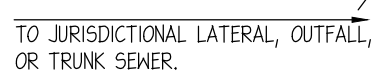
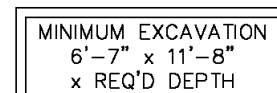
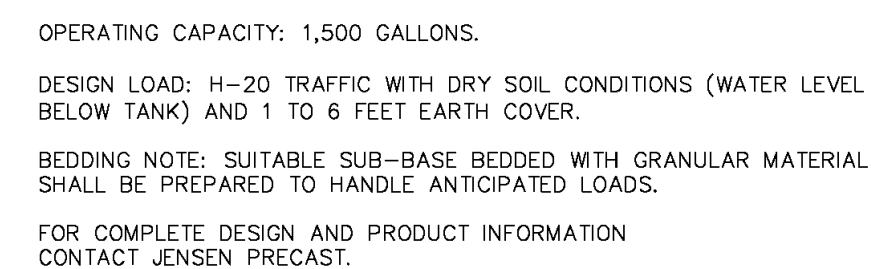
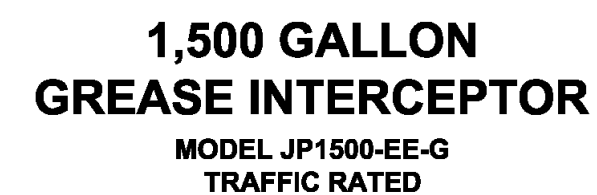
NO.	DATE	BY	DESCRIPTION
1	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
2	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
3	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
4	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
5	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
6	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
7	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
8	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
9	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
10	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
11	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
12	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
13	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
14	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
15	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
16	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
17	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
18	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
19	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
20	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
21	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
22	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
23	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
24	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
25	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
26	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
27	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
28	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
29	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
30	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
31	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
32	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
33	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
34	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
35	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
36	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
37	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
38	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
39	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
40	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
41	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
42	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
43	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
44	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
45	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
46	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
47	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
48	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
49	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
50	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
51	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
52	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
53	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
54	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
55	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
56	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
57	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
58	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
59	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
60	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
61	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
62	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
63	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
64	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
65	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
66	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
67	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
68	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
69	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
70	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
71	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
72	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
73	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
74	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
75	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
76	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
77	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
78	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
79	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
80	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
81	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
82	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
83	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
84	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
85	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
86	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
87	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
88	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
89	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
90	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
91	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
92	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
93	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
94	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
95	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
96	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
97	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
98	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND
99	11-19-13	Tkl	2" & 4" PRIMARY PVC CONDUIT AT RISER POLE
100	11-19-13	Tkl	36" RADIUS GALVANIZED OR FIBERGLASS BEND

UTILITY DETAILS II

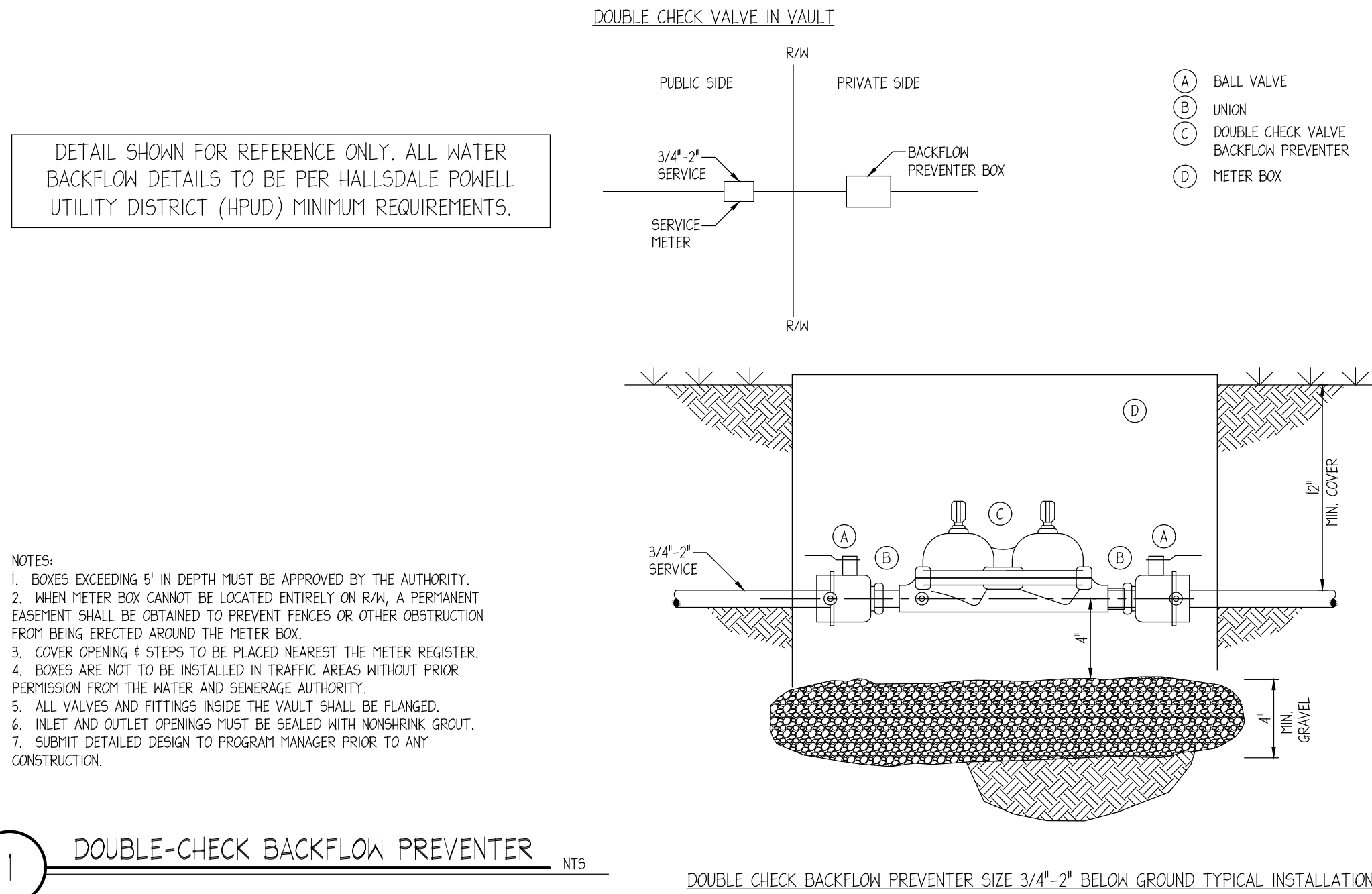
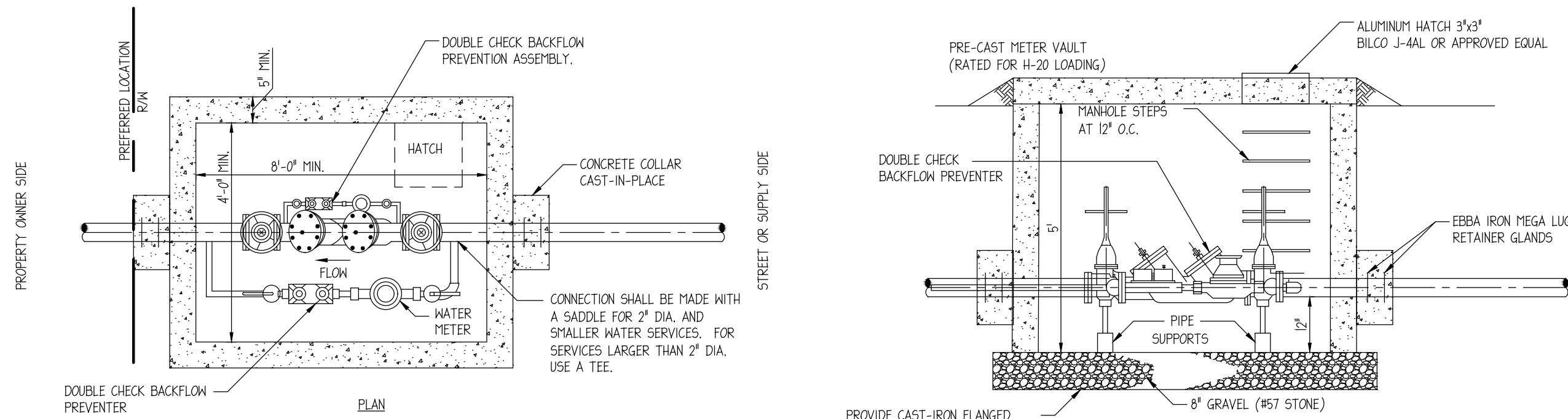
C04.3

SHEET NUMBER

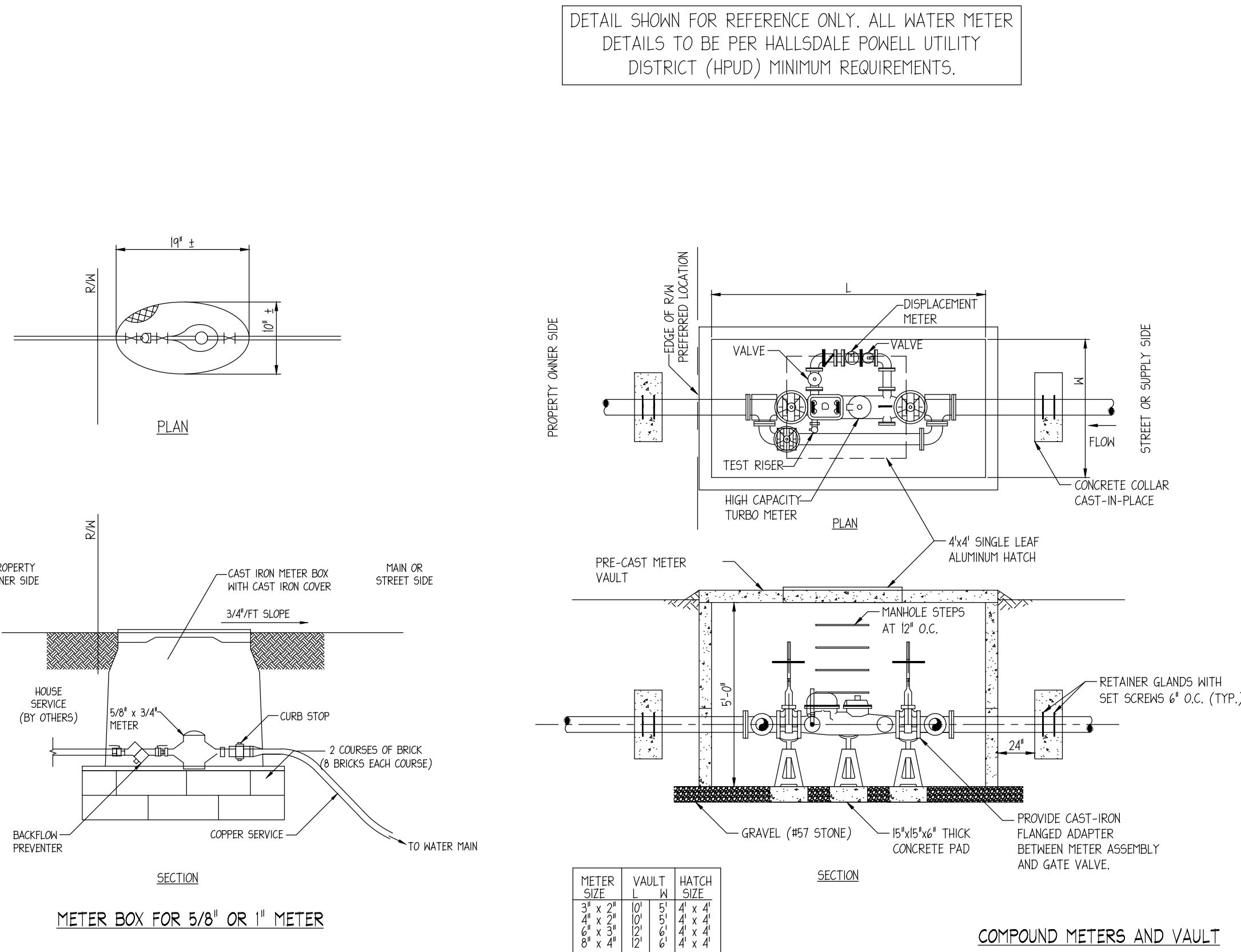
ISSUE FOR BID



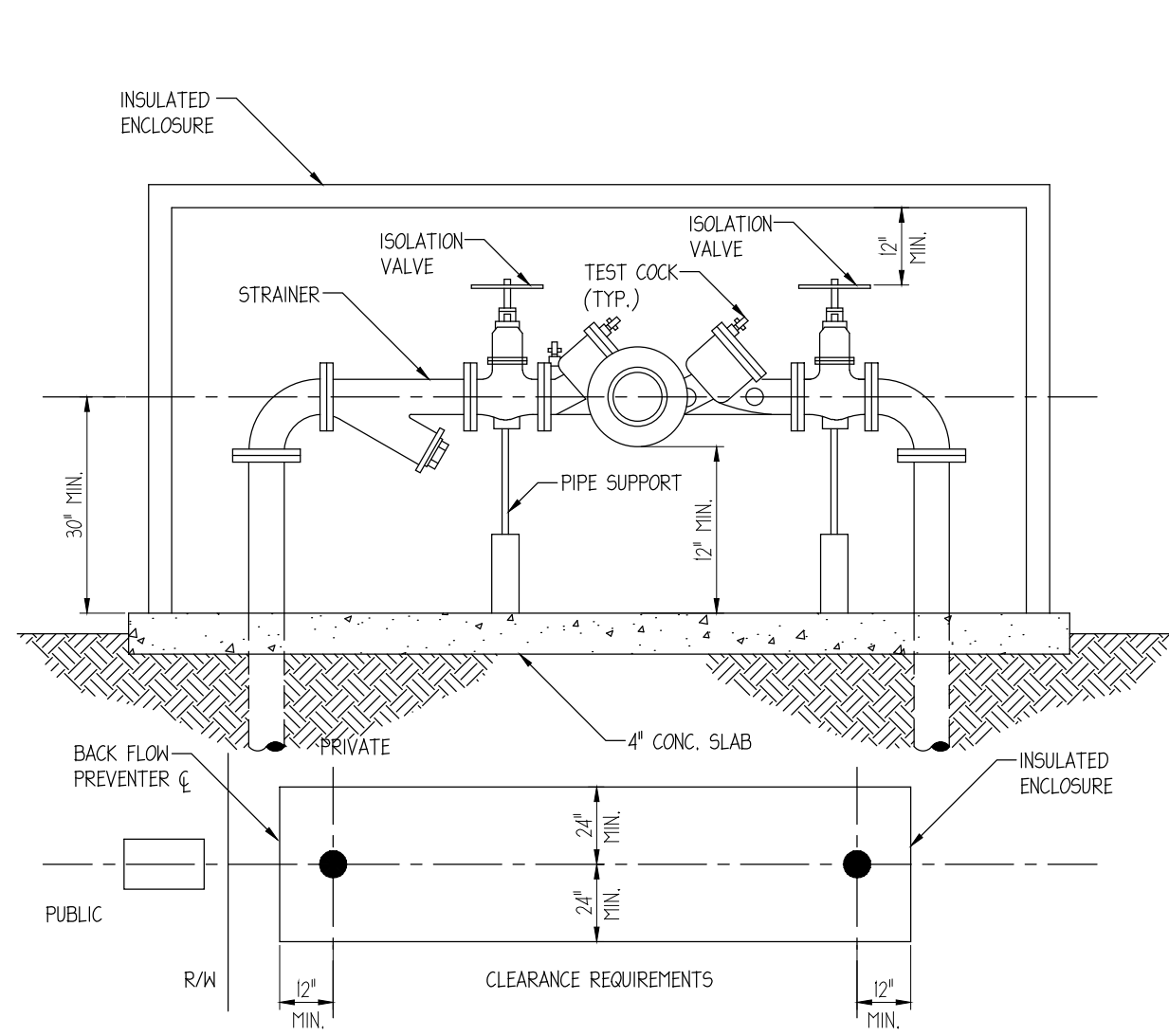
ISSUE FOR BID



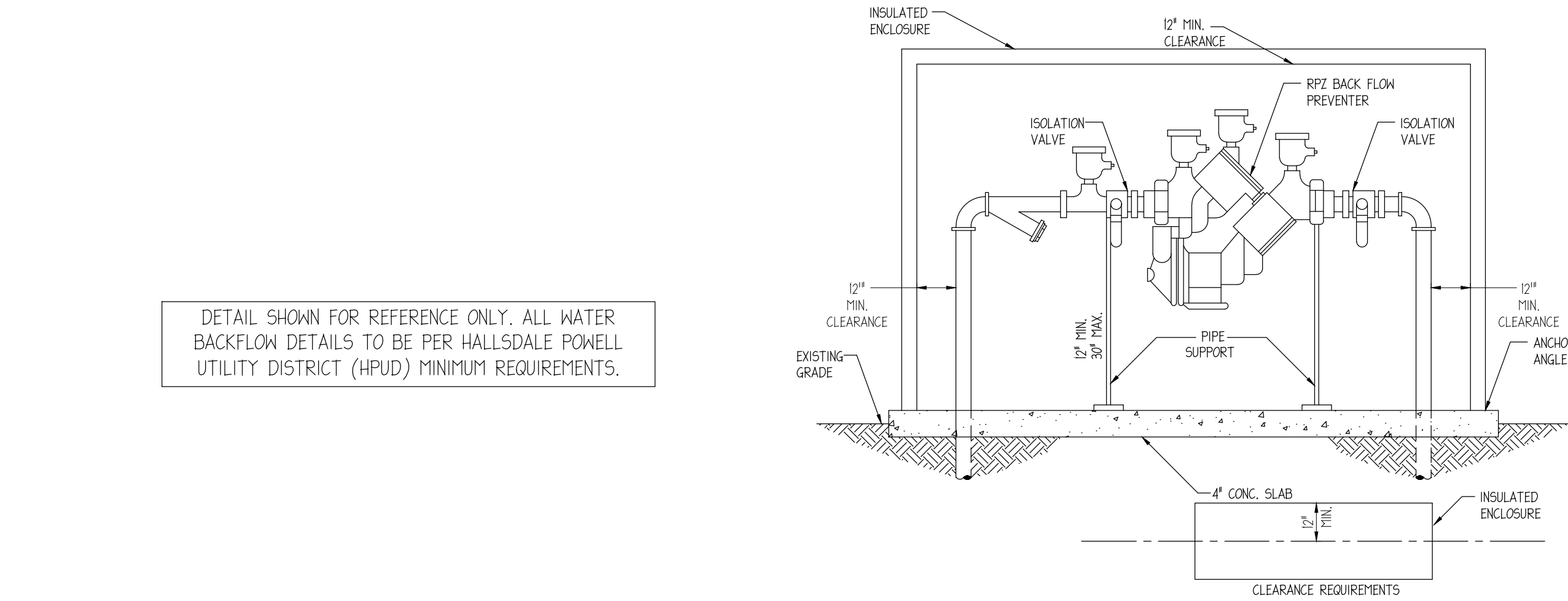
1 DOUBLE-CHECK BACKFLOW PREVENTER NTS



2 WATER METER NTS

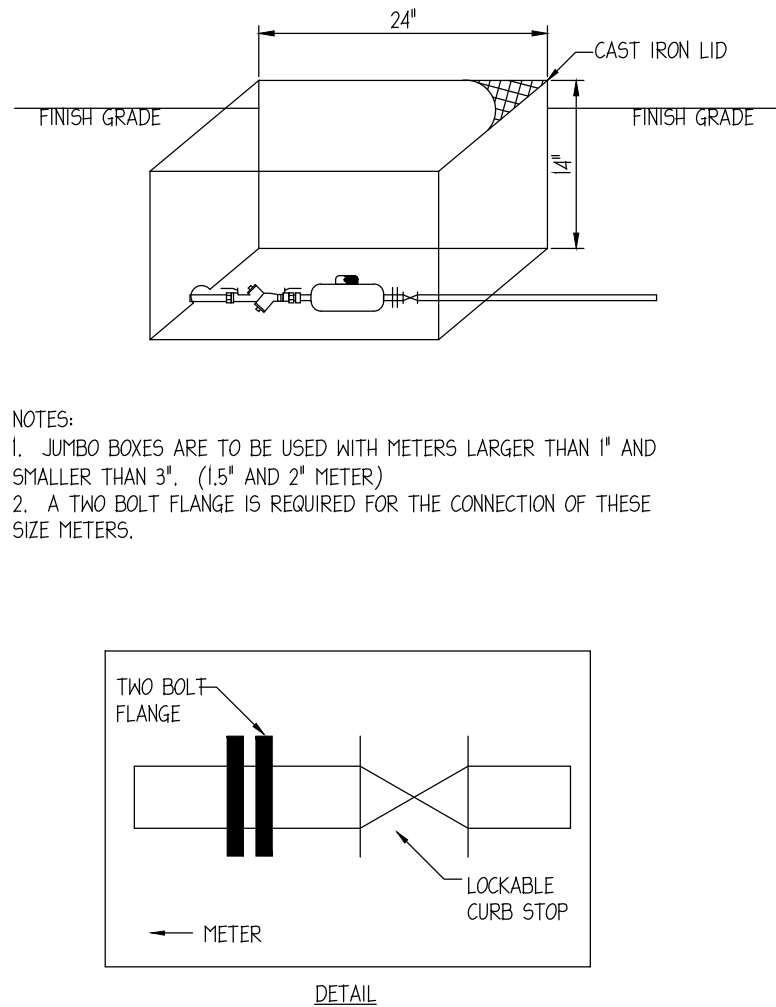


RPZ BACKFLOW PREVENTER SIZE 3" - 10" ABOVE GROUND TYPICAL INSTALLATION

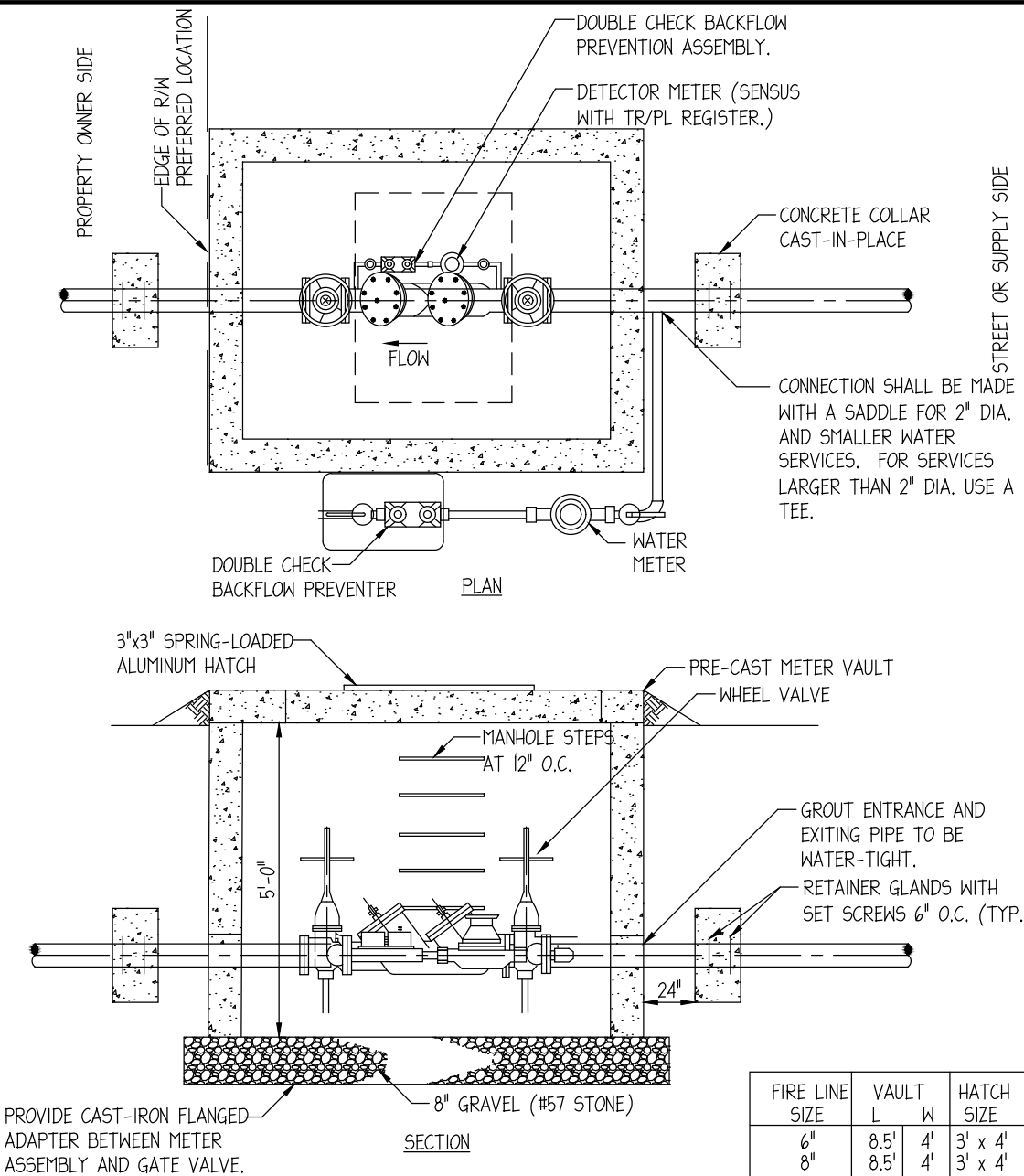


RPZ BACKFLOW PREVENTER SIZE 3/4" - 2-1/2" ABOVE GROUND TYPICAL INSTALLATION

3 RPZ BACKFLOW PREVENTER NTS



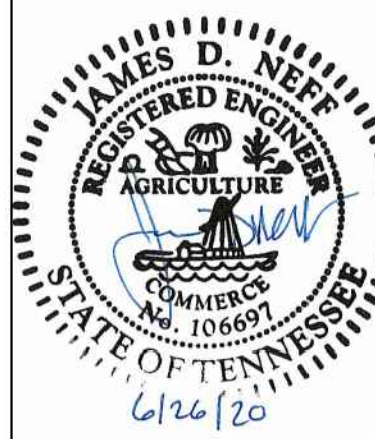
STANDARD JUMBO CAST IRON METER BOX



DETECTOR/WATER METERS AND VAULT



ingenium
ENGINEERING
PLANNING & ENTERPRISES
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30001
770.437.0659
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



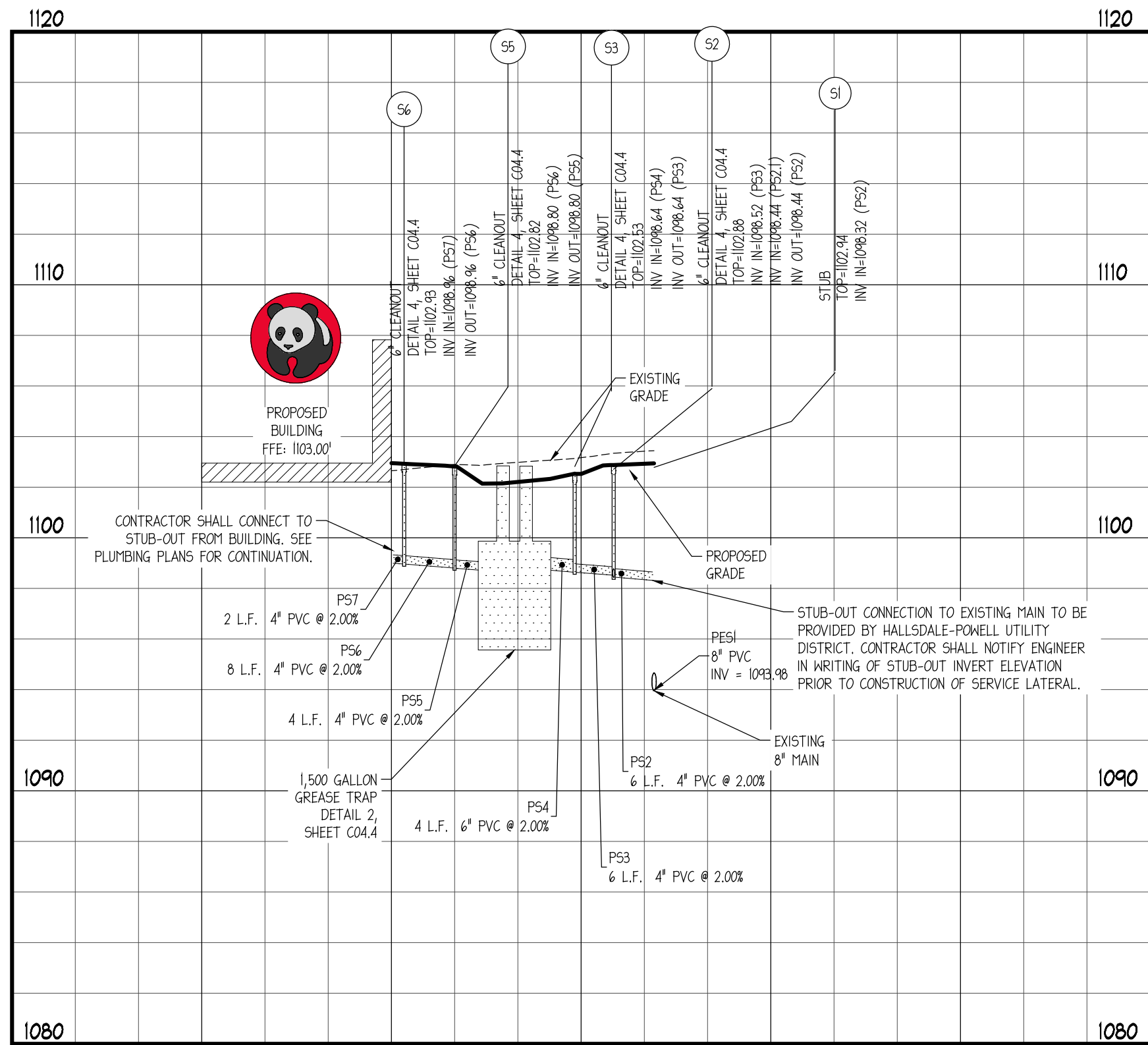
CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	ISSUED FOR BIDDING
2	REVISED PER COMMENTS
3	REVISED PER COMMENTS
4	REVISED PER COMMENTS
5	REVISED PER COMMENTS
6	REVISED PER COMMENTS
7	REVISED PER COMMENTS
8	REVISED PER COMMENTS
9	REVISED PER COMMENTS
10	REVISED PER COMMENTS

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. ANY DOMESTIC OR SPRINKLER METERS REQUIRED ARE TO BE TAPPED ON NEW LINE BETWEEN STREET AND VAULT WITH COPPER AND BRASS FITTINGS. NO METERS WILL BE SET UNTIL ALL FEES HAVE BEEN PAID AND ALL BACKFLOW TESTS ARE COMPLETE. SENIOR INSPECTIONS MUST BE COMPLETED BEFORE ANY METERS ARE SET.	
PROJECT #	180039
DWG NAME	180039 CO4.DWG
ISSUE DATE	06/26/2020
PROJECT	EH
UTILITY DETAILS IV	
C04.5	
SHEET NUMBER	

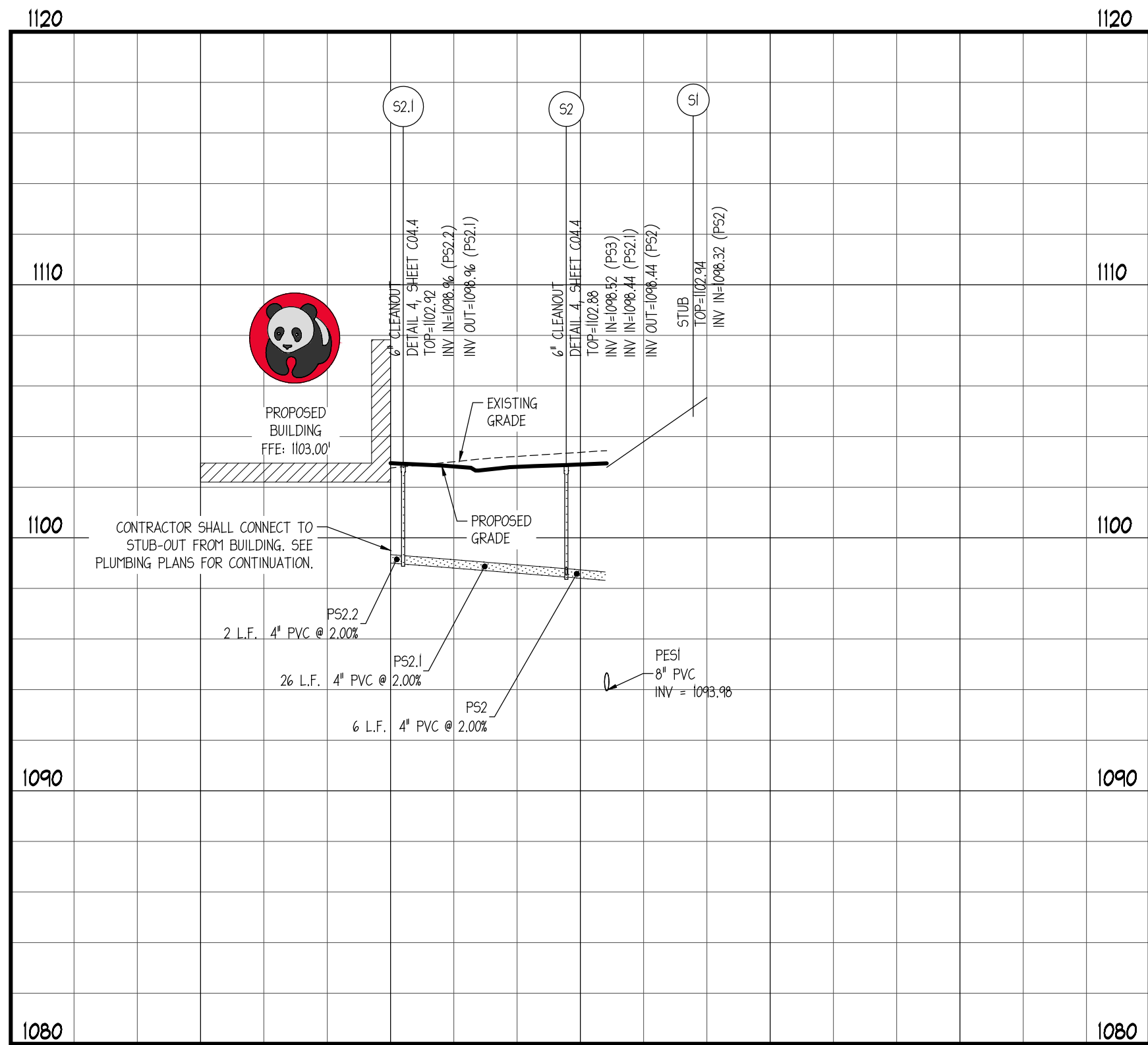
ISSUE FOR BID

SANITARY PROFILE S6 TO S1



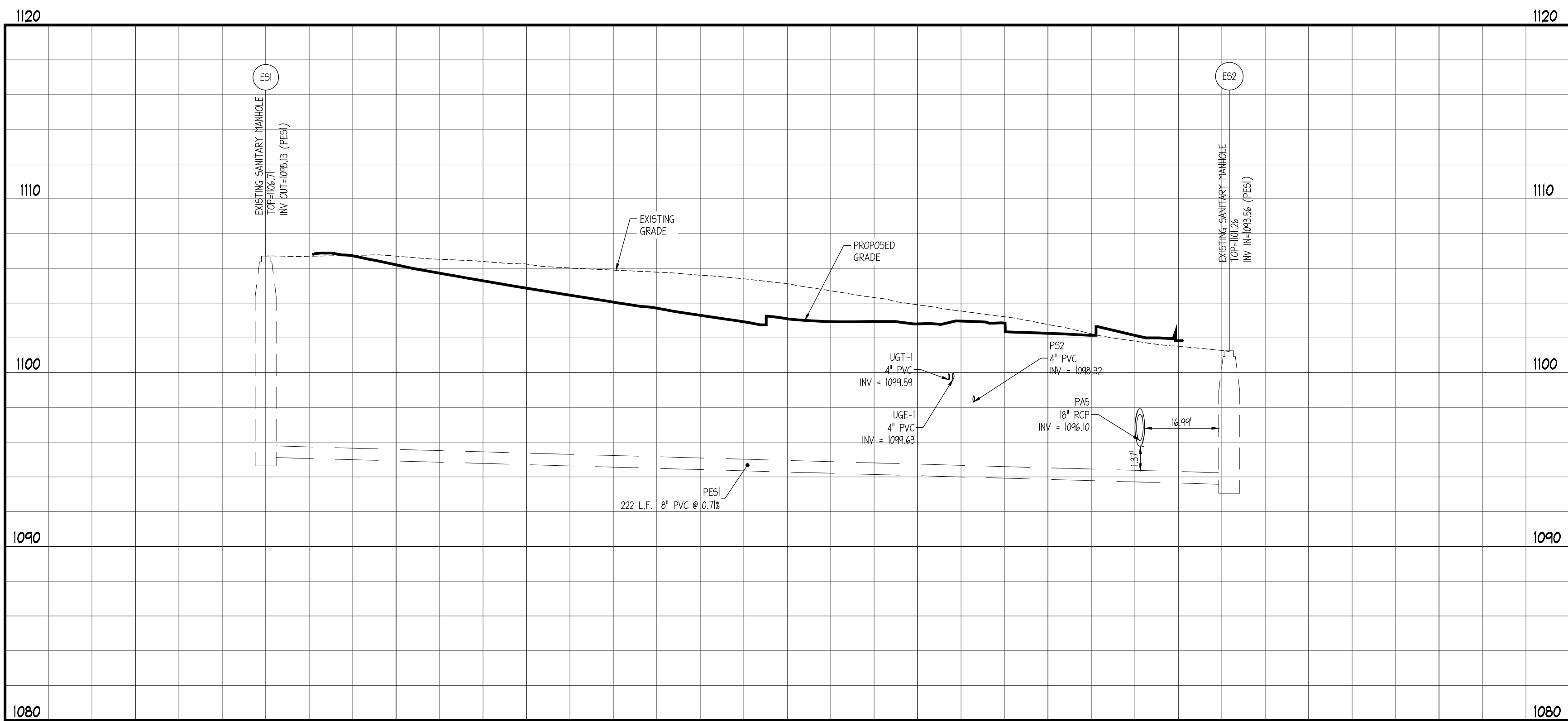
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

SANITARY PROFILE S2.1 TO S1



HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

EXISTING SANITARY PROFILE ES1 TO ES2



HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

SANITARY STRUCTURE TABLE				
STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
S1	STUB	1102.94	1098.32 (PS2)	
S2	6\" CLEANOUT DETAIL 4, SHEET C04.4	1102.88	1098.52 (PS3) 1098.44 (PS2.1)	1098.44 (PS2)
S2.1	6\" CLEANOUT DETAIL 4, SHEET C04.4	1102.92	1098.96 (PS2.2)	1098.96 (PS2.1)
S2.2	BUILDING STUB	1101.70		1099.00 (PS2.2)
S3	6\" CLEANOUT DETAIL 4, SHEET C04.4	1102.53	1098.64 (PS4)	1098.64 (PS3)
S4	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.77		
S4 IN	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.68	1098.72 (PS5)	
S4 OUT	1,500 GALLON GREASE TRAP DETAIL 2, SHEET C04.4	1101.87		1098.72 (PS4)
S5	6\" CLEANOUT DETAIL 4, SHEET C04.4	1102.82	1098.80 (PS6)	1098.80 (PS5)
S6	6\" CLEANOUT DETAIL 4, SHEET C04.4	1102.93	1098.96 (PS7)	1098.96 (PS6)
S7	BUILDING STUB	1101.70		1099.00 (PS7)

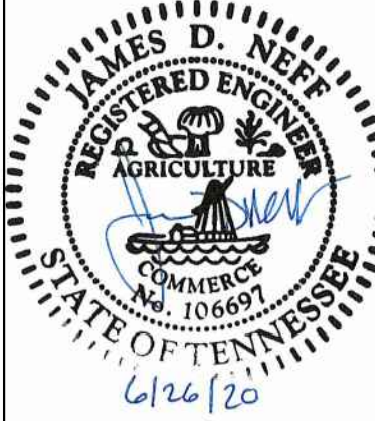
SANITARY PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
PS2	4"	6'	2.00%	PVC
PS2.1	4"	26'	2.00%	PVC
PS2.2	4"	2'	2.00%	PVC
PS3	4"	6'	2.00%	PVC
PS4	6"	4'	2.00%	PVC
PS5	4"	4'	2.00%	PVC
PS6	4"	8'	2.00%	PVC
PS7	4"	2'	2.00%	PVC

PROFILE NOTES

- CONTROLLED BACK FILL TO BE PLACED IN 6" LOOSE LIFT AND COMPACTED TO 100% ASTM D498 PRIOR TO STORM AND SANITARY SEWER CONSTRUCTION. BACK FILL SHALL BE PLACED TO A MINIMUM OF 12" ABOVE THE CROWN ELEVATION OF THE PIPES.
- STORM DRAIN AND SANITARY SEWER LENGTHS ARE MEASURED FROM CENTER LINE OF STRUCTURE TO CENTERLINE OF STRUCTURE OR FACE OF HEADWALL.
- ALL PIPE LENGTHS SHOWN ARE ROUNDED TO THE NEAREST FOOT.
- ALL STORM DRAIN PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH **DETAIL 4 ON SHEET C04.2** UNLESS SPECIFICALLY NOTED OTHERWISE.
- ALL SANITARY SEWER PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH **DETAIL 3 ON SHEET C04.4** UNLESS SPECIFICALLY NOTED OTHERWISE.
- UNFORESEEN SUBSURFACE CONDITIONS SHALL BE BROUGHT TO THE OWNER'S AND ENGINEER'S ATTENTION IMMEDIATELY IMPLEMENTATION OF CORRECTIVE BEDDING MEASURES WITHOUT THE OWNER'S APPROVAL SHALL BE AT THE CONTRACTOR'S OWN RISK AND AT NO ADDITIONAL COMPENSATION.
- EXISTING GRADES SHOWN ARE APPROXIMATE AND DO NOT REFLECT TOP SOIL REMOVAL, CLEARING, AND GRUBBING OPERATIONS. THE CONTRACTOR SHALL ASCERTAIN FOR HIMSELF THE EXTENT OF DISTURBANCE FOR THESE ACTIVITIES.
- THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT PREPARED FOR THE OWNER FOR SUBSURFACE CONDITIONS. THE GEOTECHNICAL REPORT IS NOT A PART OF THE CONTRACT DOCUMENTS.
- EXCAVATIONS FOR STRUCTURES SHALL BE TAKEN AS A TRENCHING EXCAVATION WITHOUT FURTHER COMPENSATION.
- SEE SHEET C01 FOR GENERAL NOTES.



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.457.8655
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (D6411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



PLANS FOR:

CLIENT:

PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMead, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	ISSUED FOR BIDDING
2	ISSUED FOR BIDDING
3	ISSUED FOR BIDDING
4	ISSUED FOR BIDDING
5	ISSUED FOR BIDDING
6	ISSUED FOR BIDDING
7	ISSUED FOR BIDDING
8	ISSUED FOR BIDDING
9	ISSUED FOR BIDDING
10	ISSUED FOR BIDDING

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL IDEAS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 C04.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EHI

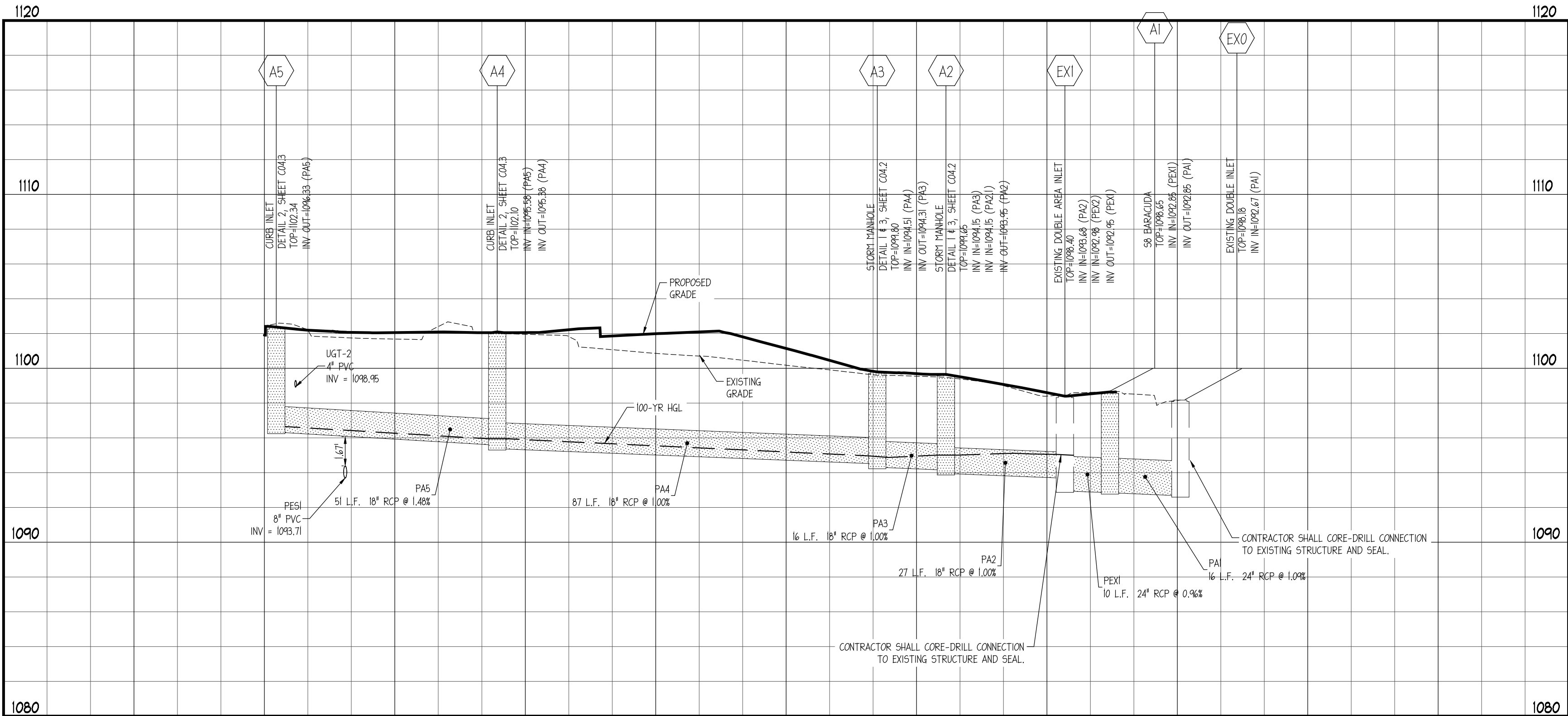
PROFILES I

C04.6

SHEET NUMBER

ISSUE FOR BID

STORM PROFILE A5 TO EX0

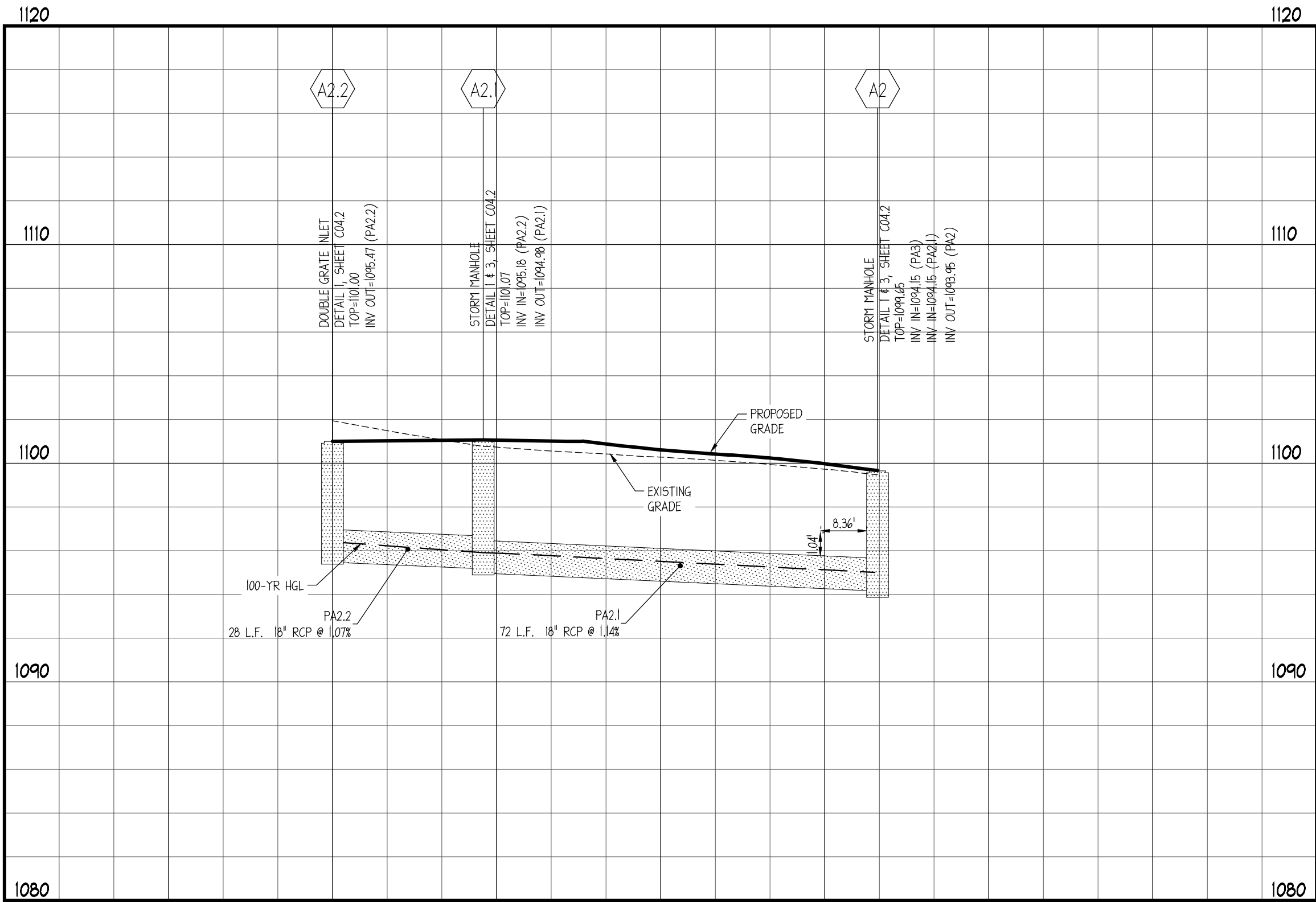


HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

STORM STRUCTURE TABLE				
STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	58 BARACUDA	1098.65	1092.85 (PEX1)	1092.85 (PA1)
A2	STORM MANHOLE DETAIL 1 4 3, SHEET C04.2	1099.65	1094.15 (PA3) 1094.15 (PA2.1)	1093.95 (PA2)
A2.1	STORM MANHOLE DETAIL 1 4 3, SHEET C04.2	1101.07	1095.18 (PA2.2)	1094.98 (PA2.1)
A2.2	DOUBLE GRATE INLET DETAIL 1, SHEET C04.2	1101.00		1095.47 (PA2.2)
A3	STORM MANHOLE DETAIL 1 4 3, SHEET C04.2	1099.80	1094.51 (PA4)	1094.31 (PA3)
A4	CURB INLET DETAIL 2, SHEET C04.3	1102.10	1095.58 (PA5)	1095.38 (PA4)
A5	CURB INLET DETAIL 2, SHEET C04.3	1102.34		1096.33 (PA5)
EX0	EXISTING DOUBLE INLET	1098.18	1092.67 (PA1)	
EX1	EXISTING DOUBLE AREA INLET	1098.40	1093.68 (PA2) 1092.98 (PEX2)	1092.95 (PEX1)
EX2	EXISTING CURB INLET	1098.20		1093.22 (PEX2)

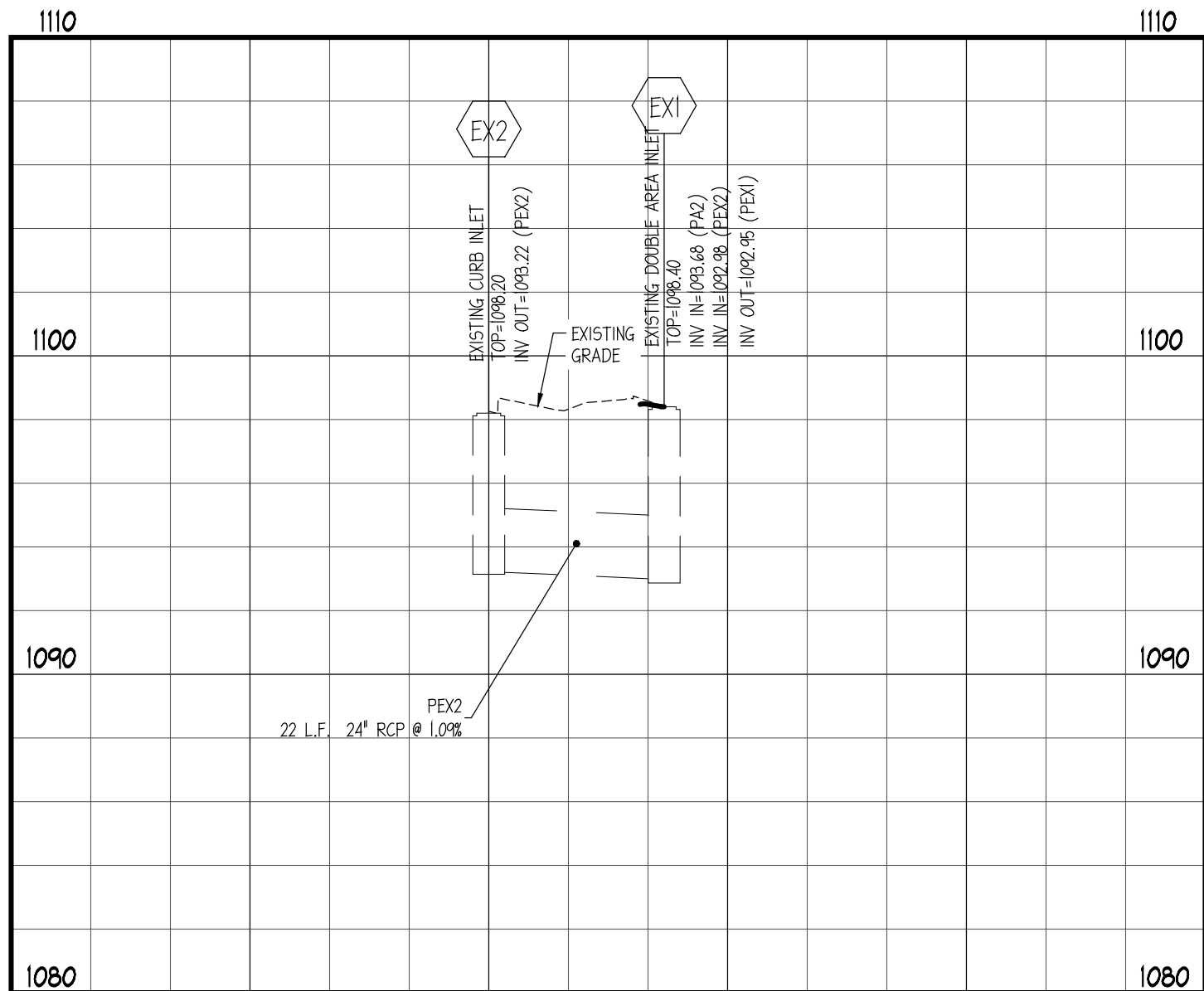
STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
PA1	24"	16'	1.09%	RCP
PA2	18"	27'	1.00%	RCP
PA2.1	18"	72'	1.14%	RCP
PA2.2	18"	28'	1.07%	RCP
PA3	18"	16'	1.00%	RCP
PA4	18"	87'	1.00%	RCP
PA5	18"	51'	1.48%	RCP
PEX1	24"	10'	0.94%	RCP
PEX2	24"	22'	1.09%	RCP

STORM PROFILE A2.2 TO A2



HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

STORM EX2-EX1



HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

PROFILE NOTES

- CONTROLLED BACK FILL TO BE PLACED IN 6" LOOSE LIFT AND COMPACTED TO 100% ASTM D495 PRIOR TO STORM AND SANITARY SEWER CONSTRUCTION. BACK FILL SHALL BE PLACED TO A MINIMUM OF 12" ABOVE THE CROWN ELEVATION OF THE PIPES.
- STORM DRAIN AND SANITARY SEWER LENGTHS ARE MEASURED FROM CENTER LINE OF STRUCTURE TO CENTERLINE OF STRUCTURE OR FACE OF HEADWALL.
- ALL PIPE LENGTHS SHOWN ARE ROUNDED TO THE NEAREST FOOT.
- ALL STORM DRAIN PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH DETAIL 4 ON SHEET C04.2 UNLESS SPECIFICALLY NOTED OTHERWISE.
- ALL SANITARY SEWER PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH DETAIL 3 ON SHEET C04.4 UNLESS SPECIFICALLY NOTED OTHERWISE.
- UNFORESEEN SUBSURFACE CONDITIONS SHALL BE BROUGHT TO THE OWNER'S AND ENGINEER'S ATTENTION IMMEDIATELY IMPLEMENTATION OF CORRECTIVE BEDDING MEASURES WITHOUT THE OWNER'S APPROVAL SHALL BE AT THE CONTRACTOR'S OWN RISK AND AT NO ADDITIONAL COMPENSATION.
- EXISTING GRADES SHOWN ARE APPROXIMATE AND DO NOT REFLECT TOP SOIL REMOVAL, CLEARING, AND GRUBBING OPERATIONS. THE CONTRACTOR SHALL ASCERTAIN FOR HIMSELF THE EXTENT OF DISTURBANCE FOR THESE ACTIVITIES.
- THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT PREPARED FOR THE OWNER FOR SUBSURFACE CONDITIONS. THE GEOTECHNICAL REPORT IS NOT A PART OF THE CONTRACT DOCUMENTS.
- EXCAVATIONS FOR STRUCTURES SHALL BE TAKEN AS A TRENCHING EXCAVATION WITHOUT FURTHER COMPENSATION.
- SEE SHEET C01.1 FOR GENERAL NOTES.



ingenium
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.457.8655
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT
GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY

NO.	DESCRIPTION
1	ISSUED FOR BIDDING
2	REVISED PER COMMENTS
3	REVISED PER COMMENTS
4	REVISED PER COMMENTS
5	REVISED PER COMMENTS
6	REVISED PER COMMENTS
7	REVISED PER COMMENTS
8	REVISED PER COMMENTS
9	REVISED PER COMMENTS
10	REVISED PER COMMENTS

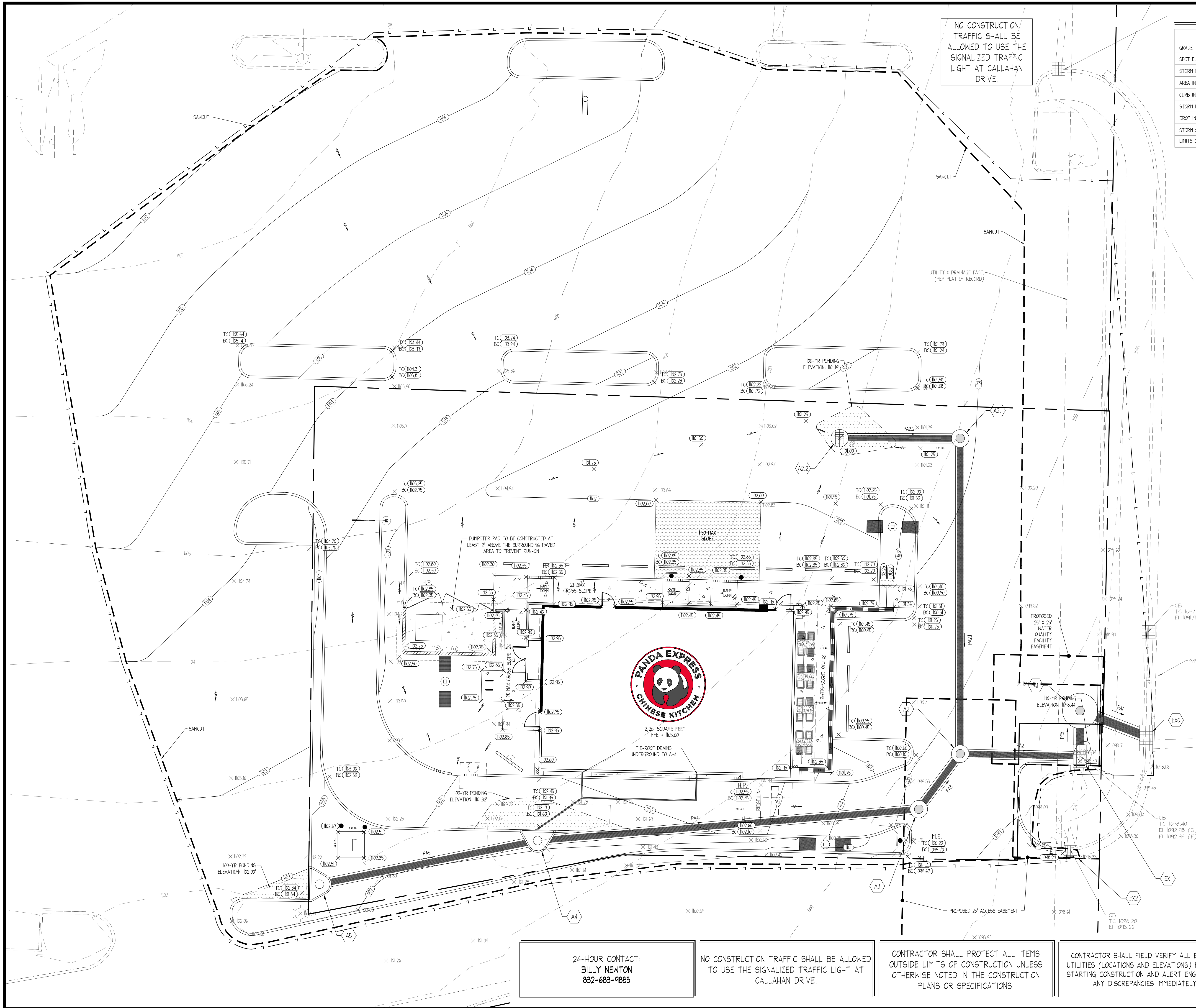
THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS OF THESE FILES MAY THEREFORE BE SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HEREIN BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 C04.DWG
ISSUE DATE 06/26/2020
PROJ TGR: E.H.

PROFILES II

C04.7
SHEET NUMBER

ISSUE FOR BID



GRADING & DRAINAGE LEGEND		
GRADING/DRAINAGE	LINE TYPE/SYMBOL	REFERENCE
GRADE		SEE PLANS
SPOT ELEVATION		SEE PLANS
STORM DRAIN		SEE PLANS
AREA INLET (GRATE)		DETAIL 1, SHEET C04.2
CURB INLET		DETAIL 2, SHEET C04.3
STORM MANHOLE (AREA DRAIN)		DETAIL 1 & 3, SHEET C04.2
DROP INLET (PEDESTAL)		NOT APPLICABLE
STORM STRUCTURE NUMBER		SEE PLANS
LIMITS OF CONSTRUCTION		SEE PLANS

- GRADING & DRAINAGE NOTES**
- SEE LANDSCAPE PLAN FOR REQUIRED TREES AND GROUND COVER.
 - SLOPE OF SURFACE GRADE SHALL BE A MINIMUM OF 1.0%.
 - MAXIMUM CUT OF FILL SLOPES IS 2H:1V.
 - THE CONTRACTOR SHALL PROVIDE CLEAN, SUITABLE MATERIAL FOR REQUIRED FILL, SHOULD A SUFFICIENT QUANTITY OF SUITABLE MATERIAL NOT BE AVAILABLE FROM THE REQUIRED EXCAVATION ON THE SITE.
 - ALL FILL SHOULD BE PLACED IN THIN, HORIZONTAL LOOSE LIFTS (MAXIMUM 8-INCH) AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY WITH A TOLERANCE OF $\pm 0.3\%$ MOISTURE CONTENT SHALL BE WITHIN THE RANGE OF 0-4% ABOVE THE MAXIMUM MOISTURE CONTENT IN ACCORDANCE WITH THE STANDARD-PROCTOR CONNECTION PROCEDURE (ASTM D 698). ALL SOIL BENEATH PAVEMENTS SHALL BE COMPACTED TO AT LEAST 94 STANDARD-PROCTOR DRY DENSITY. THE SELLER DELIVER THE PROPERTY TO PANDA EXPRESS GRADED TO WITHIN ONE TENTH OF ONE FOOT OF THE FINISHED GRADE ELEVATION, WITH THE SOIL COMPACTED TO AT LEAST 95 PERCENT WITH A TOLERANCE OF 0.3 PERCENT. COMPACTION MUST BE CERTIFIED BY A TENNESSEE REGISTERED PROFESSIONAL SOILS ENGINEER PRIOR TO THE INSTALLATION OF PAVEMENTS, CURBS, SIDEWALKS OR FOOTINGS OF ANY TYPE.
 - DETENTION POND, DETENTION OUTLET STRUCTURES AND TEMPORARY SEDIMENT POND FEATURES ARE TO BE FULLY CONSTRUCTED AND OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION OR GRADING ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
 - LENGTH OF RIP-RAP PADS AT PIPE OUTLET STRUCTURES TO BE A MINIMUM LENGTH OF (4) SIX TIMES THE DIAMETER OF THE PIPE.
 - JURISDICTIONAL LAND DISTURBANCE PERMIT MUST BE DISPLAYED ON SITE AT ALL TIMES DURING CONSTRUCTION AND IN PLAIN VIEW FROM A PUBLIC ROAD OR STREET.
 - SEE SHEET C01 FOR GENERAL NOTES.

- BUILDING AREA NOTES**
- MAINTAIN ACCESS FOR EMERGENCY VEHICLES AROUND AND TO ALL BUILDINGS UNDER CONSTRUCTION. I.E. IN TIMES OF RAIN OR FLOOD, ROADS SHALL BE PASSABLE TO EMERGENCY VEHICLES BY BEING PAVED OR HAVING A CRUSHED STONE BASE ETC., WITH A MINIMUM WIDTH OF 20 FEET. THE ACCESS TO BUILDINGS HAVING SPRINKLER OR STANDPIPE SYSTEMS SHALL BE TO WITHIN 40 FEET OF THE FIRE DEPARTMENT CONNECTION (NFPA 104 3-1).
 - CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING IN ALL AREAS AROUND BUILDING. INSTALL FRENCH DRAIN IN LANDSCAPED AREAS ADJACENT TO BUILDING AND CONNECT TO DRAINAGE SYSTEM.
 - SEE SHEET C01 FOR GENERAL NOTES.

HYDROLOGY STATEMENT

THE EXISTING 0.44-ACRE SITE IS A PARKING LOT FOR A SHOPPING CENTER. THE STORMWATER SHEET FLOWS TO AN EXISTING INLET AT THE SOUTHEAST CORNER OF THE PROPERTY. THE PROPOSED DEVELOPMENT INCLUDES A $\pm 2,264$ SQUARE FOOT PANDA EXPRESS QUICK SERVICE RESTAURANT WITH ASSOCIATED PARKING, UTILITIES, AND LANDSCAPING. THE PROPOSED GRADING WILL CONVEY THE STORMWATER THROUGH SHEET FLOW AND A PIPE SYSTEM TO AN APPROVED AQUA SHIELD TREATMENT SYSTEM BEFORE THE WATER IS DISCHARGED INTO THE MAIN SYSTEM.

STORM STRUCTURE TABLE				
STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	SB BARACUDA	1098.65	1092.85 (PEX1)	1092.85 (PA1)
A2	STORM MANHOLE DETAIL 1 & 3, SHEET C04.2	1099.65	1094.15 (PA3) 1094.15 (PA2.1)	1093.95 (PA2)
A2.1	STORM MANHOLE DETAIL 1 & 3, SHEET C04.2	1101.07	1095.18 (PA2.2)	1094.98 (PA2.1)
A2.2	DOUBLE GRATE INLET DETAIL 1, SHEET C04.2	1101.00		1095.47 (PA2.2)
A3	STORM MANHOLE DETAIL 1 & 3, SHEET C04.2	1099.80	1094.51 (PA4)	1094.31 (PA3)
A4	CURB INLET DETAIL 2, SHEET C04.3	1102.10	1095.58 (PA5)	1095.38 (PA4)
A5	CURB INLET DETAIL 2, SHEET C04.3	1102.34		1095.33 (PA5)
EX0	EXISTING DOUBLE INLET	1098.18	1092.67 (PA1)	
EX1	EXISTING DOUBLE AREA INLET	1098.40	1093.68 (PA2) 1092.98 (PEX2)	1092.95 (PEX1)
EX2	EXISTING CURB INLET	1098.20		1093.22 (PEX2)

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
PA1	24"	16'	1.09%	RCP
PA2	18"	27'	1.00%	RCP
PA2.1	18"	72'	1.14%	RCP
PA2.2	18"	28'	1.07%	RCP
PA3	18"	16'	1.00%	RCP
PA4	18"	87'	1.00%	RCP
PA5	18"	51'	1.48%	RCP
PEX1	24"	10'	0.96%	RCP
PEX2	24"	22'	1.09%	RCP



24-HOUR CONTACT:
BILLY NEWTON
832-683-9885

NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED TO USE THE SIGNALIZED TRAFFIC LIGHT AT CALLAHAN DRIVE.

CONTRACTOR SHALL PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

PROJ # 180039
DWG NAME 180039 C05.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EHI

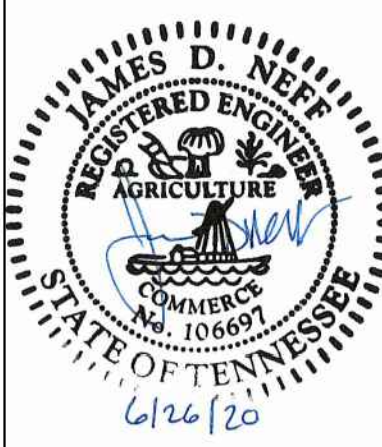
GRADING & DRAINAGE PLAN

C05.0
SHEET NUMBER

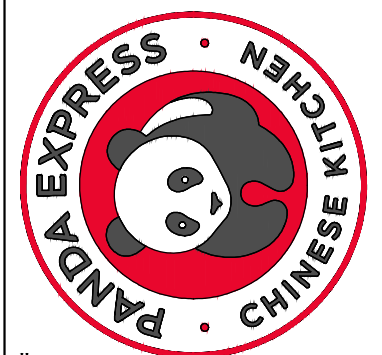
0 10 20 Feet
SCALE 1" = 10'



ingenium
ENTERPRISES
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.487.8850
WWW.INGENIUMTEAM1.COM



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



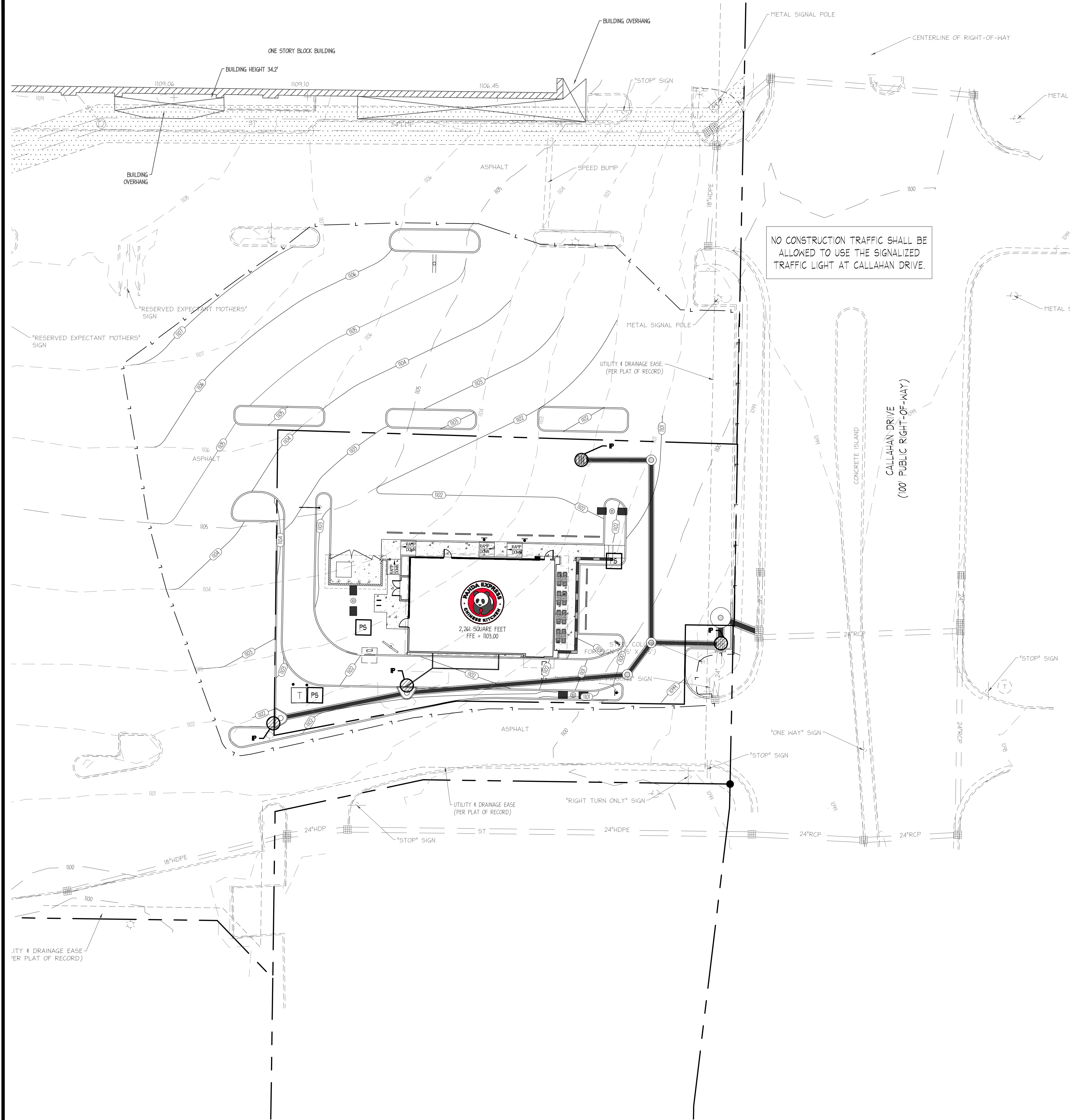
CLIENT:
PANDA RESTAURANT GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY	
1	ISSUED FOR BIDDING

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE USER OF THESE FILES MUST THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS AND USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

ISSUE FOR BID



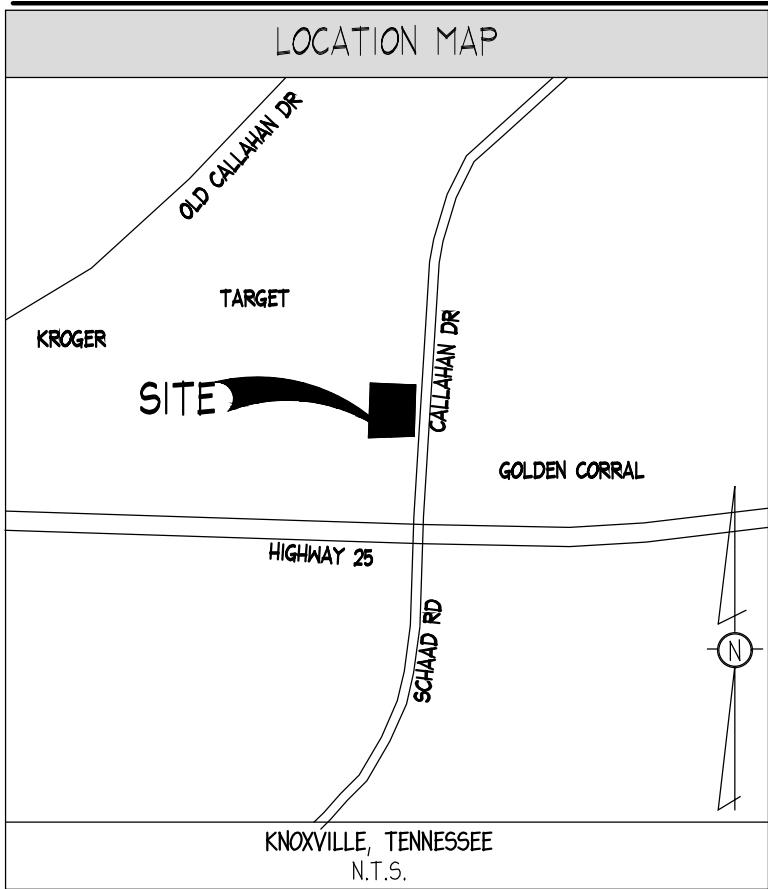


EROSION CONTROL LEGEND

ESPC BMP	LINETYPE/SYMBOL	REFERENCE
CE CONSTRUCTION EXIT		SEE DETAIL, SHEET C06.4
SF SILT FENCE		SEE DETAIL, SHEET C06.4
IP STORM DRAIN INLET PROTECTION		SEE DETAIL, SHEET C06.5
OP STORM DRAIN OUTLET PROTECTION		N/A
PS D.A.S. WITH PERMANENT VEGETATION		SEE DETAIL, SHEET C06.6
SO D.A.S. WITH SOD		SEE DETAIL, SHEET C06.5
TS D.A.S. WITH TEMPORARY VEGETATION		SEE DETAIL, SHEET C06.6
MU D.A.S. WITH MULCH		SEE DETAIL, SHEET C06.5
CH CONCRETE WASHOUT		SEE DETAIL, SHEET C06.5
RECP ROLLED EROSION CONTROL PRODUCT		N/A
TD DIVERSION		N/A
TREE PROTECTION FENCE		N/A
LIMITS OF CONSTRUCTION		SEE PLANS

D.A.S. = DISTURBED AREA STABILIZATION

SEE LANDSCAPE/TREE PROTECTION PLANS FOR LEGEND SPECIFIC TO THOSE SHEETS



ESPC NOTES

- GENERAL**
- EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION CONTROL MEASURES AND PRACTICES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE AT THE EXPENSE OF THE CONTRACTOR.
 - THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.
 - EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
 - ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
 - ANY AMENDMENT TO THE EROSION CONTROL PLANS WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
 - THE PERMITEE IS ONLY RESPONSIBLE FOR THE FOR THE INSTALLATION AND MAINTENANCE OF STORM WATER MANAGEMENT DEVICES PRIOR TO STABILIZATION OF THE SITE AND NOT THE OPERATION AND MAINTENANCE OF SUCH STRUCTURES AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
 - EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
 - SEE GRADING & DRAINAGE NOTES.

SLOPES AND DISTURBED AREA STABILIZATION

- CONCENTRATED FLOW AREAS AND ALL SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKET.
- ALL CUT AND FILL SLOPES MUST BE SURFACE ROUGHENED AND VEGETATED WITHIN (7) DAYS OF THEIR CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE GRASSED AS SOON AS CONSTRUCTION PHASES PERMIT. NO EXPOSED GRADE WILL BE LEFT UNSTABLE FOR MORE THAN 7 DAYS.
- PERMANENT GRASSING AND LANDSCAPING OF DISTURBED AREAS SHALL BE COMPLETED AS QUICKLY AS POSSIBLE. TEMPORARY STABILIZATION BY MULCHING AND/OR TEMPORARY SEEDING WILL BE REQUIRED IN THE EVENT OF PROJECT DELAYS.
- WIRE MESH REINFORCED SEDIMENT BARRIERS SHALL BE PLACED AT THE TOE OF ALL FILL SLOPES.

DRAINAGE

- ALL DRAINAGE STRUCTURES SHALL BE EROSION PROOFED.
- LENGTH OF RIP-RAP PADS AT PIPE OUTLETS SHALL BE A MINIMUM LENGTH OF (6) SIX TIMES THE DIAMETER OF THE PIPE IN FEET.
- A 25' UNDISTURBED VEGETATIVE STREAM BUFFER ADJACENT TO ALL RUNNING STREAMS AND CREEKS WILL BE LEFT UNDISTURBED AND MAINTAINED THROUGH ALL PHASES OF CONSTRUCTION. REFER TO PLANS FOR EXACT LOCATIONS.

TREE PROTECTION

- ALL BUFFERS AND TREE SAVE AREAS SHALL BE CLEARLY IDENTIFIED WITH FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
- ALL TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBANCE AND MAINTAINED UNTIL FINAL LANDSCAPING IS INSTALLED.
- NO PARKING, STORAGE, OR OTHER CONSTRUCTION SITE ACTIVITIES ARE TO OCCUR WITHIN TREE PROTECTION AREAS.

MAINTENANCE AND INSPECTIONS

- SEDIMENT AND EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSPECTED DAILY.
- SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, INDICATING THE 1/3 FULL VOLUME.
- SEDIMENT CONTROL DEVICES MUST BE INSPECTED DAILY AND CHECKED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN THEY REACH 1/3 OF DESIGN CAPACITY.
- ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY AND REPLACED OR REPAIRED AS NEEDED.
- MAINTENANCE OF ALL SOIL AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.

NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED TO USE THE SIGNALIZED TRAFFIC LIGHT AT CALLAHAN DRIVE.

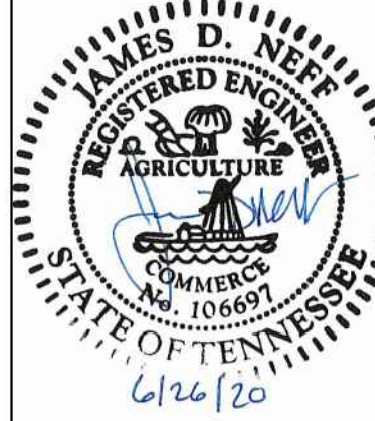
CONTRACTOR SHALL PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES (LOCATIONS AND ELEVATIONS) PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

24-HOUR CONTACT:
BILLY NEWTON
832-683-9885



ingenium
PLANNING & ENGINEERING
221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.437.8850
WWW.INGENIUMTEAM.COM



PANDA EXPRESS (D6411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT
GROUP
1683 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY

1	2	3	4	5	6	7	8	9	10

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 C06.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EHI

ESPC PLAN
FINAL PHASE

C06.3

SHEET NUMBER

ISSUE FOR BID

Silt Fence - SF



DEFINITION

A silt fence is a temporary sediment barrier made of woven, synthetic filtration fabric supported by steel or wood posts.

PURPOSE

The purpose of a silt fence is to prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems by slowing storm water runoff and causing the deposition of sediment at the structure. Silt fencing encourages sheet flow and reduces the potential for development of rills and gullies.

CONDITIONS

Silt fence should be installed where sheet flow runoff can be stored behind the barrier without damaging the barrier or the submerged area behind the barrier.

Silt fence should not be installed across streams, ditches, waterways, or other concentrated flow areas.

DESIGN CRITERIA

All silt fence should be installed along the contour, never up or down a slope.

Where all sheet flow runoff is to be stored behind the fence (where no storm water disposal system is present), maximum slope length behind a silt fence should not exceed those shown in Table 1. The drainage area should not exceed 1/4 acre for every 100 feet of silt fence.

Land Slope (percent)	Maximum Slope Length Behind Silt Fence (feet)
<2	150
2 to 5	75
5 to 10	50
10 to 20	25
>20	15

* In areas where the slope is greater than 20 %, a flat area length of 10 feet between the top of the slope and the fence should be provided.

Source: GA SWCC

Type A Silt Fence - SFA This 36-inch wide filter fabric should be used on developments where the life of the project is six months or greater. See Figure 1.

Type B Silt Fence - SFB Though only 22-inches wide, this filter fabric allows the same flow rate as Type A silt fence. Type B silt fence should be limited to use on minor projects, such as residential home sites or small commercial developments where permanent stabilization will be achieved in less than six months. See Figure 2.

Type C Silt Fence - SFC Type C fence is 36-inches wide with wire reinforcement. The wire reinforcement is necessary because this fabric allows almost three times the flow rate as Type A silt fence. Type C silt fence should be used where runoff flows or velocities are particularly high or where slopes exceed a vertical height of 10 feet. See Figure 3.

Along stream buffers and other sensitive areas, two rows of Type C silt fence may be used.

Table 2 contains specific information concerning specification requirements for all three types of material.

CONSTRUCTION SPECIFICATIONS

Silt fence should be placed on the contour. On slopes with grades greater than 7%, the silt fence should be located at least 5 to 7 feet beyond the base. Turn the ends of the silt fence upslope so that a certain depth of storm water may be retained in front of the silt fence. The impounded depth should be at least 12 inches, but no more than the height of the silt fence. Hay or straw bales should be placed in place at the end of the row of silt fence as an emergency overflow. This will allow detained water, exceeding the capacity of the silt fence, to be filtered and released quickly (see Figure 4). The bottom edge of silt fence must be entrenched and backfilled to be effective.

INSPECTION

Inspect silt fence before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least once every fourteen calendar days. Where sites have been finally or temporarily stabilized, such inspections may be conducted only once per month.

MAINTENANCE

Sediment should be removed once it has accumulated to one-half the original height of the barrier. Filter fabric should be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months). Silt fence should remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed.

Silt Fence Specifications

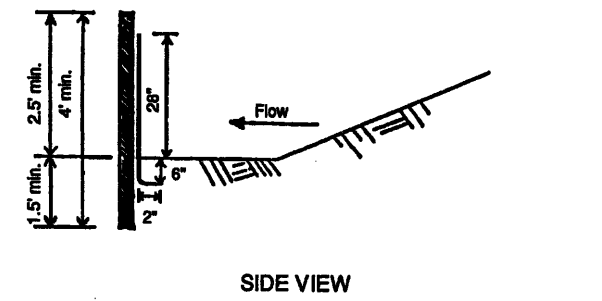
TYPE FENCE	A	B	C
Tensile Strength (Lbs. Min.) (1) (ASTM D-4632)	Warp - 120 Fill - 100	Warp - 120 Fill - 100	Warp - 260 Fill - 180
Elongation (% Max.) (ASTM D-4632)	40	40	40
AOS (Apparent Opening Size) (Max. Sieve Size) (ASTM D-4751)	#30	#30	#30
Flow Rate (Gal/Min/Sq. Ft.) (GDT-87)	25	25	70
Ultraviolet Stability (2) (ASTM D-4632 after 300 hours weathering in accordance with ASTM D-4355)	80	80	80
Bursting Strength (PSI Min.) (ASTM D-3786 Diaphragm Bursting Strength Tester)	175	175	175
Minimum Fabric Width (inches)	36	22	36

(1) Minimum roll average of five specimens.
(2) Percent of required initial minimum tensile strength.

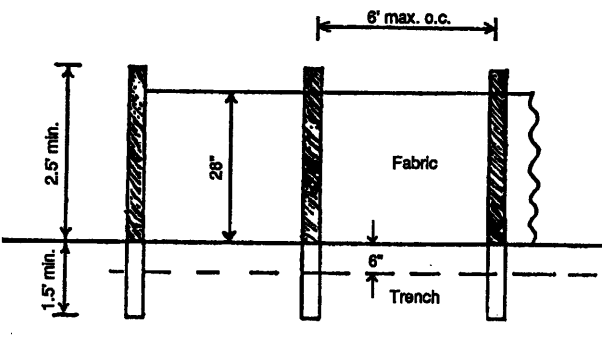
Table 2

Source: GA SWCC

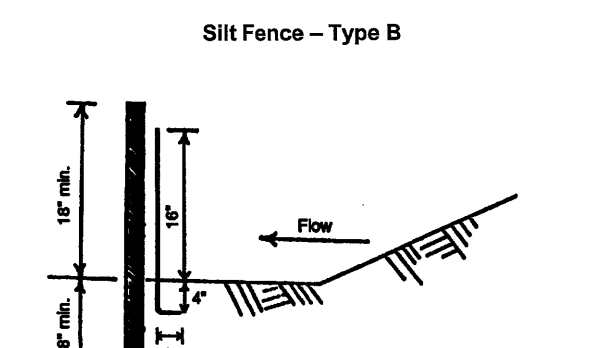
Silt Fence - Type A



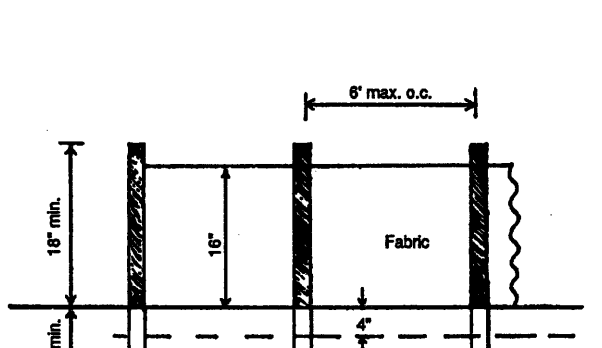
SIDE VIEW



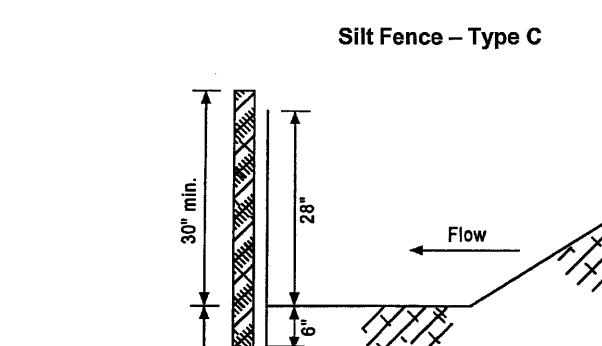
FRONT VIEW



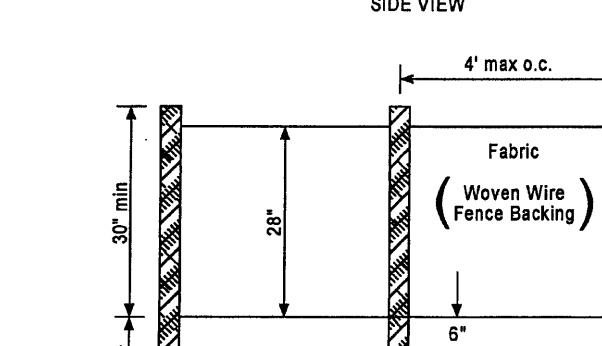
SIDE VIEW



FRONT VIEW



SIDE VIEW



FRONT VIEW

Silt Fence Below a Steep or Long Grade

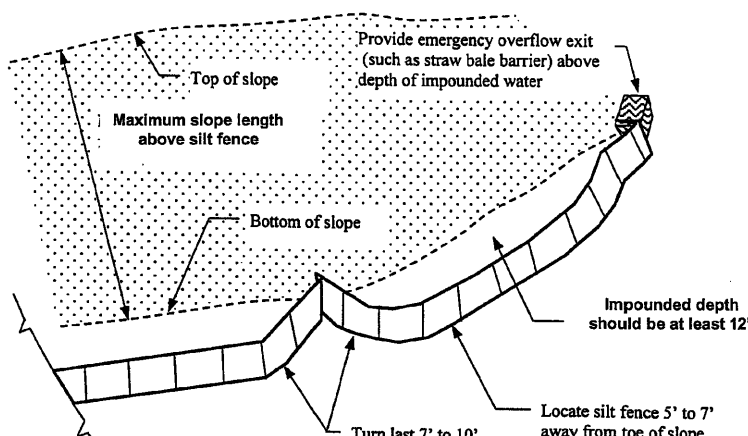


Figure 4

Source: Knoxville Engineering Department

Joining Silt Fence Sections

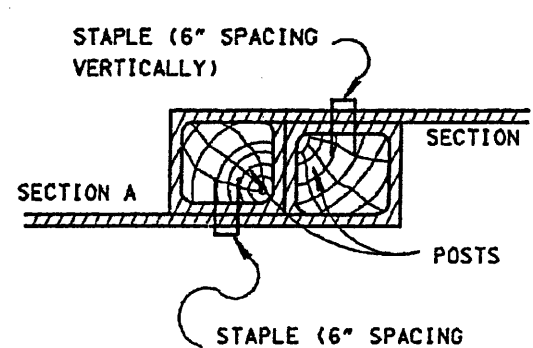


Figure 5

Source: TDOT English Standard Drawings

Post Size and Fastener Requirements

POST SIZE			
Minimum Length	Type of Post	Size of Post	
Type A 4'	Soft wood Oak Steel	3" dia. or 2x4 1.5" x 1.5" 1.38u.ft. min.	
Type B 3'	Soft wood Oak Steel	2" dia. or 2x2 1" x 1" .75u.ft. min.	
Type C 4'	Steel	1.38u.ft. min.	

FASTENERS FOR WOOD POSTS			
Gauge	Crown	Legs	Staples/Post
Wire Staples 17 min.	3/4" wide	1/2" long	5 min.
Gauge	Length	Button Heads	Nail/Post
Nails 14 min.	1"	3/4"	4 min.

Note: Filter fabric may also be attached to the post by wire, cord, and pockets.

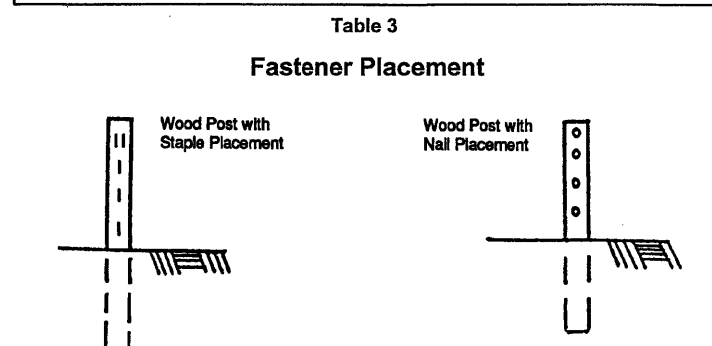


Figure 6

NOTE: SILT FENCE MUST HAVE A MINIMUM 4" TRENCH DEPTH AND 6" RUNOUT LENGTH.

Construction Exit - CE



DEFINITION

A stone-stabilized pad located at any point where traffic will be leaving a construction site to a public roadway.

PURPOSE

To reduce or eliminate the transport of material from the construction area onto a public roadway.

CONDITIONS

This practice is applied at appropriate points of construction egress. Geotextile under-liners are required to stabilize and support the pad aggregate.

DESIGN CRITERIA

Formal design is not required. A typical construction exit is shown in Figure 1. The following standards should be used:

Aggregate Size: Stone should be in accordance with TDOT #1 or #2 stone specifications (1.5 to 3.5 inch stone).

washed, and well graded. Refer to specification **Riprap - R#** for aggregate size tables.

Pad Thickness: The gravel pad should have a minimum thickness of 6 inches.

Pad Length and Width: At a minimum, the width should equal full width of all points of vehicular egress, but not less than 20 feet wide. Pad length should be no less than 50 feet.

Washing: If the action of the vehicle traveling over the gravel pad does not sufficiently remove the material, the tires should be washed prior to exit onto public roadways. When washing is required, the wash rack should be designed for the anticipated traffic loads and placed on level ground, on a pad of coarse aggregate (such as TDOT #57). A typical wash rack is shown in Figure 2. The wash rack design may consist of other materials suitable for truck traffic that remove mud and dirt. The wash rack should have provisions that intercept the sediment-laden runoff and direct it into a sediment trap or sediment basin.

Location: The exit should be located wherever traffic will be leaving a construction site directly onto a public roadway.

CONSTRUCTION SPECIFICATIONS

It is recommended that the exit area be excavated to a depth of 3 inches and be cleared of all vegetation and roots.

Waterbar Diversion: On sites where the grade toward the public roadway is greater than 2%, a waterbar diversion 6 to 8 inches high with 31 side slopes should be constructed across the foundation of the construction exit to prevent storm water runoff from leaving the site. Refer to specification **Diversion - D#**. Overlaid runoff should be directed into a sediment trap or sediment basin. Refer to specification **Sediment Trap - ST** or **Sediment Basin - SB**.

Geotextile: The geotextile under-liner must be placed the full length and width of the exit. Refer to specification **Geotextile - GE**.

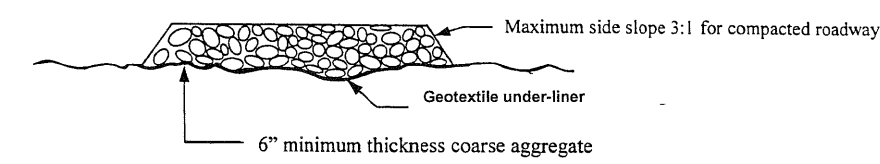
INSPECTIONS

Inspections of construction exit should be made at the end of each shift or workday.

MAINTENANCE

The exit should be maintained in a condition that will prevent tracking or flow of material onto public rights-of-way. This may require periodic top dressing with fresh stone, as conditions demand, and repair and/or cleanout of any structures to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed immediately.

Construction Exit



SECTION A-A

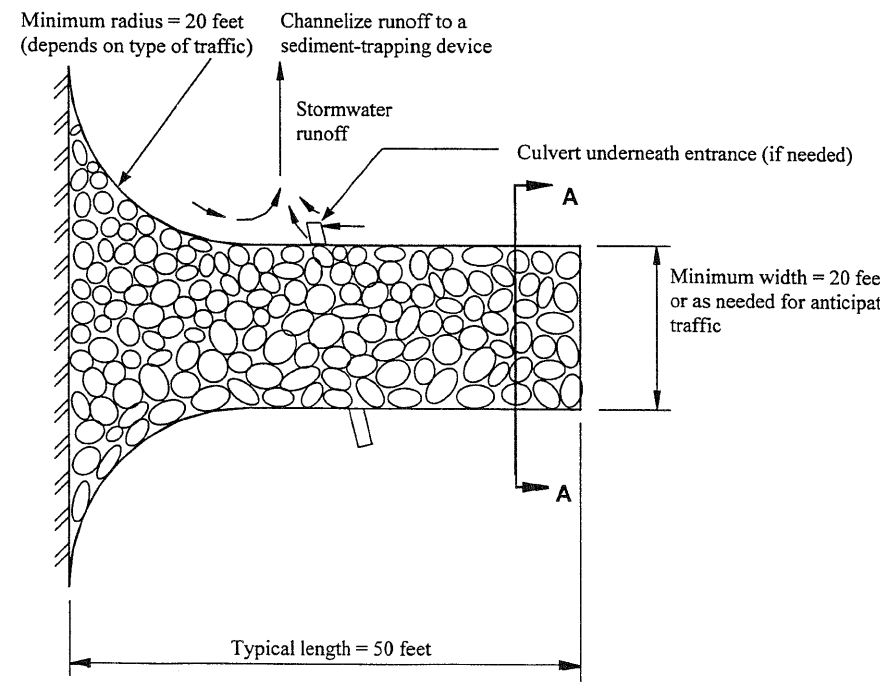
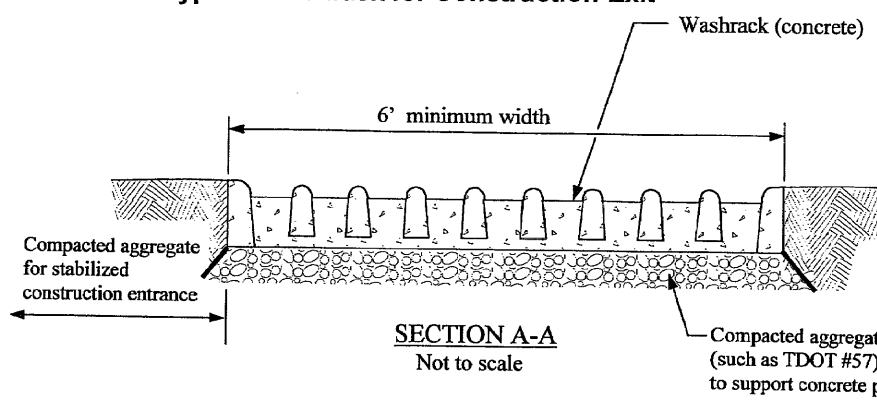


Figure 1

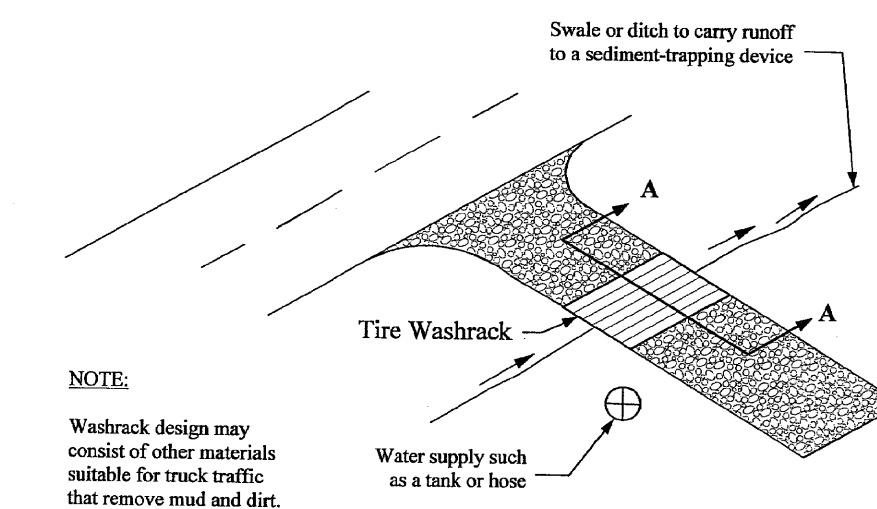
Source: Knoxville Engineering Department

Typical Washrack for Construction Exit



SECTION A-A

Not to scale



NOTE:

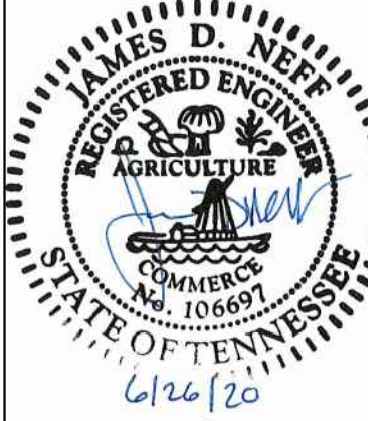
Washrack design may consist of other materials suitable for truck traffic that remove mud and dirt.

Figure 2

Source: Knoxville Engineering Department



221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.437.0850



PANDA EXPRESS (66411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT GROUP

1683 HAZLUT GROVE AVENUE
ROSEMead, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 C06.DWG
ISSUE DATE 06/26/2020
PROJ TGR: EHI

ESPC DETAILS I

C06.4

SHEET NUMBER

SF SILT FENCE - NTS

ISSUE FOR BID

Storm Drain Inlet Protection - IP



DEFINITION

A temporary protective device formed around a storm drain drop inlet to trap sediment.

PURPOSE

To prevent sediment from entering storm drainage systems, prior to temporary or permanent stabilization of the disturbed area.

CONDITIONS

Storm drain inlet protection should be installed at or around all storm drain drop inlets that receive runoff from disturbed areas.

DESIGN CRITERIA

Many sediment-filtering devices can be designed to serve as storm drain inlet protection. Inlet protection must be self-draining unless otherwise protected in a fashion that will not present a safety hazard. **The drainage area served by the inlet protection should be no greater than one-half acre.** Runoff from larger drainage areas

should be routed to a Sediment Trap or Sediment Basin. Refer to specifications for **Sediment Trap – ST** or **Sediment Basin – SB**.

If runoff may bypass the protected inlet, a berm should be constructed on the down slope side of the structure to prevent undercutting and erosion under the structure. Refer to **Diversion – DI**. Also, a stone filter ring may be used on the up slope side of the inlet to slow runoff and filter larger soil particles. Refer to **Filter Ring – FR**.

CONSTRUCTION SPECIFICATIONS

Inlet protection may be constructed on natural ground surface, on an excavated surface, or on machine compacted fill.

Silt Fence Inlet Protection [IP-SF]: This method of inlet protection is applicable where the inlet drains a relatively flat area (slope no greater than 5%) and should not apply to inlets receiving concentrated flows, such as in street or highway medians. As shown in Figure 1, Type C silt fence supported by 2x4-inch wood or equivalent steel posts, with a

preparation, and sod installation and maintenance.

INSPECTIONS

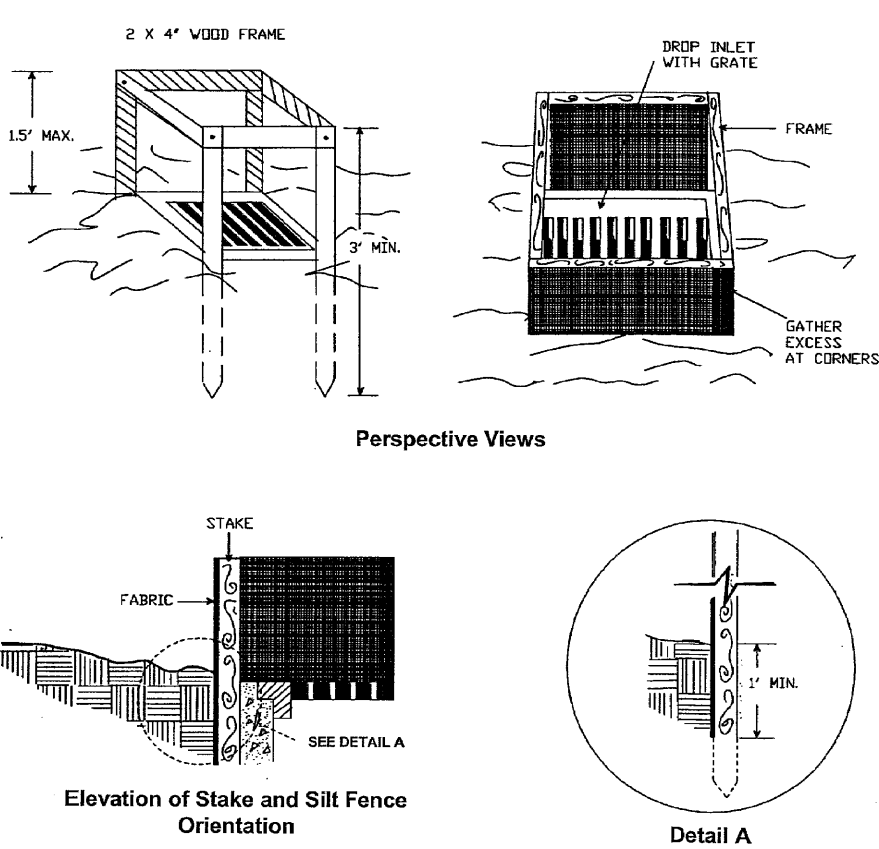
Inspections of storm drain inlet protection methods should be made before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least once every fourteen calendar days. Where sites have been finally or temporarily stabilized, such inspection may be conducted only once per month.

MAINTENANCE

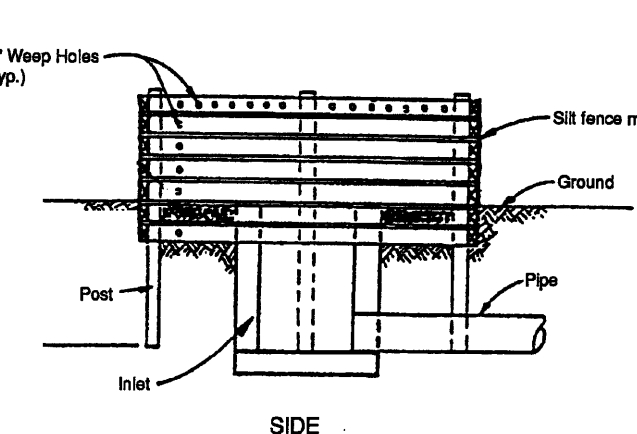
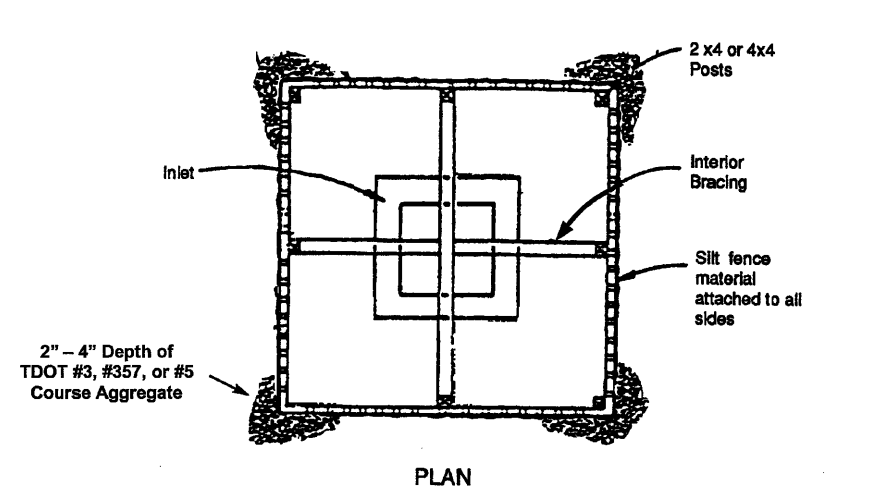
Maintenance needs identified in inspections or by other means should be accomplished before the next storm event if possible, but in no case more than seven days after the need is identified.

Sediment should not be allowed to wash into the storm drain inlet. It should be removed from the inlet protection and disposed of and stabilized so that it will not enter the inlet again. When the contributing drainage area has been permanently stabilized, all materials and any sediment should be removed, and either salvaged or disposed of properly. The disturbed area should be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

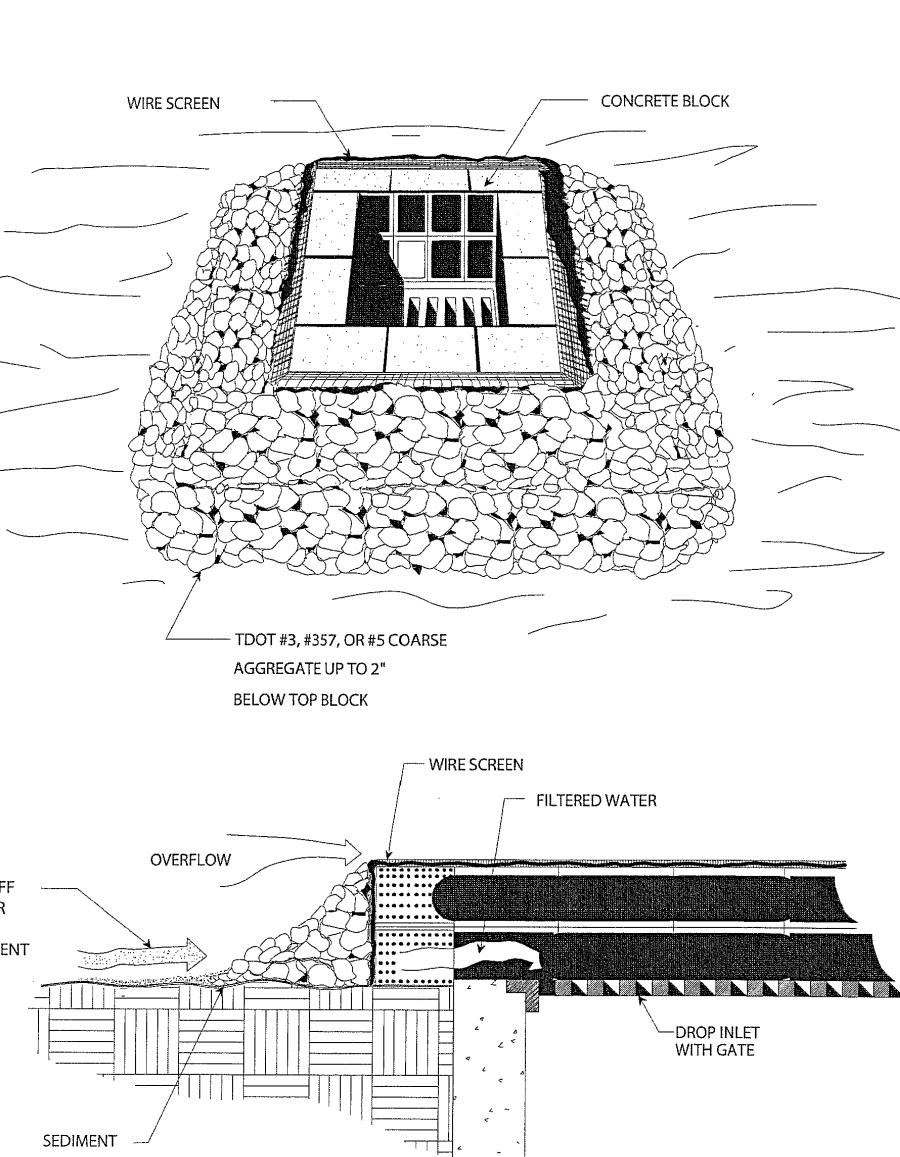
Silt Fence Inlet Protection – IP-SF



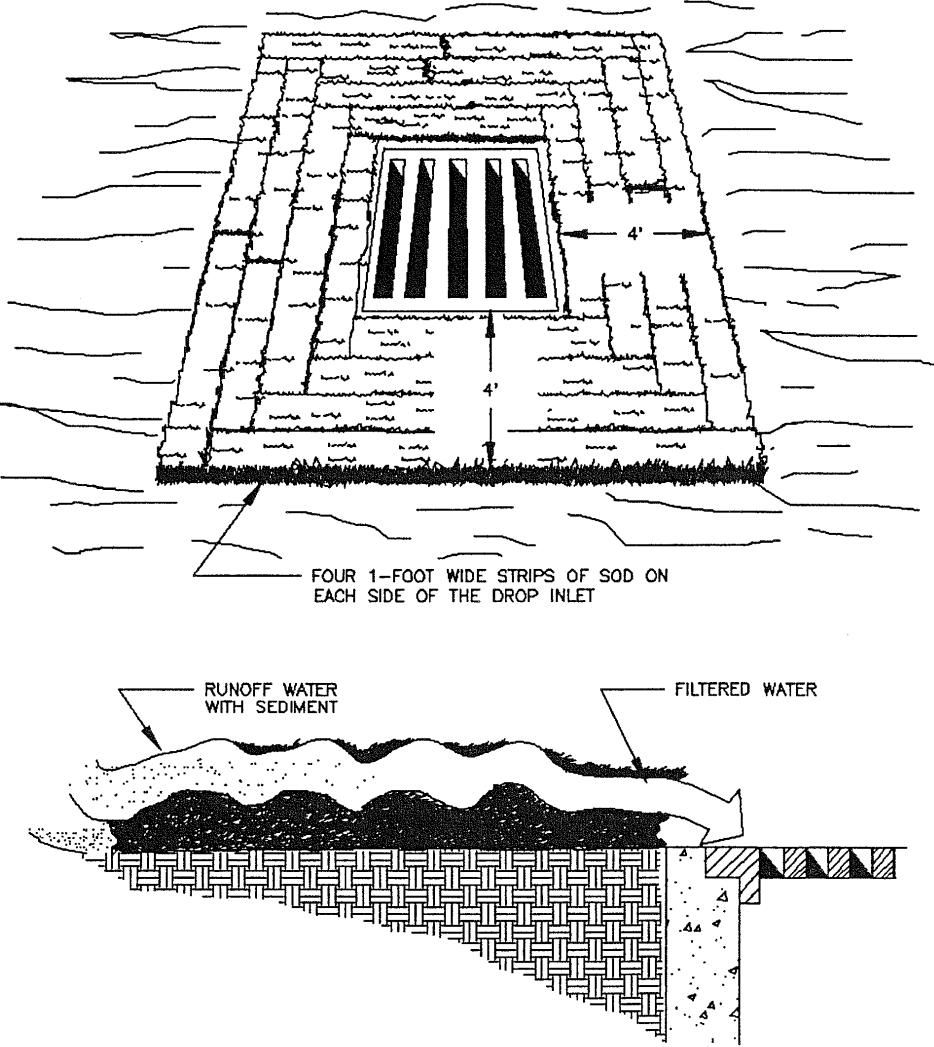
Baffle Box Inlet Protection – IP-BB



Block and Gravel Inlet Protection - IP-BG



Sod Inlet Protection – IP-S



Disturbed Area Stabilization (With Mulch) – MU



DEFINITION

Applying hay, straw, mulch, plant residues, or other suitable materials, produced on the site if possible, to the soil surface.

PURPOSE

- To reduce runoff and erosion
- To conserve moisture
- To promote germination of seed
- To prevent surface compaction or crusting
- To protect seed from birds
- To modify soil temperature
- To increase biological activity in the soil

CONDITIONS

Mulch may be used to promote vegetation germination and growth during a vegetative stabilization practice, or may be used as a temporary stabilization measure on its own where seed may not germinate due to temporary conditions.

CONSTRUCTION SPECIFICATIONS

Mulching Without Seeding: This standard applies to cleared areas where seed may not have a suitable growing season to produce an erosion-retardant cover, but can be stabilized with a mulch cover. Mulch can be used as an erosion control device for up to six months, but it shall be applied at the appropriate depth (depending on the material used), anchored, and have a continuous 95% cover or greater of the soil surface. Maintenance is required to maintain 95% cover.

Mulching With Seeding: Mulch should be applied when seeding for vegetation stabilization. It significantly assists germination by protecting the seed from birds, by holding moisture at the surface of the soil, and by reducing soil surface temperature. Mulch applied to seeded areas shall achieve 75% soil cover.

Site Preparation: Consider these factors when preparing to use mulch:

- Grade to enable the use of equipment for applying and anchoring mulch.
- Install best management practices as required such as diversions, terraces, and/or sediment barriers.
- Loosen compacted soil to a minimum depth of 4 inches if using mulch while seeding.

Mulching Materials: Select one of the following materials and apply at the rate indicated:

- Dry straw or hay shall be applied at a rate that provides 95% or greater soil coverage.
- Wood waste (chips, sawdust or bark) shall be applied at a rate that provides 95% or greater soil coverage. **Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch.** This method of mulching can greatly reduce erosion control costs. This method should not, however, be used in conjunction with seeding due to soil acidification and nitrogen reduction problems that the decomposition of the "green" material will produce.

Anchoring Mulch: Anchor straw or hay mulch immediately after application by one of the following methods:

- Emulsified asphalt can be (a) sprayed uniformly onto the mulch as it is ejected from the blower machine or (b) sprayed on the mulch immediately following mulch application when straw or hay is spread by methods other than special blower equipment. The combination of asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture

- shall consist of 100 gallons of emulsified asphalt and 100 gallons of water per ton of mulch. Care shall be taken at all times to protect state waters, the public adjacent property, pavements, curbs, sidewalks, and all other structures from asphalt discoloration.
- Hay and straw mulch may be pressed into the soil immediately after the mulch is spread. A special "crimper" or disk harrow with the disks set straight may be used. Serrated disks are preferred and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch should not be plowed into the soil.
- Synthetic tackifiers or binders may be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers should be mixed and applied according to manufacturer's specifications. Refer to **Specification Tackifiers and Binders – TBS**.

MAINTENANCE

Inspection of the application should be performed along with other regularly scheduled erosion and sediment control inspections. Any areas that have washed out due to high storm water flow should be reconsidered for different BMP use, or at least retreated. Areas that have been disturbed by blowing wind should be retreated. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event if possible, but in no case more than seven days after the need is identified.

IP - 1

minimum length of three feet, should be used. The stakes should be spaced evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely driven into the ground, approximately 18 inches deep.

The silt fence should be entrenched 12 inches and backfilled with crushed stone or compacted soil. Silt fence and wire should be securely fastened to the posts, and silt fence ends must be overlapped a minimum of 18 inches or wrapped together around a post to provide a continuous barrier around the inlet. Refer to **Silt Fence – SF** for installation requirements. Sediment should be removed when the sediment has accumulated to one-half the height of the inlet protection.

Baffle Box Inlet Protection [IP-BB]: This method is applicable for inlets receiving runoff with a higher volume or velocity. As shown in Figure 2, the baffle box should be constructed of 2" x 4" or 4" x 4" boards spaced a maximum of 1 inch apart or of plywood with weep holes 2 inches in diameter. The weep holes should be placed approximately 6 inches on center vertically and horizontally. The entire box is wrapped in Type C filter fabric that should be entrenched 12 inches and backfilled. Refer to **Silt Fence – SF** for installation requirements.

Clean coarse aggregate should be placed outside the box, all around the inlet, to a depth of 2 to 4 inches. Coarse aggregate should be TDOT #3, #357, or #5. If the aggregate filter becomes clogged with sediment so that it no longer adequately performs its function, the aggregate should be pulled away from the structure, cleaned, and replaced. Sediment should be removed when the sediment has accumulated to one-half the height of the inlet protection.

Block and Gravel Inlet Protection [IP-BG]: This method of inlet protection is applicable where heavy flows are expected and where an overflow capacity is necessary to prevent excessive ponding around the structure. As shown in Figure 3, one block is placed on each side of the structure on its side in the bottom row to allow pool drainage. The foundation should be excavated at least 2 inches below the crest of the storm drain. The bottom rows of blocks are placed against the edge of the storm drain for lateral support

and to avoid washouts when overflow occurs. If needed, lateral support may be given to subsequent rows by placing 2" x 4" wood studs through block openings.

Hardware cloth or comparable wire mesh with 1/2 inch openings should be fitted over all block openings to hold gravel in place. Clean coarse aggregate should be placed up to 2 inches below the top block on a 2:1 slope or flatter and smoothed to an even grade. Coarse aggregate should be TDOT #3, #357, or #5. If the aggregate filter becomes clogged with sediment so that it no longer adequately performs its function, the aggregate should be pulled away from the structure, cleaned, and replaced. Sediment should be removed when the sediment has accumulated to one-half the height of the inlet protection.

Gravel Inlet Protection [IP-G]: This method of inlet protection is applicable where heavy concentrated flows are expected. As shown in Figure 4, wire mesh should be laid over the drop inlet grate so that the wire extends a minimum of one foot beyond each side of the inlet structure. Wire mesh with 1/4 inch openings should be used. Clean coarse aggregate should be placed over the entire inlet structure, to a total depth of at least 12 inches. The aggregate should extend beyond the inlet structure at least 18 inches on all sides. Coarse aggregate should be TDOT #3, #357, or #5.

Sediment should be removed when the sediment has accumulated to one-half the height of the inlet protection. If the aggregate filter becomes clogged with sediment so that it no longer adequately performs its function, the aggregate should be pulled away from the structure, cleaned, and replaced.

Sod Inlet Protection [IP-S]: This method of inlet protection is applicable only at the time of permanent seeding, to protect the inlet from sediment and mulch material until permanent seeding has become established. As shown in Figure 5, the sod should be placed to form a turf mat covering the soil for a distance of 4 feet from each side of the inlet structure. Sod strips should be staggered so that adjacent strip ends are not aligned. Refer to **Disturbed Area Stabilization (With Sod) – SO** for soil

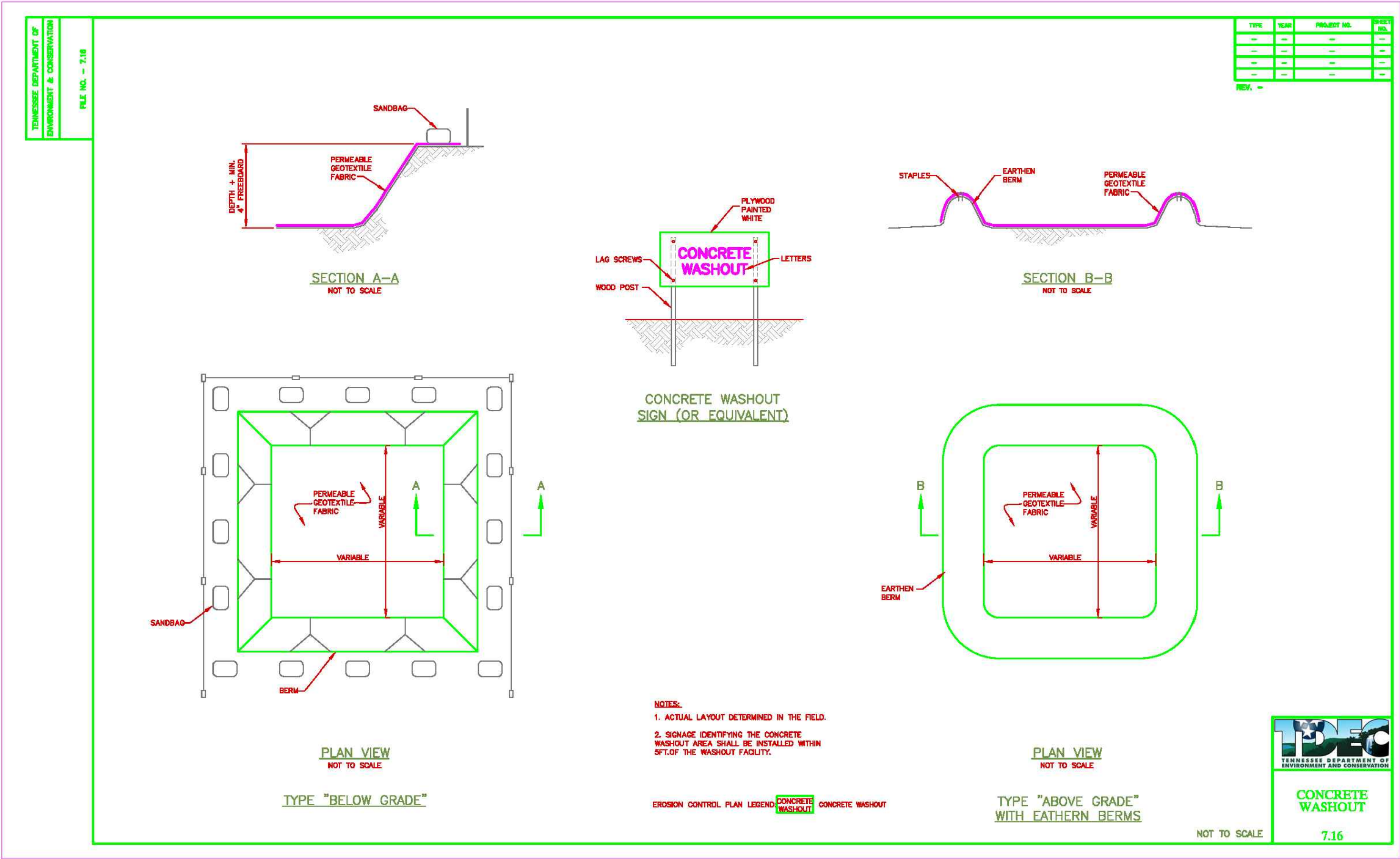
IP - 2

IP STORM DRAIN INLET PROTECTION

NTS

CW CONCRETE WASHOUT

NTS



CW



ingenium
ENTERPRISES
PLANNING & ENGINEERING

221 ROSWELL ST.
SUITE 100
ALPHARETTA, GA 30009
770.437.8650



PANDA EXPRESS (06411)
CLINTON HAY & CALLAHAN DR
KNOXVILLE, TENNESSEE



CLIENT:

PANDA RESTAURANT
GROUP
1683 HAINAUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770
PHONE: (626) 799-0898

REVISION HISTORY

NO.	DESCRIPTION	DATE
1	ISSUED FOR BIDDING	06/26/2020
2	REVISED PER COMMENTS	06/26/2020
3	REVISED PER COMMENTS	06/26/2020
4	REVISED PER COMMENTS	06/26/2020
5	REVISED PER COMMENTS	06/26/2020
6	REVISED PER COMMENTS	06/26/2020
7	REVISED PER COMMENTS	06/26/2020
8	REVISED PER COMMENTS	06/26/2020
9	REVISED PER COMMENTS	06/26/2020
10	REVISED PER COMMENTS	06/26/2020

THE CIVIL ENGINEER REGULARLY UPDATES ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, THE DATA INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS OF THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE, WORK IN PROGRESS, AND SUBJECT TO CHANGE. FURTHERMORE, THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF THE CIVIL ENGINEER. THE ORIGINAL DESIGN REPRESENTED HEREIN BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS AND USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ # 180039
DWG NAME 180039 CW6.DWG
ISSUE DATE 06/26/2020
PROJ TYP ECH

ESPC DETAILS II

C06.5
SHEET NUMBER

ISSUE FOR BID

TDEC VS CITY OF KNOXVILLE BMP'S NTS

	ES - 09
--	---------

ACTIVITY: Sodding

ES – 09

ACTIVITY: Sodding

ACTIVITY: See

ACTIVITY: See

Knoxville BMP Manual

ACTIVITY: Seeding

PS	TS
----	----

REVISION HISTORY			
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

THE CIVIL ENGINEER REGULARLY UPDATES HIS ELECTRONIC FILES DURING THE DEVELOPMENT OF A PROJECT. AS A RESULT, A FILE MAY BE INCLUDED IN ANY CAD FILE OR DRAWING PRIOR TO ITS FINAL RELEASE. IT DOES NOT NECESSARILY REFLECT THE COMPLETE SCOPE OR CONTENT AS DEFINED IN THE CONTRACT. THE CONTENTS IN THESE FILES MAY THEREFORE BE PRELIMINARY, INCOMPLETE WORK IN PROGRESS, AND SUBJECT TO CHANGE. THE QUALITY OF THE INFORMATION CONTAINED HEREIN IS THE EXCLUSIVE RESPONSIBILITY OF THE CIVIL ENGINEER. THE ORIGINAL IDEAS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE CIVIL ENGINEER. THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS, ANY USE OF SAME WITHOUT EXPRESSED WRITTEN PERMISSION OF THE CIVIL ENGINEER IS PROHIBITED.

PROJ #	180039
DWG NAME	180039 C06.DWG
ISSUE DATE	06/26/2020
PROJ MGR	FH