





### GENERAL NOTES

- INGENIUM ENTERPRISES, INC. (IE) 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 IE. THE ORIGINAL IDEAS REPRESENTED HERE BY THIS INFORMATION SHALL NOT BE USED, ALTERED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT OF IE.
- DEVIATIONS FROM THESE PLANS AND NOTES WITHOUT PRIOR CONSENT OF THE OWNER, HIS REPRESENTATIVE, OR THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
- 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 STRIPING AND SIGNAGE.
- 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 WILL 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.
- THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 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.

### GRADING & DRAINAGE NOTES

- SEE LANDSCAPE PLAN FOR REQUIRED TREES AND GROUND COVER.
- SLOPE OF SURFACE GRADE SHALL BE A MINIMUM OF 1.00%.
- 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 6-INCH) AND COMPACTED TO AT LEAST 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698). THE UPPER 8 INCHES OF SOIL BENEATH PAVEMENTS AND SLAB-ON-GRADE SHOULD BE COMPACTED TO AT LEAST 100 PERCENT. COMPACTION MUST BE CERTIFIED BY A FLORIDA 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 (6) 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.

### GENERAL DEMOLITION NOTES

- ALL ITEMS TO BE PROTECTED SHALL BE PROTECTED THROUGH ALL THE PHASES OF CONSTRUCTION UNTIL FINAL ACCEPTANCE BY CITY OF BRADENTON/MANATEE 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, TCP, OR OTHER WASTE OR CONTAMINANT, IT IS THE CONTRACTOR'S 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 ADEQUATELY ABANDON 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 PROTECT ALL ITEMS OUTSIDE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED IN THE CONSTRUCTION PLANS OR SPECIFICATIONS.

THE GEOTECHNICAL INVESTIGATION PREPARED BY UNIVERSAL ENGINEERING, DATED 02/25/2020 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.

### GENERAL SITE NOTES

- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING IMPROVEMENTS AND TREES AND OTHER DEBRIS WITHIN THE LIMITS OF THE WORK FROM THE SITE. ON SITE BURIAL OF TREES AND OTHER DEBRIS WILL NOT BE ALLOWED. THERE ARE NO KNOWN INERT BURY PITS ON THE SITE AND NONE WILL BE ALLOWED DURING CONSTRUCTION OF THE PROJECT.
- ALL WORK SHALL COMPLY WITH BRADENTON/MANATEE COUNTY, STATE OF FLORIDA, AND FEDERAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER.
- ALL WORK SHALL BE PERFORMED IN A FINISHED AND WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER, AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
- ALL MATERIALS SHALL BE NEW UNLESS USED OR SALVAGED MATERIALS ARE AUTHORIZED BY THE OWNER PRIOR TO USE.
- ALL WORK PERFORMED ON CITY, COUNTY, AND/OR STATE OR FEDERAL RIGHT-OF-WAY SHALL BE IN STRICT CONFORMANCE WITH APPLICABLE STANDARDS AND SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCIES.
- BASE COURSE MATERIALS, EQUIPMENT, METHODS OF CONSTRUCTION, AND WORKMANSHIP SHALL CONFORM TO "STATE OF FLORIDA" TRANSPORTATION STANDARD SPECIFICATIONS", CURRENT EDITION.
- ALL BUILDING DIMENSIONS SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL PLANS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- PHOTOMETRIC DESIGNED BY OTHERS. POLE LOCATIONS ARE SHOWN ONLY FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY THE FINAL LOCATION OF POLES WITH PHOTOMETRIC PLAN AND OWNER PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL ENSURE 100% COVERAGE OF ALL LANDSCAPED AREAS WITHIN LIMITS OF WORK, INCLUDING POTENTIAL OFFSITE AREAS. COVERAGE SHALL INCLUDE BOTH LANDSCAPING AND IRRIGATION.

### DEFINITIONS

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

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

"RIM"  
1. THROAT AT GRATE ELEVATION FOR CURB INLETS.  
2. TOP OF STRUCTURE FOR JUNCTION BOXES/OCs.  
3. TOP OF STRUCTURE FOR SANITARY MANHOLES AND CLEANOUTS.

"M.E.E" (MATCH EXISTING ELEVATION)  
IF A ELEVATION IS GIVEN, THEN THE ELEVATION IS INTERPOLATED BY THE EXISTING SURFACE PROVIDED BY THE SURVEYOR AND SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

"M.F.E" (MATCH FUTURE ELEVATION)  
IF A ELEVATION IS GIVEN, THEN THE ELEVATION IS PROVIDED IS THE DEVELOPER'S ENGINEER. THE ELEVATION SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR AND ALERT THE ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY

### BUILDING AREA NOTES

- MAINTAIN ACCESS FOR EMERGENCY VEHICLES AROUND AND TO ALL BUILDINGS UNDER CONSTRUCTION. I.E. IN TIMES OF RAIN OR MUD, 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 1141 3-1).
- CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING IN ALL AREAS AROUND BUILDING.

### GENERAL STAKING NOTES

- ALL RADII ARE 3.0' UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE MEASURED TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL SITE LIGHTING POLE DIMENSIONS ARE TO THE CENTERLINE OF THE POLE, UNLESS OTHERWISE NOTED.
- STAKING OF STRIPING IS TO THE CENTERLINE OF THE STRIPE, UNLESS OTHERWISE NOTED.

### GENERAL UTILITY NOTES

- SEE MEP PLANS FOR CONTINUATION OF ALL UTILITIES INTO BUILDING.
- SANITARY LATERALS SHALL HAVE A MINIMUM FALL OF 1.00%.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES AND THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY.
- 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 BUILD CONCRETE TRANSFORMER PAD AND INSTALL SCHEDULE 80 PVC CONDUIT AND PULL STRING WITH SWEEPING BENDS.
- 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.

### PANDA EXPRESS STANDARD NOTES

- THE GEOTECHNICAL INVESTIGATION PREPARED BY UNIVERSAL ENGINEERING, DATED 02/25/2020 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.
- 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 ENSURE 100% COVERAGE OF ALL LANDSCAPED AREAS WITHIN LIMITS OF WORK, INCLUDING POTENTIAL OFFSITE AREAS. COVERAGE SHALL INCLUDE BOTH LANDSCAPING AND IRRIGATION.

### ABBREVIATIONS

ASPH	=	ASPHALT
BO	=	BOTTOM OF CURB
BFP	=	BACKFLOW PREVENTER
BW	=	SURFACE DIRT GRADE ELEVATION AT 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
CY	=	CUBIC YARD
DOT	=	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
FFE	=	FINISH FLOOR ELEVATION
GH	=	FIRE HYDRANT
GC	=	GENERAL CONTRACTOR
GSF	=	GROSS SQUARE FOOT
GT	=	GREASE TRAP
GV	=	GATE VALVE
HDPE	=	HIGH DENSITY POLYETHYLENE
HGL	=	HYDRAULIC GRADE LINE
HW	=	HOT WATER SUPPLY
I	=	INTERNAL ANGLE
INV.	=	INVERT
IRR	=	IRRIGATION
L	=	LENGTH OF CURVE
L.C.	=	LENGTH OF CHORD
LFPE	=	LOWER FINISH FLOOR ELEVATION
LP	=	LIGHT POLE/FIXTURE
LS	=	LANDSCAPE
M.E.E	=	MATCH EXISTING ELEVATION
M.F.E	=	MATCH FUTURE ELEVATION
MH	=	MANHOLE
N	=	NORTH
NTS	=	NOT TO SCALE
PC	=	POINT OF CURVATURE
PIC	=	POINT OF INTERSECTION
PIV	=	POST INDICATOR VALVE
PROP.	=	PROPOSED
PT	=	POINT OF TANGENCY
PVC	=	POLYVINYL CHLORIDE PIPE
R	=	RADIUS OF CURVE
RPC	=	REINFORCED CONCRETE PIPE
RD	=	ROOF DRAIN
R/W	=	RIGHT-OF-WAY
S	=	SOUTH
S	=	SQUARE FEET
SSE	=	SANITARY SEWER EASEMENT
STD	=	STANDARD
SY	=	SQUARE YARD
T	=	TANGENT OF CURVE LENGTH
TC	=	TOP OF CURB
TB	=	THRUST BLOCKING
TW	=	TOP OF WALL
TYM	=	TYPICAL
W	=	WEST
WM	=	WATER METER
W.S.	=	WATER SURFACE
W.S.E	=	WATER SURFACE ELEVATION
YR	=	YEAR

SEE SURVEY/EXISTING CONDITIONS FOR ABBREVIATIONS SPECIFIC TO THAT SHEET

### EXISTING CONDITIONS LEGEND

DESCRIPTION	SYMBOL
COMMUNICATION LINES	COM
DATA LINES	DAT
ELECTRICAL LINES (OVERHEAD)	OH ELE
ELECTRICAL LINES (UNDERGROUND)	UG ELE
ELECTRICAL & TV LINES (OVERHEAD)	OH E/TV
ELECTRICAL & TELEPHONE LINES (OVERHEAD)	OH E/TEL
FIBER LINES	FIBER
GENERAL UTILITY LINES	GEN
GAS LINES	GAS
REUSE WATER LINES	REUSE
SANITARY SEWER LINES	SAN
SANITARY SEWER FORCE MAIN LINES	SAN FM
TV LINES (OVERHEAD)	OH TV
TV LINES (UNDERGROUND)	UG TV
TELEPHONE LINES (OVERHEAD)	OH TEL
TELEPHONE LINES (UNDERGROUND)	UG TEL
TELEPHONE & TV LINES (OVERHEAD)	OH T/TV
TELEPHONE & TV LINES (UNDERGROUND)	UG T/TV
UNKNOWN UTILITY LINES	UNK
WETLANDS	WET
WATER LINES	WAT

SEE SURVEY/EXISTING CONDITIONS FOR LEGEND SPECIFIC TO THOSE SHEETS

### PROPOSED LEGEND

GENERAL	LINETYPE/SYMBOL
RIGHT-OF-WAY / PROPERTY LINE	---
CENTERLINE	---
LIMITS OF CONSTRUCTION	--- LOC ---
LIMITS OF GRADING / DISTURBANCE	--- LOD ---
DETAIL REFERENCE	(A)
ADDENDUM AND/OR REVISION REFERENCE	(A)

SITE / HARDSCAPE	LINETYPE/SYMBOL
CHAIN LINK FENCE	-----
RETAINING WALL	=====
SCREEN WALL / DUMPSTER ENCLOSURE	=====
CURB & GUTTER	=====
HEADER CURB	=====
CONCRETE SIDEWALK	=====

UTILITIES	LINETYPE/SYMBOL
DOMESTIC WATER LINE	--- DW ---
FIRE WATER LINE	--- FW ---
BUILDING FIRE SPRINKLER LINE	--- FWS ---
IRRIGATION WATER LINE	--- IRR ---
DOMESTIC WATER METER (WM)	WM
IRRIGATION METER (IRR)	IRR
BACKFLOW PREVENTER (RPZ)	RPZ
DC BACKFLOW PREVENTER	DC
FIRE VAULT (DDC)	DDC
WATER TAP OR TEE	+
GATE VALVE (GV)	GV
THRUST BLOCK (TB)	TB
FIRE HYDRANT (FH)	FH
FIRE DEPARTMENT CONNECTION (FDC)	FDC
SANITARY SEWER (SS)	--- SS ---
GREASE TRAP VENT LINE (GTV)	--- GTV ---
SANITARY MANHOLE (SSMH)	SSMH
GENERAL CLEAN OUT (Co)	Co
SANITARY STRUCTURE NUMBER	(S2)
UNDERGROUND ELECTRIC LINE-PRIMARY	--- UGE-P ---
UNDERGROUND ELECTRIC LINE-SECONDARY	--- UGE-S ---
POST INDICATOR VALVE	PIV
SITE LIGHTING POLE	■
TRANSFORMER PAD	T
METER/CT PEDESTAL	CT
UNDERGROUND TELEPHONE LINE	--- UGT ---
GENERAL UTILITY CONDUIT	--- GU ---
GAS LINE	--- G ---
GAS METERS	G

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

GRADING / DRAINAGE	LINETYPE/SYMBOL
GRADE	1000
PROPOSED SPOT ELEVATION	1000.00
MATCH EXISTING SPOT	M.E.E.
MATCH EXISTING SPOT W/ ESTIMATED EXISTING ELEVATION	M.E.E. 1000.00
STORM DRAIN	=====
HEADWALL (HW) / FLARED END SECTION (FES)	=====
DROP INLET (GRATE)	=====
DROP INLET (GRATE AND HOOD)	=====
JUNCTION BOX (JB) / OCS	=====
CATCH BASIN (SINGLE WING)	=====
CATCH BASIN (DOUBLE WING)	=====
PEDESTAL TOP	(A3)
STORM STRUCTURE NUMBER	(A3)

ESPC / BMP	LINETYPE/SYMBOL
CONSTRUCTION EXIT (CO)	=====
SILT FENCE - TYPE C (SF)	=====
SILT FENCE - TYPE C DOUBLE (SF)	=====
INLET PROTECTION (IP)	=====
OUTLET PROTECTION (OP)	=====
DUST CONTROL-DISTURBED AREAS	Du
TEMPORARY SEEDING	TS
PERMANENT SEEDING	PS
MULCHING	M
SODDING	SO
SLOPE STABILIZATION	=====
TREE PROTECTION	PPF
SEE LANDSCAPE/TREE PROTECTION PLANS FOR LEGEND SPECIFIC TO THOSE SHEETS	



PANDA EXPRESS, INC.

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FACSIMILE: 626.372.8288

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REVISIONS:  
08/16/23  
UPDATED NOTES

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: 58-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.

19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084

FBPE CERT. OF AUTHORITY #8370

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JEREMY M. PETTIT, PE ON THE DATE ADJACENT TO THE SEAL ON THE COVER SHEET (C01.0).

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

GENERAL NOTES

C01.1

SHEET 2 OF 38

PANDA HOME R3



# ALTA/NSPS LAND TITLE SURVEY

## Lot 1B of White Eagle Shopping Center

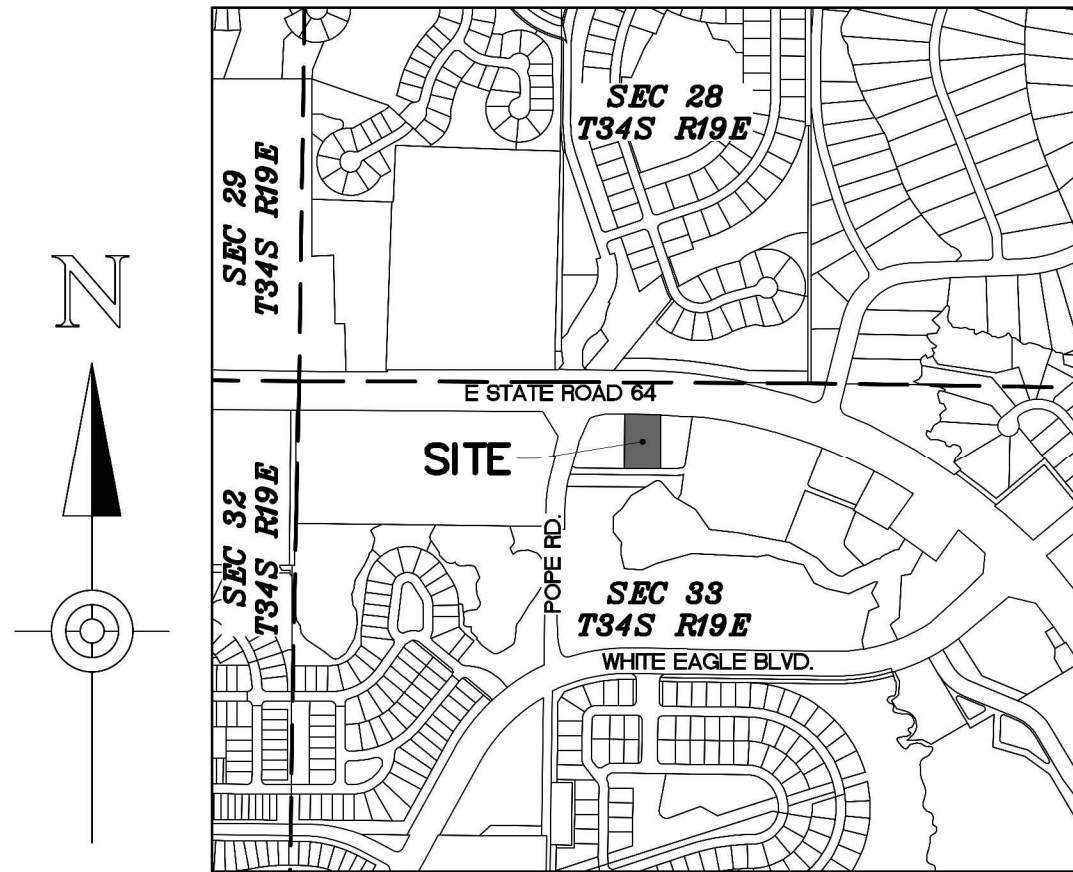
LOCATED IN

### SECTION 33, TOWNSHIP 34 SOUTH, RANGE 19 EAST

### UNINCORPORATED BRADENTON, MANATEE COUNTY, FLORIDA

FOR THE BENEFIT OF:

## Ingenium Enterprises, Inc.



UTILITY PROVIDERS	
FRONTIER COMMUNICATIONS TELEPHONE/CABLE LUKE WANCA	(941) 241-7581
MANATEE COUNTY UTILITIES SEWER, WATER KATHY MCMAHON	(941) 792-8811
TECO PEOPLES GAS GAS LISA GRIESMAN	(813) 275-3783
PEACE RIVER ELECTRIC COOPERATIVE, INC. ELECTRIC MICHAEL ELDER	(883) 767-4621

**PROJECT LOCATION MAP**  
Based on public GIS data  
(1" = 1000')

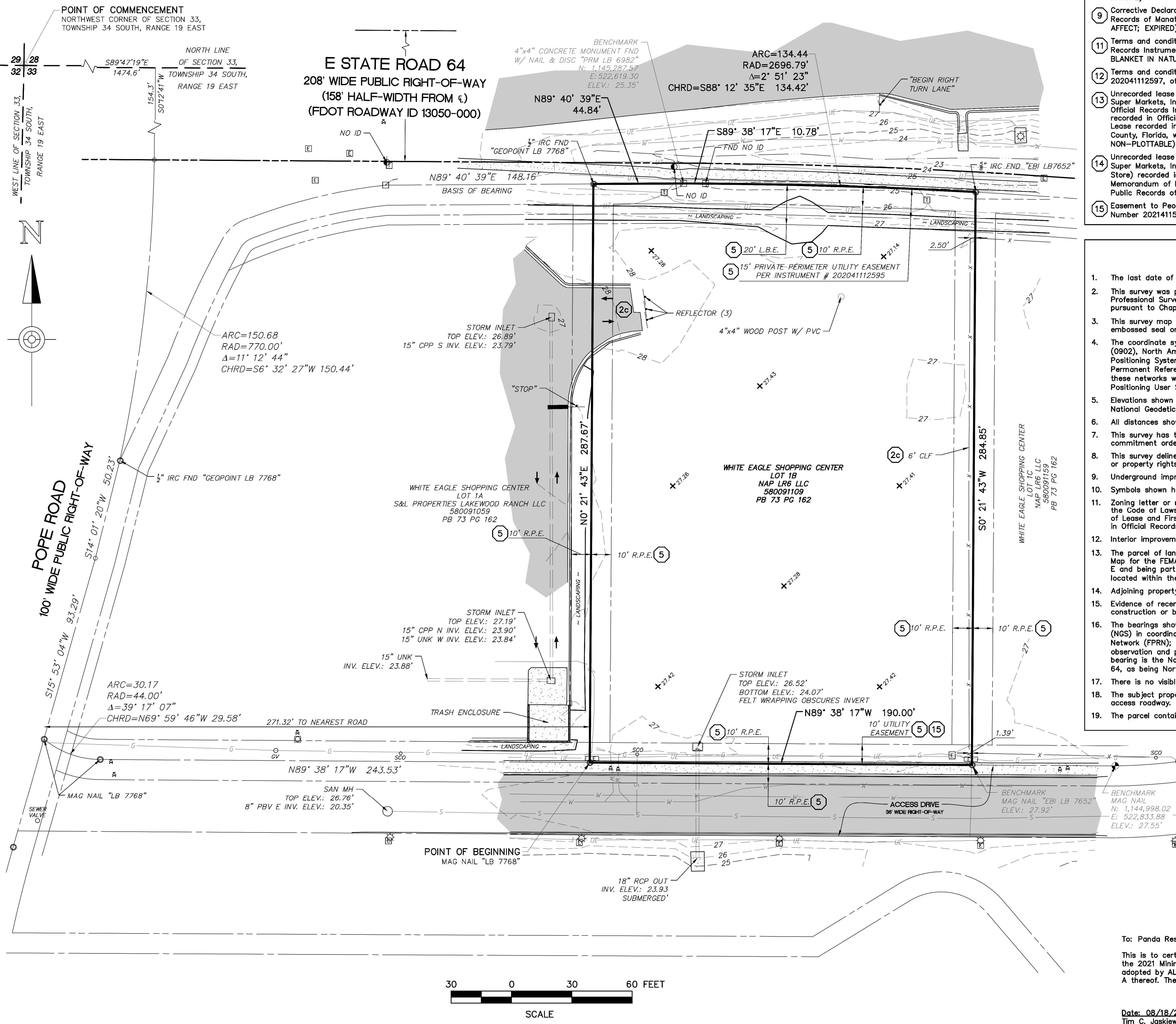
**LEGAL DESCRIPTION**

A PARCEL OF LAND LYING IN SECTION 33, TOWNSHIP 34 SOUTH, RANGE 19 EAST, MANATEE COUNTY, FLORIDA, BEING DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 33; THENCE ALONG THE NORTH SECTION LINE OF SAID QUARTER SECTION S 89° 47' 12" E, A DISTANCE OF 1474.62 FEET; THENCE S 00° 12' 41" W, A DISTANCE OF 154.31 FEET TO AN INTERSECTION WITH THE SOUTH RIGHT-OF-WAY LINE OF STATE ROAD 64 (ROADWAY ID 13050-000) AND THE EAST RIGHT-OF-WAY LINE OF POPE ROAD 64 AS RECORDED IN OFFICIAL RECORDS BOOK 2031, PAGE 4154 OF THE PUBLIC RECORDS OF MANATEE COUNTY, FLORIDA AND TO A POINT ON THE ARC OF A CURVE TO THE RIGHT WHOSE RADIUS POINT BEARS N 89° 03' 57" W, A DISTANCE OF 770.00 FEET; THENCE SOUTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES: (1) ALONG THE ARC OF SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 14° 57' 01", A DISTANCE OF 200.92 FEET TO THE POINT OF TANGENCY; (2) S 15° 53' 04" W, A DISTANCE OF 93.28 FEET TO A POINT ON THE ARC OF A CURVE TO THE LEFT WHOSE RADIUS POINT BEARS N 39° 38' 45" E, A DISTANCE OF 44.00 FEET; THENCE ALONG THE ARC OF SAID CURVE, TO THE LEFT THROUGH A CENTRAL ANGLE OF 39° 17' 02", A DISTANCE OF 30.17 FEET TO THE POINT OF TANGENCY; THENCE S 89° 38' 17" E, A DISTANCE OF 243.53 FEET TO THE POINT OF BEGINNING; THENCE N 00° 21' 43" E, A DISTANCE OF 287.67 FEET TO AN INTERSECTION WITH THE SOUTH RIGHT-OF-WAY LINE OF STATE ROAD 64 AS RECORDED IN OFFICIAL RECORDS BOOK 2812, PAGE 2020 OF SAID PUBLIC RECORDS; THENCE ALONG SAID SOUTH RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES: (1) N 89° 40' 39" E, A DISTANCE OF 44.84 FEET; (2) S 89° 38' 17" E, A DISTANCE OF 10.78 FEET TO THE POINT OF CURVATURE OF A CURVE TO THE RIGHT HAVING A RADIUS OF 2696.79 FEET; (3) ALONG THE ARC OF SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 2° 51' 23", A DISTANCE OF 134.44 FEET; THENCE S 00° 21' 43" W, A DISTANCE OF 284.85 FEET; THENCE N 89° 38' 17" W, A DISTANCE OF 190.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 1.25 ACRES, MORE OR LESS.

LEGEND	
SUBJECT PROPERTY BOUNDARY	—
ADJACENT PROPERTY BOUNDARY	- - -
RIGHT-OF-WAY LINE	—+—
EASEMENT LINE	- - -
CENTER LINE OF ROAD	—+—
BUILDING SETBACK	—+—
BUILDING LINE	—+—
FENCE LINE	—+—
EDGE OF PAVEMENT	—+—
EDGE OF GRAVEL/STONE/SPOIL PILE	—+—
CONCRETE CURB	—+—
CONCRETE/SIDEWALK	—+—
BRICK PAVERS	—+—
BENCHMARK	⊕
4"x4" CONCRETE MONUMENT	⊕
IRON ROD/PIN	⊕
DECIDUOUS TREE	⊕
PINE TREE	⊕
PALM TREE	⊕
DITCH/SWALE	—+—
DRAINAGE LINE, MANHOLE & CB	—+—
SANITARY SEWER & MANHOLE	—+—
WATER MAIN & VALVE	—+—
SEWER FORCE MAIN	—+—
GAS MAIN & VALVE	—+—
UNDERGROUND ELECTRIC	—+—
UNDERGROUND CABLE TV	—+—
OVERHEAD UTILITIES, GUY, & POLE	—+—
UNDERGROUND TELEPHONE	—+—
BEARING/DISTANCE PER THIS SURVEY	—+—
RECORD BEARING/DISTANCE	—+—
BITUMINOUS PAVEMENT	—+—
FEMA FLOOD HAZARD ZONE	—+—
CLF CHAIN LINK FENCE	(P) PER PLAT
CMP CORRUGATED METAL PIPE	PG PAGE
HDPE HIGH-DENSITY POLYETHYLENE	PVC POLYVINYL CHLORATE PIPE
IRC IRON ROD WITH CAP	RCP REINFORCED CONCRETE PIPE
L.B.E. LANDSCAPE BUFFER EASEMENT	R.P.E. RESERVED PERIMETER EASEMENT
PER DECLARATION (SEE BELOW)	PER DECLARATION (SEE BELOW)
MES MITERED END SECTION	(S) AS SURVEYED
MH MANHOLE	SAN SANITARY SEWER
M.W. MONITORING WELL	S.V. SEWER VALVE
ORB OFFICIAL RECORDS BOOK	W.V. WATER VALVE
DECLARATION RECORDED IN INSTRUMENT NUMBER 202041131785, AMENDED IN 202141064370, AMENDED IN 202141065336.	



- SCHEDULE B PART II EXCEPTIONS**
- (1) 2a, 2b, 2d, 2e, 3, 4, 10, 16, 17, 18, 19 (NOT A SURVEY MATTER)
  - (2) Any encroachment, encumbrance, violation, variation, or adverse circumstance that would be disclosed by an inspection or an accurate and complete land survey of the Land and inspection of the Land. (AFFECTS AS SHOWN)
  - (5) All matters contained on the Plat of WHITE EAGLE SHOPPING CENTER, as recorded in Plat Book 73, Page 162, of the Public Records of Manatee County, Florida. (AFFECTS AS SHOWN)
  - (6) Covenants, conditions, and restrictions contained in the Declaration of Unified Control, Easements, Covenants and Restrictions recorded in Official Records Instrument Number 202041131785, as amended by First Amendment to Declaration of Unified Control, Easements, Covenants and Restrictions for White Eagle recorded in Official Records Instrument Number 202141065336; as amended by Second Amendment to Declaration of Unified Control, Easements, Covenants and Restrictions for White Eagle recorded in Official Records Instrument Number 202241053768; and by Fourth Amendment to Declaration of Unified Control, Easements, Covenants and Restrictions for White Eagle recorded in Official Records Instrument Number 202241084358; all of the Public Records of Manatee County, Florida, which contains provisions for easements, covenants, restrictions, assessments, special assessments, liens, and liquidated damages. (AFFECTS; BLANKET IN NATURE)
  - (7) Notice of Creation and Establishment of The Lakewood Ranch Stewardship District recorded in Official Records Book 2049, Page 5185; Notice of Boundary Amendment for The Lakewood Ranch Stewardship District recorded in Official Records Book 2319, Page 3957; Amended Notice of Creation and Establishment of The Lakewood Ranch Stewardship District recorded in Official Records Book 2319, Page 3962; Amended Notice of Creation and Establishment of The Lakewood Ranch Stewardship District recorded in Official Records Book 2730, Page 3427; Amended Notices of Creation and Establishment of The Lakewood Ranch Stewardship District recorded in Official Records Book 2797, Page 1187; Amended Notices of Creation and Establishment of The Lakewood Ranch Stewardship District recorded in Official Records Instrument Number 20224108599, and Judgment for the validation of Lakewood Ranch Stewardship District Special Assessment Revenue Bonds recorded in Official Records Book 2088, Page 4065; all of the Public Records of Manatee County, Florida, which contains provisions for taxes and special assessments. (AFFECTS; BLANKET IN NATURE)
  - (8) Interlocal Agreement between Manatee County and Lakewood Ranch Stewardship District recorded in Official Records Book 2059, Page 2854, of the Public Records of Manatee County, Florida, which contains provisions for restrictions, use limitations, easements, liens, and private charges and assessments. (AFFECTS; BLANKET IN NATURE)
  - (9) Corrective Declaration of Restrictive Covenants recorded in Official Records Book 2687, Page 6466, of the Public Records of Manatee County, Florida, which contains provisions for restrictions and use limitations. (DOES NOT AFFECT; EXPIRED)
  - (11) Terms and conditions of the Permanent Stormwater Drainage Outfall and Flowage Easement recorded in Official Records Instrument Number 202041112596, of the Public Records of Manatee County, Florida. (AFFECTS; BLANKET IN NATURE)
  - (12) Terms and conditions of the Wetland Buffer Easement recorded in Official Records Instrument Number 202041112597, of the Public Records of Manatee County, Florida. (DOES NOT AFFECT)
  - (13) Unrecorded lease by and between NAP LRG LLC, a Florida limited liability company, as Landlord, and Publix Super Markets, Inc., a Florida corporation, as Tenant, evidenced of record by Memorandum of Lease recorded in Official Records Instrument Number 202041114918; as amended by First Amendment to Memorandum of Lease recorded in Official Records Instrument Number 202141064371; and Second Amendment to Memorandum of Lease recorded in Official Records Instrument Number 202241018165; all of the Public Records of Manatee County, Florida, which contains provisions for restrictions, covenants, and a right of first refusal. (AFFECTS; NON-PLOTTABLE)
  - (14) Unrecorded lease by and between NAP LRG LLC, a Florida limited liability company, as Landlord, and Publix Super Markets, Inc., a Florida corporation, as Tenant, evidenced of record by Memorandum of Lease (Liquor Store) recorded in Official Records Instrument Number 202041124882; as amended by First Amendment to Memorandum of Lease (Liquor Store) recorded in Official Records Instrument Number 202141065345; both of the Public Records of Manatee County, Florida, which contains provisions for restrictions. (DOES NOT AFFECT)
  - (15) Easement to Peoples Gas System, a division of Tampa Electric Company, recorded in Official Records Instrument Number 202141153533, of the Public Records of Manatee County, Florida. (AFFECTS AS SHOWN)

- SURVEYOR NOTES**
- The last date of field survey was May 26, 2023.
  - This survey was prepared in accordance with the "Standards of Practice", as set forth by the Florida Board of Professional Surveyors and Mappers in rule 5J-17.050 through 5J-17.053, of the Florida Administrative Code, pursuant to Chapter 472, Florida Statutes.
  - This survey map and/or report, or the copies thereof, is not valid without the signature and the original embossed seal or digital signature of a Florida Licensed Surveyor and Mapper.
  - The coordinate system utilized hereon is relative to the Florida State Plane Coordinate System, West Zone (0902), North American Datum of 1983 (NAD 83), 2011 realization as derived by Real-Time Kinematic Global Positioning System (RTK GPS) survey methods using the public Florida Department of Transportation's Florida Permanent Reference Network (FPRN); mountpoint base station (GSPS). The corrected positions computed by these networks were verified through redundant measures employing National Geodetic Survey (NGS) On-Line Positioning User Service (OPUS).
  - Elevations shown hereon are referenced to the North American Vertical Datum of 1988, as derived by utilizing National Geodetic Survey (NGS) On-Line Positioning User Service (OPUS).
  - All distances shown hereon are in U.S. survey feet.
  - This survey has the benefit of a title commitment by Old Republic National Title Insurance Company, commitment order number 1357794, dated December 29, 2022, at 11:00 PM.
  - This survey delineates the boundary location according to the legal description but does not determine ownership or property rights.
  - Underground improvements, if any, were not located except as shown.
  - Symbols shown hereon are not to scale.
  - Zoning letter or report has not been provided by the client. Zoning information listed hereon was obtained from the Code of Laws and Ordinances of Manatee County, Florida, and any contained by, or within the Memorandum of Lease and First Amendment to the Memorandum of Lease, filed with the County of Manatee Clerk of Courts in Official Records Instrument numbers 202041114918 and 202141064371, respectively.
  - Interior improvements, if any, were not located except as shown.
  - The parcel of land shown hereon has a Flood Zone designation of "X", based on the FEMA Flood Insurance Rate Map for the FEMA Community of Manatee County, Florida, community number 120153-panel number 0331-suffix E and being part of map number 12081C0331E, with an effective date of March 17, 2014. Subject property is located within the delineated Southwest Florida Water Management District (SWFWMD).
  - Adjoining property information was obtained from the Manatee County, Florida Property Appraiser.
  - Evidence of recent earth moving work was observed in the process of conducting the field work. No building construction or building additions were observed in the process of conducting the field work.
  - The bearings shown upon this survey are based on Grid West as established by the National Geodetic Survey (NGS) in coordination with the public Florida Department of Transportation's Florida Permanent Reference Network (FPRN); mountpoint base station (GSPS) and verified through redundant static occupation and observation and processed through National Geodetic Survey On-Line Positioning User Service (OPUS). Basis of bearing is the North line of the subject parcel, also being the southerly right-of-way line of Florida State Road 64, as being North 89° 40' 39" West.
  - There is no visible evidence of cemeteries on subject property.
  - The subject property has indirect access to Pope Road and State Road 64 via a physically improved private access roadway.
  - The parcel contained in the legal description is contiguous without any gaps, gores, or overlaps.

ZONING REQUIREMENTS	
Zoning District - Planned Development Mixed Use (PD-MU), Development of Regional Impact per F.S. 380.06.	
All of the following requirements have been obtained from the Manatee County Land Development Code, Chapter 4 - Zoning (Adopted June 4, 2015).	
Minimum Lot Requirements	7,500 SF
Minimum Lot Area	75 LF
Minimum Lot Width	15%
Minimum Landscaped Open Space	
Building Setback Requirements:	
Front Yard	25 FT
Side Yard	10 FT
Rear Yard	15 FT
Maximum Building Height:	3 floors / 35'

**SURVEYOR'S CERTIFICATION**

To: Panda Restaurant Group, Inc; Old Republic National Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 5, 6, 9, 11b, 13, 14, 16, 17, 18, and 19 of Table A thereof. The field work was completed on May 26, 2023.

**Timothy C Jaskiewicz**  
Digitally signed by Timothy C Jaskiewicz  
Date: 2023.08.18 19:49:00 -0400  
Florida License No. 7416

It is a violation of the law for any person, unless acting under the direction of a licensed Architect, Engineer or Land Surveyor, to alter an item in any way. Plans, maps, specifications, studies, and reports not containing a red ink seal imprint on the cover sheet accompanied by an original signature by the licensed professional may have been fraudulently altered and shall not be considered an original copy. Copyright Protected 2022, Larson Design Group.

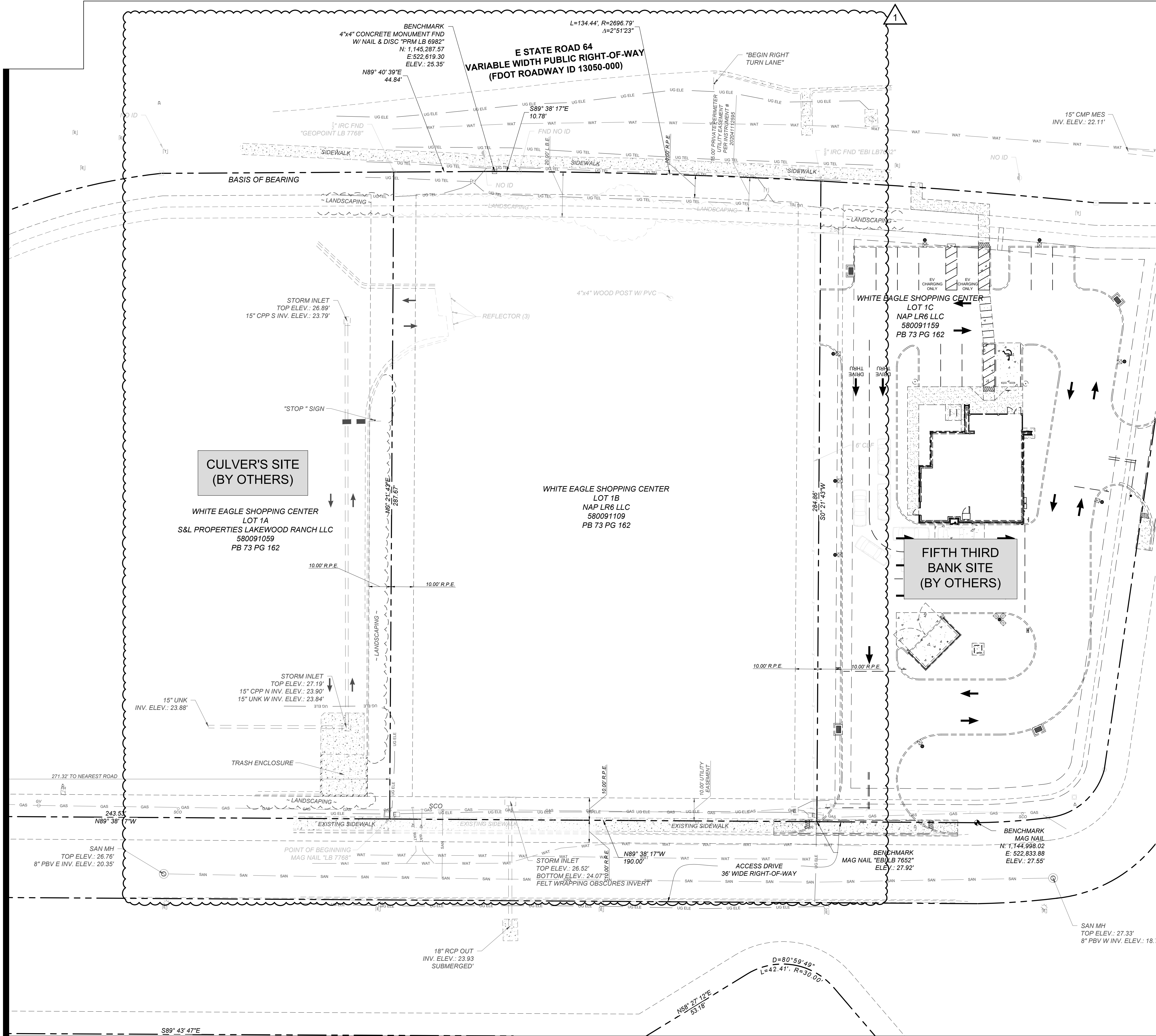
Professional Surveyor or Mapper  
License Number 7416  
STATE OF FLORIDA

PROJECT NO.: 1314-004  
SHEET NO.: 1 of 1  
C02.0

ALTA/NSPS Land Title Survey  
Lot 1B of White Eagle Shopping Center  
13028 SR 64 East  
Unincorporated Bradenton, Manatee County, Florida  
Larson Design Group • Architects Engineers Surveyors  
495 N Keller Road • Suite 101  
Maitland, FL 32751  
PHONE 889.229.2485 TOLL FREE 877.323.6603  
LB No. 8510 • www.larsondesigngroup.com

INGENIUM ENTERPRISES, INC.  
19445 Shumard Oak Drive Suite 102  
Land O' Lakes, Florida 34638  
PHONE 813.387.0084



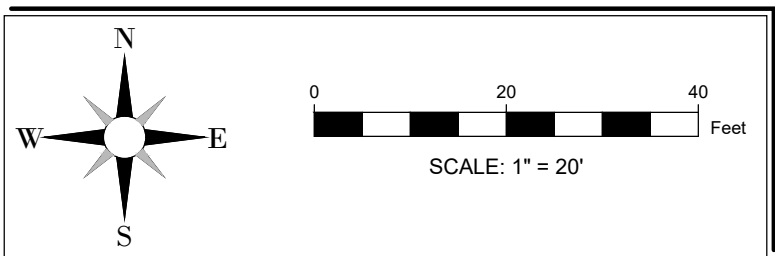


GENERAL NOTES SEE SHEET C01.1

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811



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REVISIONS:	DATE	DESCRIPTION
1	08/16/23	UPDATED WITH SURVEY INFO.

ISSUE DATE:	
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084  
FBPE CERT. OF AUTHORITY #8370

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JEREMY M. PETTIT, PE ON THE DATE ADJACENT TO THE SEAL ON THE COVER SHEET (C01.0).  
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

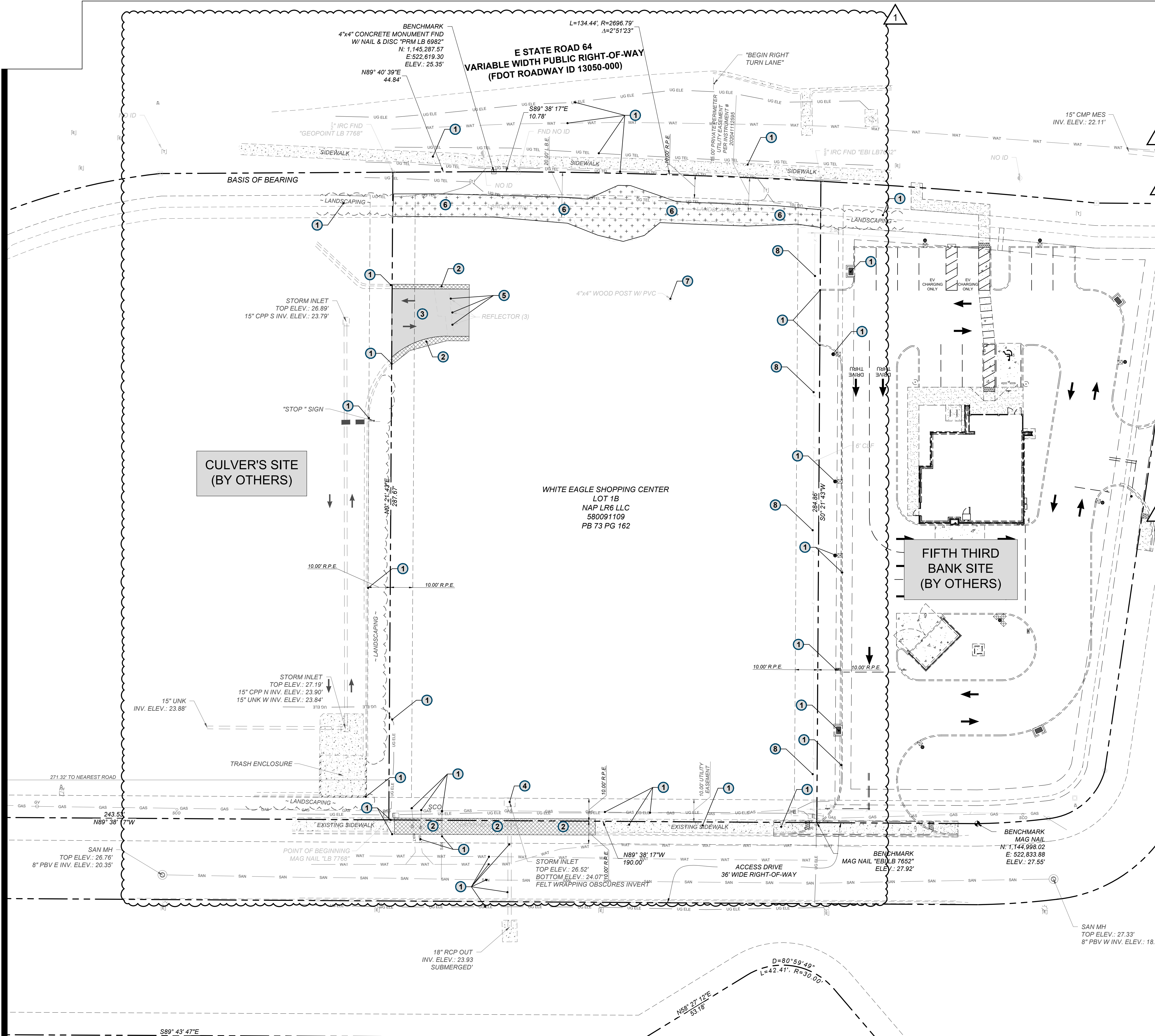
FUTURE CONDITION PLAN

C02.1

SHEET 4 OF 38

PANDA HOME R3





### 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. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR EXISTING OVERHEAD ELECTRICAL LINES.
- SAWCUT AND REMOVE EXISTING CONCRETE PAD, SIDEWALK, CURB AND GUTTER, AND ALL ASSOCIATED APPURTENANCES INCLUDING, BUT NOT LIMITED TO, REINFORCEMENT, AND STONE BASE.
- REMOVE EXISTING ASPHALT AND ALL ASSOCIATED APPURTENANCES INCLUDING, BUT NOT LIMITED TO, REINFORCEMENT AND STONE BASE.
- CONTRACTOR SHALL REMOVE STORM GRATE AND CLEAN OUT THE EXISTING INLET, THEN CONVERT STRUCTURE TO AN JUNCTION BOX AND RISE TO PROPOSED GRADE.
- CONTRACTOR SHALL REMOVE EXISTING SIGN AND ALL ASSOCIATED APPURTENANCES INCLUDING, BUT NOT LIMITED TO, REINFORCEMENT AND CONCRETE BASE.
- ALL EXISTING TREES IN ROW SHALL BE PROTECTED OR RELOCATED AS REQUIRED. PLEASE SEE THE LANDSCAPE PLANS FOR MORE DETAILS (SHEET L01.0)
- CONTRACTOR SHALL REMOVE EXISTING WOODEN POST.
- CONTRACTOR SHALL REMOVE EXISTING 6" CHAIN LINK FENCE.

THE OWNER IS RESPONSIBLE FOR ENSURING THAT NO LISTED SPECIES, INCLUDING, BUT NOT LIMITED TO, GOPHER TORTOISES OR THEIR BURROWS ARE LOCATED WITHIN THE PROJECT AREA. LISTED SPECIES, AND THEIR NESTS AND BURROWS, ARE PROTECTED BY LAW AND REQUIRE A PERMIT FOR RELOCATION. IF ANY ARE ENCOUNTERED, ALL CONSTRUCTION ACTIVITY MUST CEASE UNTIL A PERMIT IS OBTAINED. A COPY OF THE PERMIT SHALL BE SUBMITTED TO EPS WITHIN 30 DAYS OF PERMIT ISSUANCE.

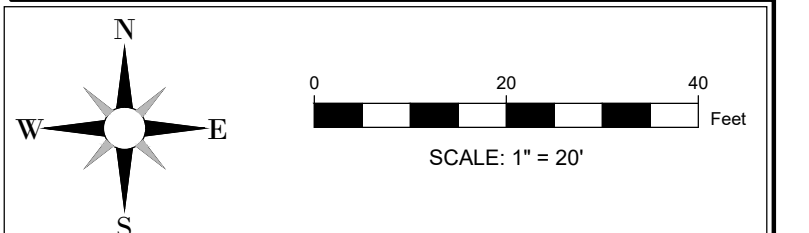
SHOULD DEWATERING BE NECESSARY FOR THE PROJECT, THE CONTRACTOR SHALL SUBMIT A SEPARATE DEWATERING PLAN TO EPS STAFF FOR REVIEW, AND APPROVAL, PRIOR TO COMMENCEMENT OF ANY DEWATERING.

GENERAL NOTES SEE SHEET C01.1

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811



PANDA EXPRESS, INC.  
1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770  
TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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REVISIONS:	REVISED DEMO PLAN AND REQUIREMENTS, ADD DEWATER NOTE	
	DATE	DESCRIPTION
1	08/16/23	

ISSUE DATE:	
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
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LAND O LAKES, FL 34638  
PHONE: (813) 387-0084  
FBPE CERT. OF AUTHORITY #8370

THE ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JEREMY M. PETTIT, PE ON THE DATE ADJACENT TO THE SEAL ON THE COVER SHEET (C01.0).

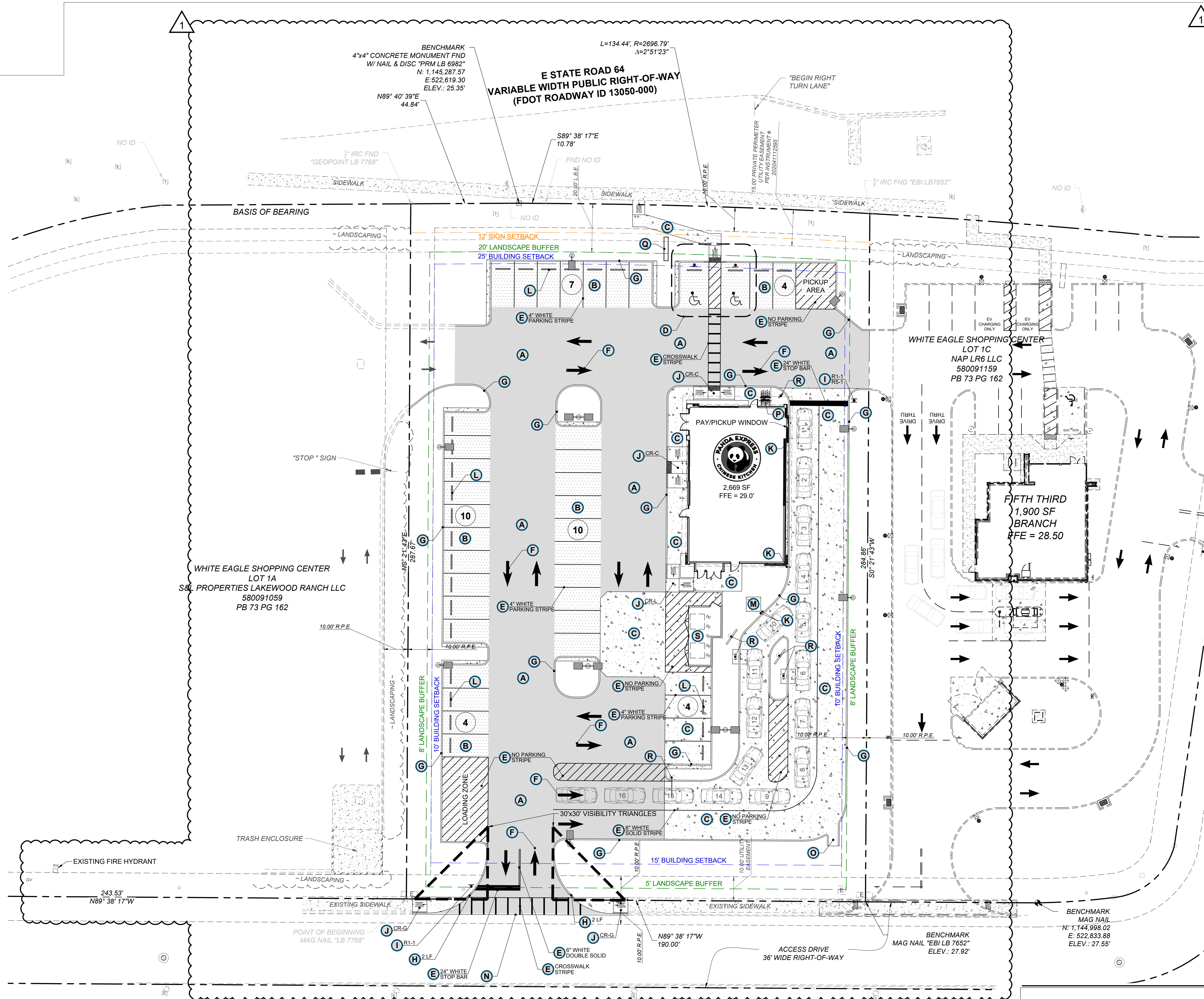
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DEMOLITION PLAN

C02.2  
SHEET 5 OF 38

PANDA HOME R3





SITE LEGEND

- A** HEAVY DUTY ASPHALT PAVEMENT SECTION: DETAIL 02, SHEET C03.2
- B** LIGHT DUTY ASPHALT PAVEMENT SECTION: DETAIL 02, SHEET C03.2
- C** CONCRETE SECTIONS: PAVEMENT: DETAIL 01, SHEET C03.2 SIDEWALKS: DETAIL 04, SHEET C03.2
- D** ACCESSIBLE AREA & PAVEMENT MARKINGS: DETAIL 03, SHEET C03.2
- E** STRIPING & PAVEMENT MARKINGS: DETAIL 01, SHEET C03.3
- F** DIRECTIONAL ARROWS: DETAIL 06, SHEET C03.3
- G** HEADER CURB (TYP.): DETAIL 02, SHEET C03.3
- H** CURB TRANSITIONS: DETAIL 03, SHEET C03.3
- I** SITE SIGNAGE: DETAIL 04, SHEET C03.3
- J** SIDEWALK RAMP: DETAIL 04, SHEET C03.4
- K** BOLLARD DETAIL: DETAIL 05, SHEET C03.3
- L** WHEELSTOP DETAIL: DETAIL 07, SHEET C03.3
- M** TRANSFORMER PAD: DETAIL 08, SHEET C03.3
- N** VALLEY GUTTER: DETAIL 01, SHEET C03.4
- O** FLUME: DETAIL 09, SHEET C03.3
- P** BIKE RACK: DETAIL 02, SHEET C03.4
- Q** MONUMENT SIGN: SEE SIGNAGE PLANS.
- R** DRIVE-THRU ORDERING ELEMENTS: SEE ARCHITECTURAL PLANS.
- S** DUMPSTER ENCLOSURE: SEE ARCHITECTURAL PLANS.

SITE INFORMATION

JURISDICTION: MANATEE COUNTY, FLORIDA  
FDOT: 2023-D-194-00024  
ZONING: PLANNED DEVELOPMENT MIXED USE (PD-MU) ORDINANCE PDMU-06-30(G)(R7)

REQUIRED BUILDING SETBACKS:  
FRONT: 25'  
SIDE: 10'  
SIDE: 10'  
REAR: 15'

REQUIRED PARKING:  
ONE (1) SPACE PER 80 GFA OR ONE (1) SPACE PER EVERY 1/2 SEATS.  
- 2,600 SF / 80 SF = 32.5 = 33 SPACES  
- 48 SEATS \* 1/2 SEAT = 24 SPACES  
- THEREFORE, 33 SPACES REQUIRED

PROPOSED PARKING :  
9.5' X 19' (REGULAR) = 37  
12' X 19' (HC) = 02  
TOTAL = 39

BICYCLE PARKING:  
- MIN. REQUIRED = 2 SPACES  
- PROVIDED = 4 SPACES

DRIVE AISLE: 24'

SITE AREA CALCULATIONS:  
SITE: ±1.25 AC.  
PERVIOUS AREA: ±0.36 AC.  
IMPERVIOUS AREA: ±0.89 AC.  
DISTURBED AREA: ±1.25 AC.

OPEN SPACE CALCULATIONS:  
- MIN. REQUIRED: 20%  
- PROPOSED: 0.36 AC. / 1.25 AC = 0.288 = 29%

BUILDING INFORMATION:  
HEIGHT = 23'-3"  
NUMBER OF STORIES = 1 STORY  
SEATS = 48 INTERIOR  
TOTAL AREA = 2,600 SF  
CONSTRUCTION TYPE = V-B  
NUMBER OF EMPLOYEES = 7 EMPLOYEES DURING THE BUSIEST SHIFT  
OCCUPANCY LOAD = 100 PEOPLE

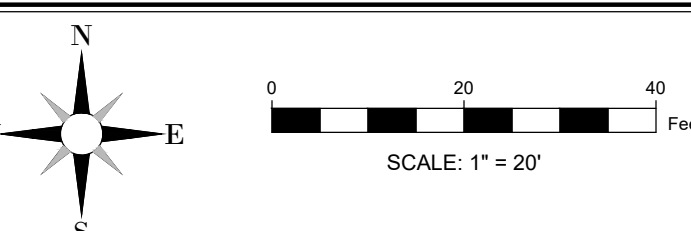
FLOOD HAZARD:  
NO PORTION OF THIS PROPERTY IS LOCATED IN A SPECIAL FLOOD AREA AS PER F.I.R.M. MAP NO. 12081C0331E, DATED 03/17/2014.

BASE/EXISTING INFORMATION:  
- EXISTING CONDITIONS WAS PROVIDED BY LARSON DESIGN GROUP, DATED 06/07/2023 (SEE SHEET C02.0).  
- THE FIFTH THIRD BANK WAS DESIGNED BY INFINITY ENGINEERING GROUP, LLC, DATED 05/27/2022.  
- ELEVATION DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988.



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811

SITE & BUILDING AREA NOTES SEE SHEET C01.1



ALL OF THE SIGNING AND PAVEMENT MARKINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MUTCD, FDOT DESIGN STANDARDS AND THE MANATEE COUNTY PUBLIC WORKS DEPARTMENT HIGHWAY, TRAFFIC STANDARDS MANUAL.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY



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REVISIONS:	REVISIONS	DATE
1	REVISED SITE PLAN, UPDATED LEGEND, ADD NOTES	08/16/23

ISSUE DATE:	DATE
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM  
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LAND O LAKES, FL 34638  
PHONE: (813) 387-0084  
FBPE CERT. OF AUTHORITY #8370

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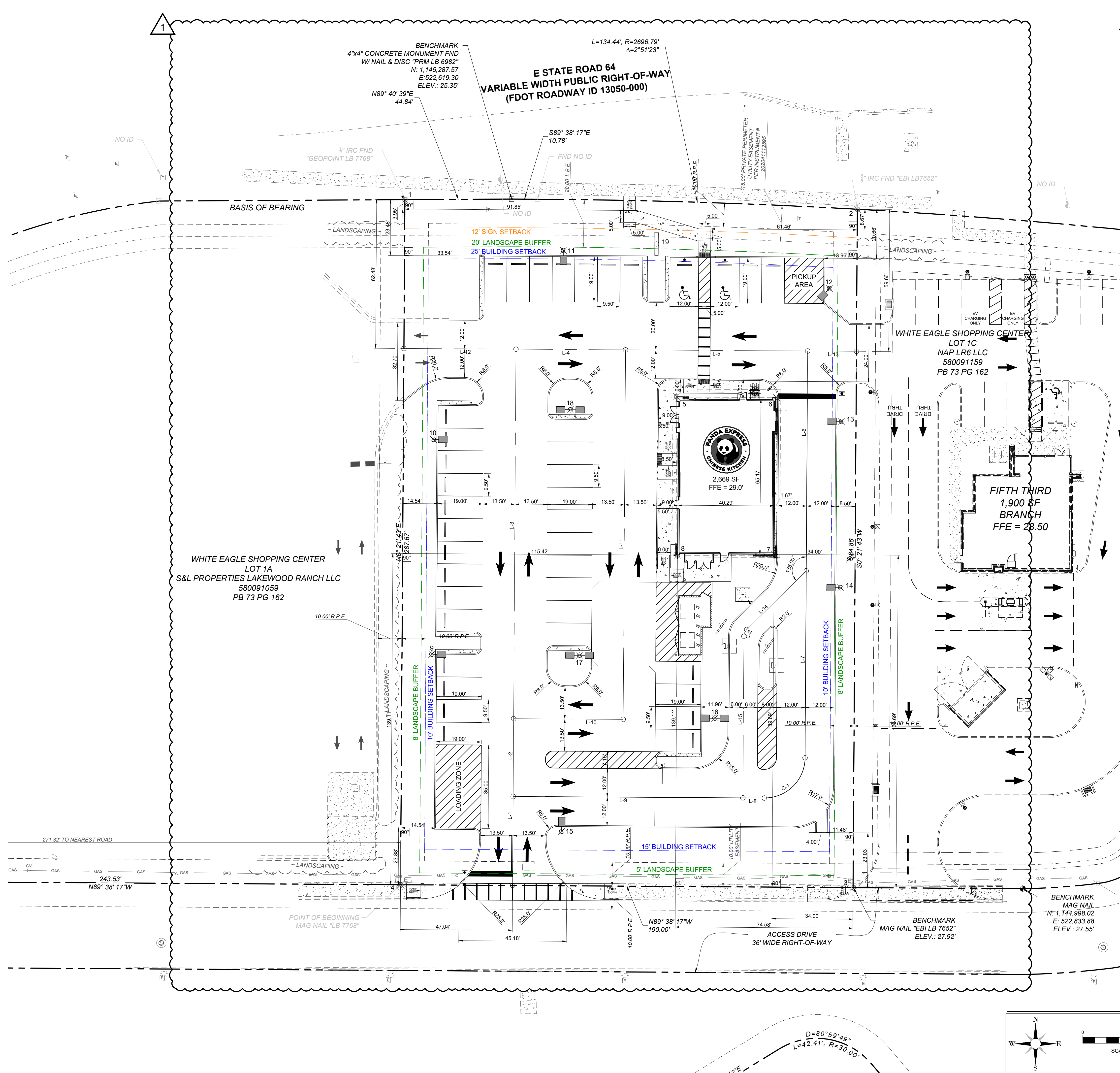
SITE PLAN

C03.0

SHEET 6 OF 38

PANDA HOME R3





CURVE TABLE				
CURVE #	LENGTH	RADIUS	DELTA	CHORD LENGTH
C-1	26.70'	17.00'	90.0000	24.04'
C-2	3.14'	4.00'	45.0000	3.06'

LINE TABLE				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L-1	37.38'	S00°21'43"W	522619.92, 1145036.73	522619.69, 1144999.36
L-2	32.65'	S00°21'43"W	522620.13, 1145069.38	522619.92, 1145036.73
L-3	155.17'	S00°21'43"W	522621.11, 1145224.55	522620.13, 1145069.38
L-4	46.00'	S89°38'17"E	522621.11, 1145224.55	522667.11, 1145224.26
L-5	76.46'	S89°38'17"E	522667.11, 1145224.26	522743.56, 1145223.77
L-6	92.32'	S00°21'43"W	522743.56, 1145223.77	522742.98, 1145131.46
L-7	78.50'	S00°21'43"W	522742.98, 1145131.46	522742.48, 1145052.96
L-8	9.00'	S89°38'17"E	522716.38, 1145036.13	522725.38, 1145036.07
L-9	96.46'	S89°38'17"E	522619.92, 1145036.73	522716.38, 1145036.13
L-10	46.00'	S89°38'17"E	522620.13, 1145069.38	522666.13, 1145069.09
L-11	155.17'	S00°21'43"W	522667.11, 1145224.26	522666.13, 1145069.09
L-12	47.04'	S89°38'17"E	522574.07, 1145224.84	522621.11, 1145224.55
L-13	20.50'	S89°38'17"E	522743.56, 1145223.77	522764.06, 1145223.64
L-14	35.11'	S45°21'43"W	522742.98, 1145131.46	522718.00, 1145106.78
L-15	67.84'	S00°21'43"W	522716.81, 1145103.96	522716.38, 1145036.13

STAKING POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
1	PROPERTY CORNER (NW)	1145287.3186	522574.4617
2	PROPERTY CORNER (NE)	1145283.3015	522764.4402
3	PROPERTY CORNER (SE)	1144998.4541	522762.6407
4	PROPERTY CORNER (SW)	1144999.6544	522572.6445
5	BUILDING CORNER (NW)	1145204.6194	522688.6082
6	BUILDING CORNER (NE)	1145204.3557	522730.3574
7	BUILDING CORNER (SE)	1145138.3596	522729.5238
8	BUILDING CORNER (SW)	1145138.0327	522688.9376
9	LIGHT POLE #1	1145096.4513	522585.7979
10	LIGHT POLE #2	1145186.6995	522586.3680
11	LIGHT POLE #3	1145265.9206	522641.1195
12	LIGHT POLE #4	1145249.9550	522752.7709
13	LIGHT POLE #5	1145194.1816	522757.8770
14	LIGHT POLE #6	1145124.3422	522757.4358
15	LIGHT POLE #7	1145022.1054	522640.3293
16	LIGHT POLE #8	1145069.6002	522704.6098
17	LIGHT POLE #9	1145096.0424	522647.7965
18	LIGHT POLE #10	1145199.0687	522643.9473
19	CENTER OF MONUMENT SIGN	1145268.6742	522680.1377

SITE & BUILDING AREA NOTES SEE SHEET C01.1

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811



PANDA EXPRESS, INC.

1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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REVISIONS:  
08/16/23  
REVISED SITE PLAN AND UPDATED THE STAKING

ISSUE DATE:

DEVELOPER REVIEW 01/20/23  
PERMIT SET 04/04/23  
PERMIT SET 08/16/23  
CONSTRUCTION XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084

FBPE CERT. OF AUTHORITY #8370

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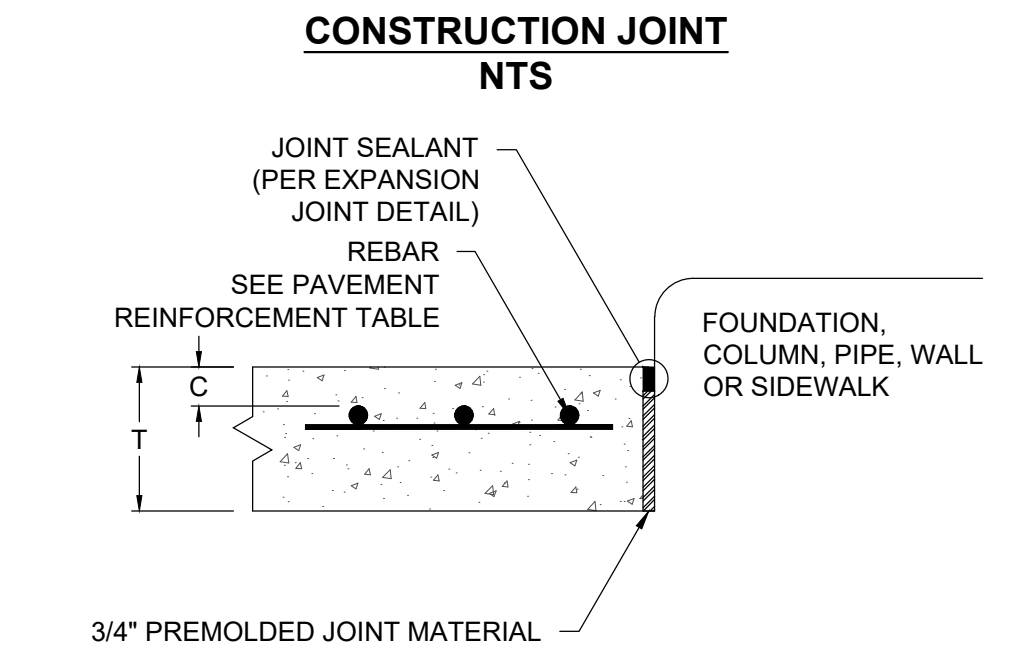
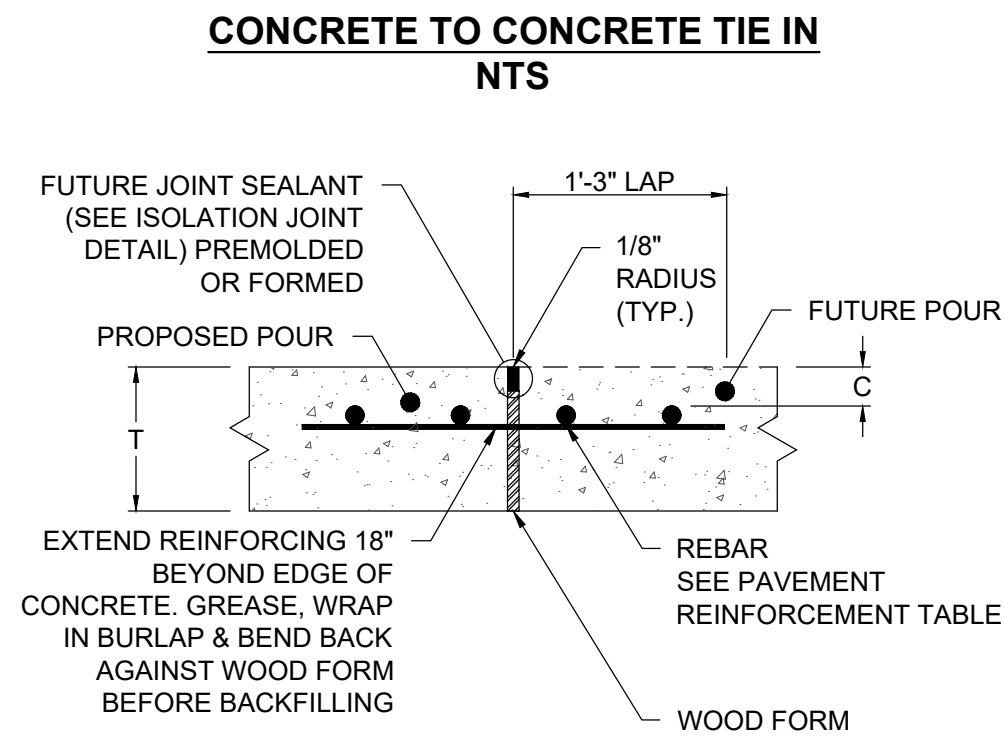
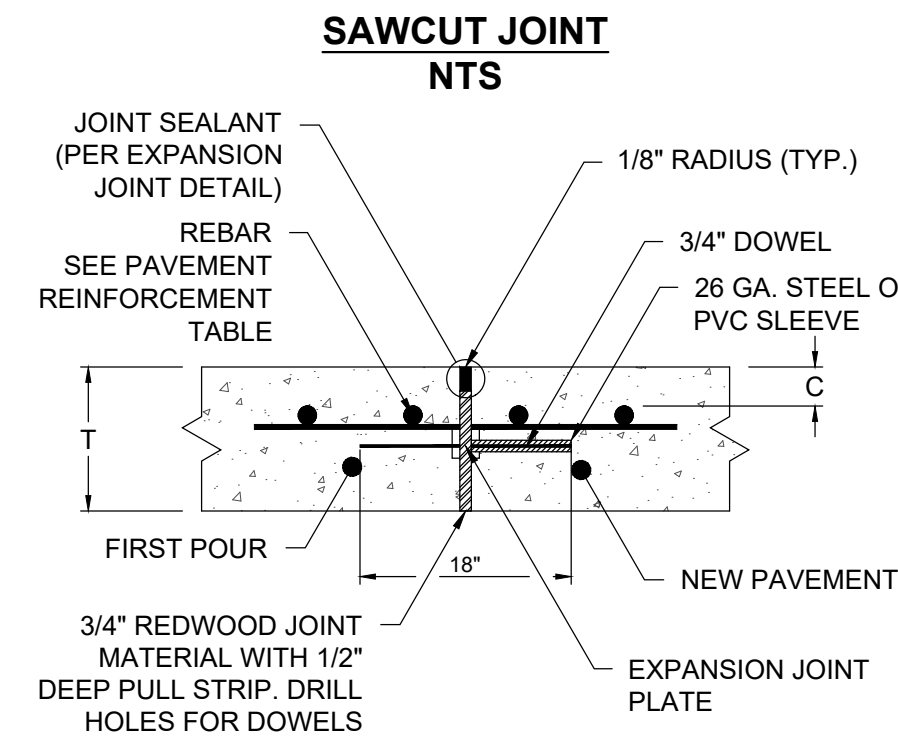
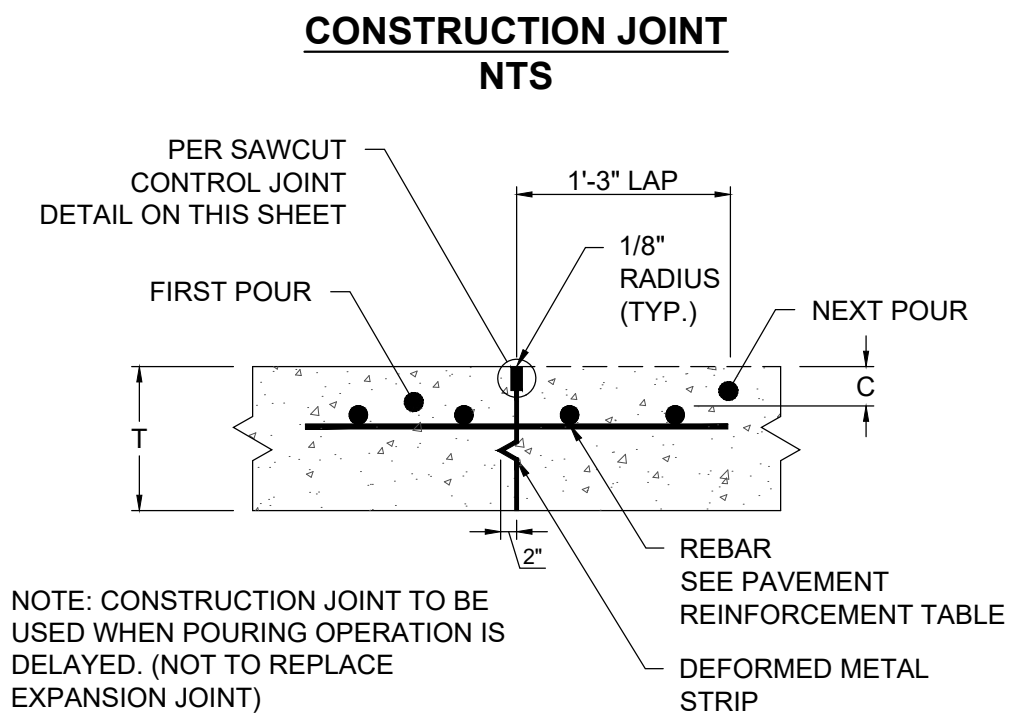
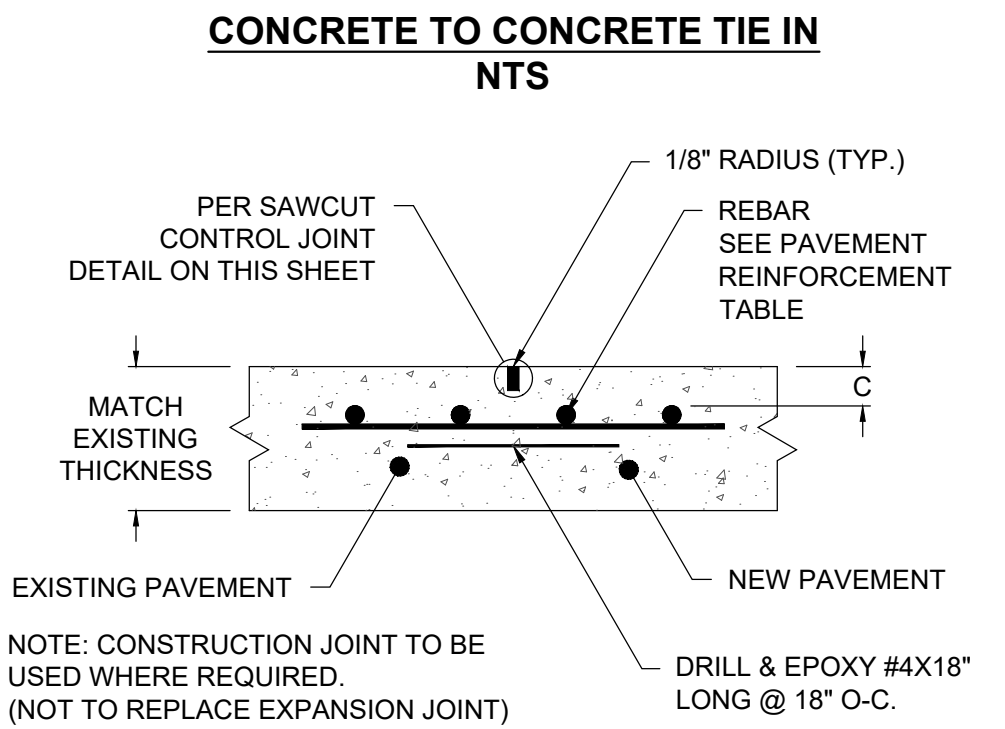
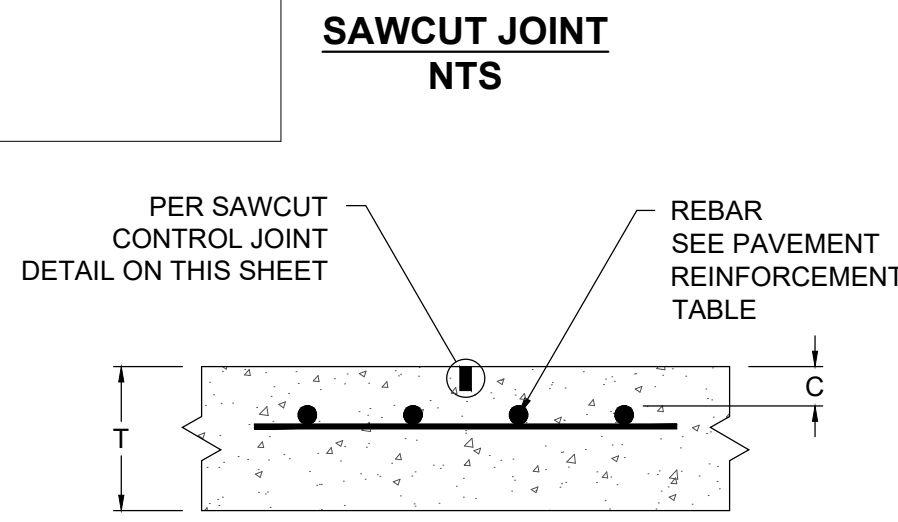
STAKING PLAN

C03.1

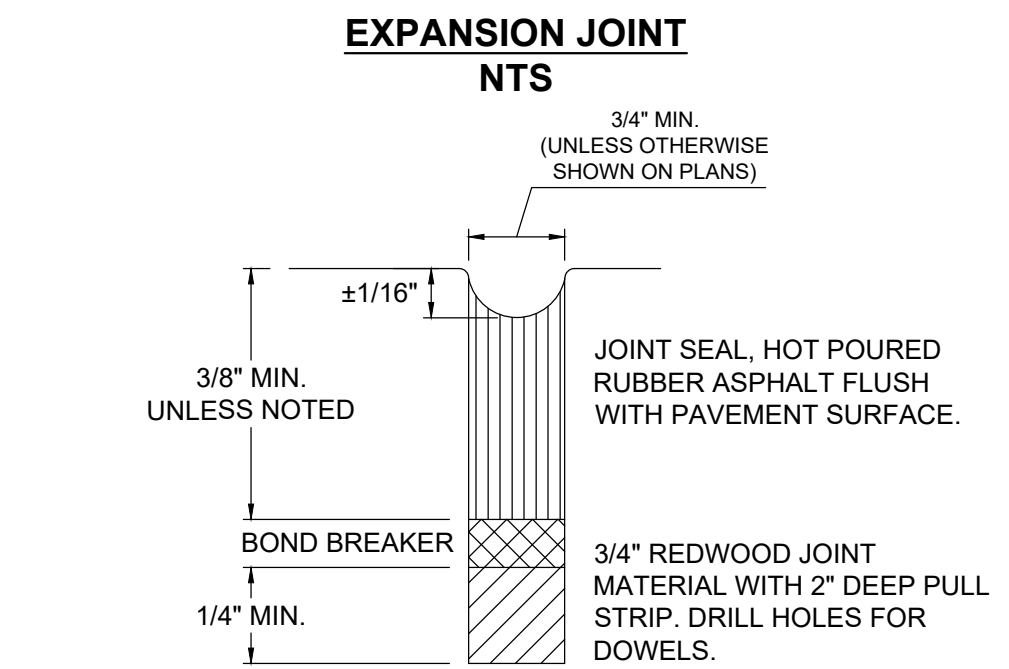
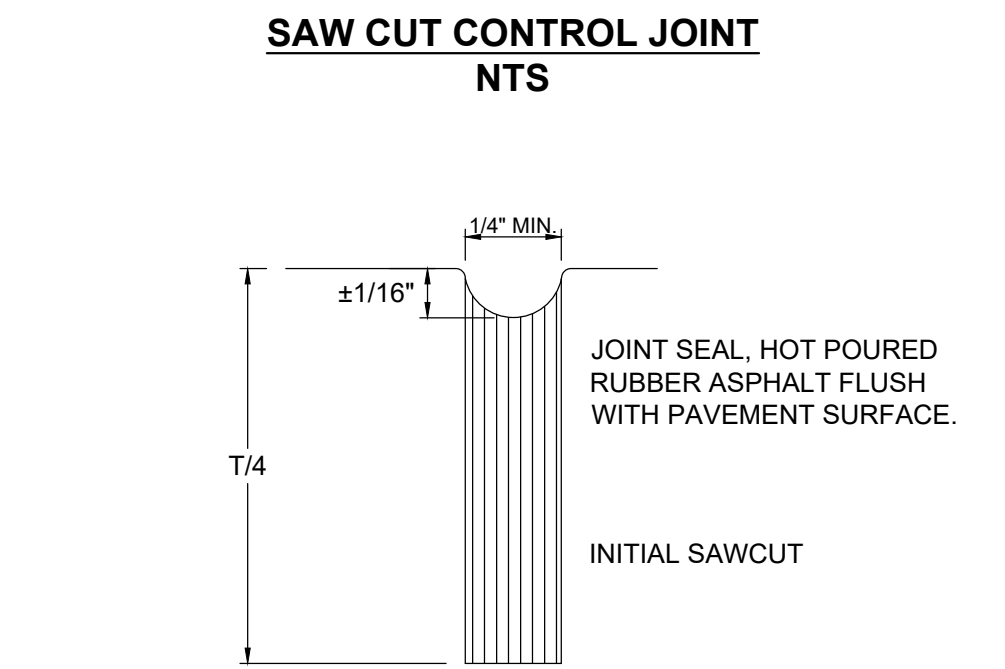
SHEET 7 OF 38

PANDA HOME R3

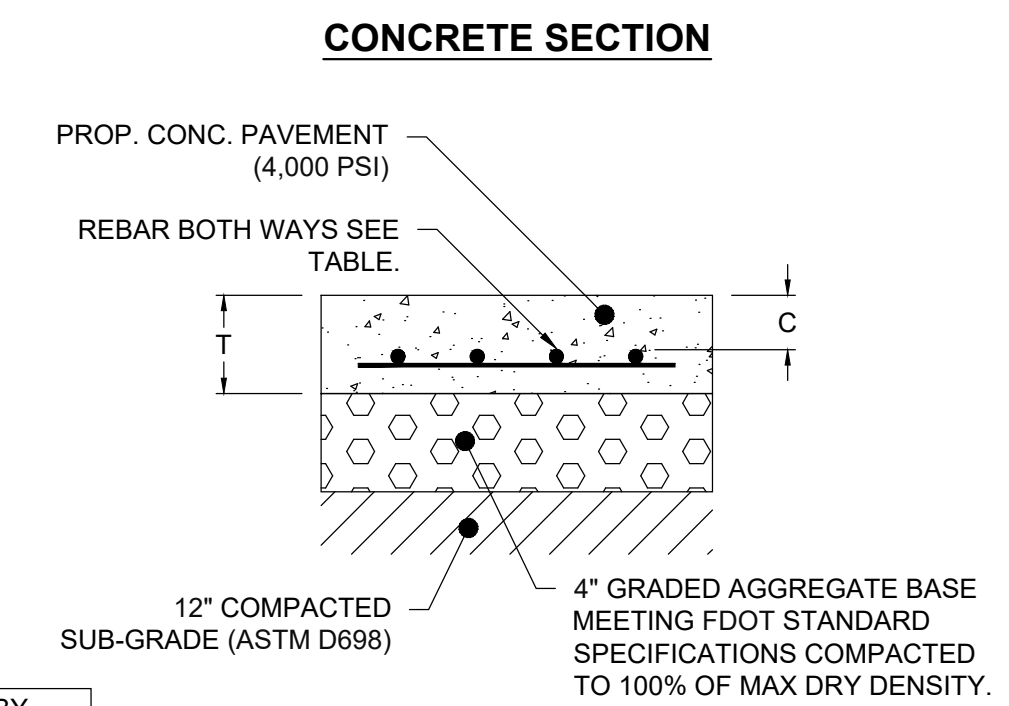




- NOTES:
1. REINFORCING STEEL BAR SIZE/SPACING SPECIFICATIONS IN GEOTECH REPORT SHALL SUPERSEDE ABOVE TABLE.
  2. REINFORCING STEEL SIZE/SPACING IS BASED ON MIN. 60,000 PSI TENSILE STRENGTH REINFORCING STEEL AS SHOWN.
  3. CONCRETE PAVING MIX DESIGN SHALL HAVE MINIMUM 4000 PSI COMPRESSIVE STRENGTH AT 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\"/>



REINFORCEMENT TABLE				
CONCRETE SECTION DESIGNATION	SLAB THICKNESS (T) (IN.)	COVER (IN.) (2" MIN)	MAX EXPANSION JOINT SPACING (FT)	REINFORCING STEEL BAR SIZE & SPACING
				60,000 PSI STEEL
PARKING	5	2	10' x 10'	#3 @ 24" C.C
DUMPSTER APPROACH PAD	7	2	12' x 12'	#3 @ 24" C.C
DRIVE-THRU	7	2	12' x 12'	#3 @ 24" C.C



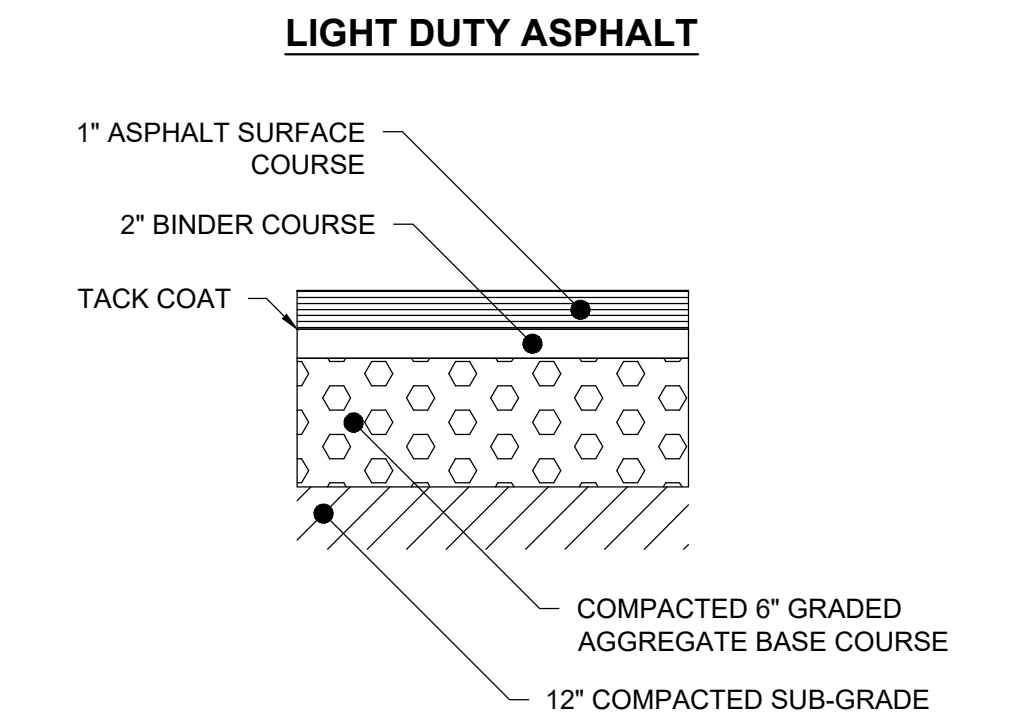
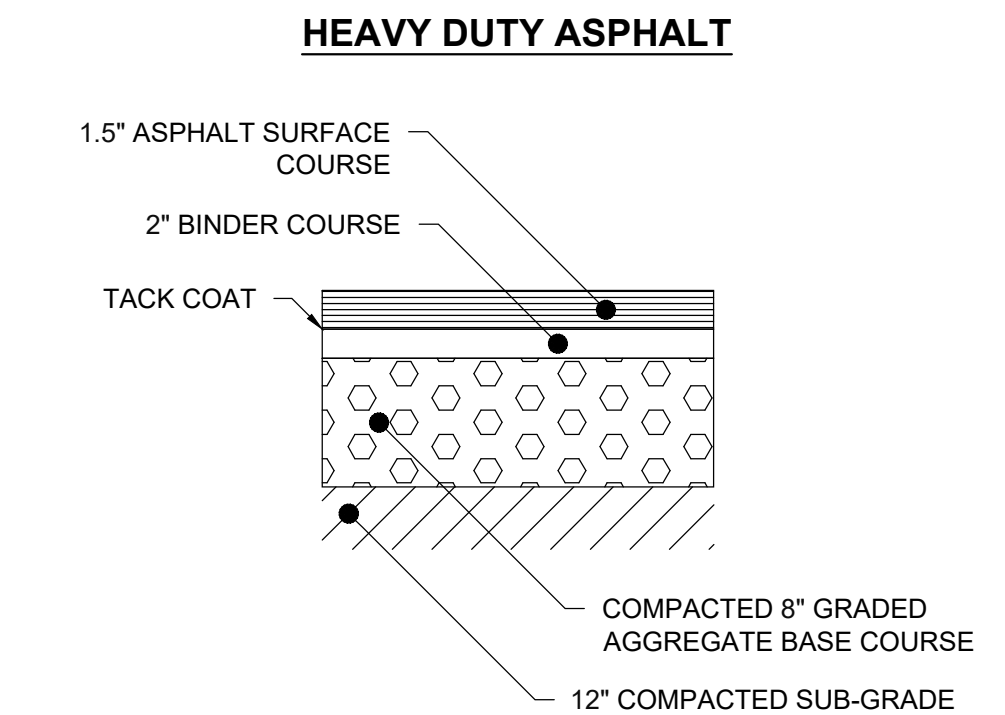
## 1 CONCRETE SECTIONS

**NOTE:**

THE ASPHALT SURFACE COURSE SHOULD CONFORM TO THE MOST RECENT EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, FOR HOT MIX ASPHALTIC CONCRETE SURFACE COURSE.

THE SUBGRADE MATERIALS TO A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 40, AS SPECIFIED BY FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) REQUIREMENTS FOR TYPE B STABILIZED SUBGRADE. THE SUBGRADE MATERIAL SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557, AASHTO T-180) VALUE.

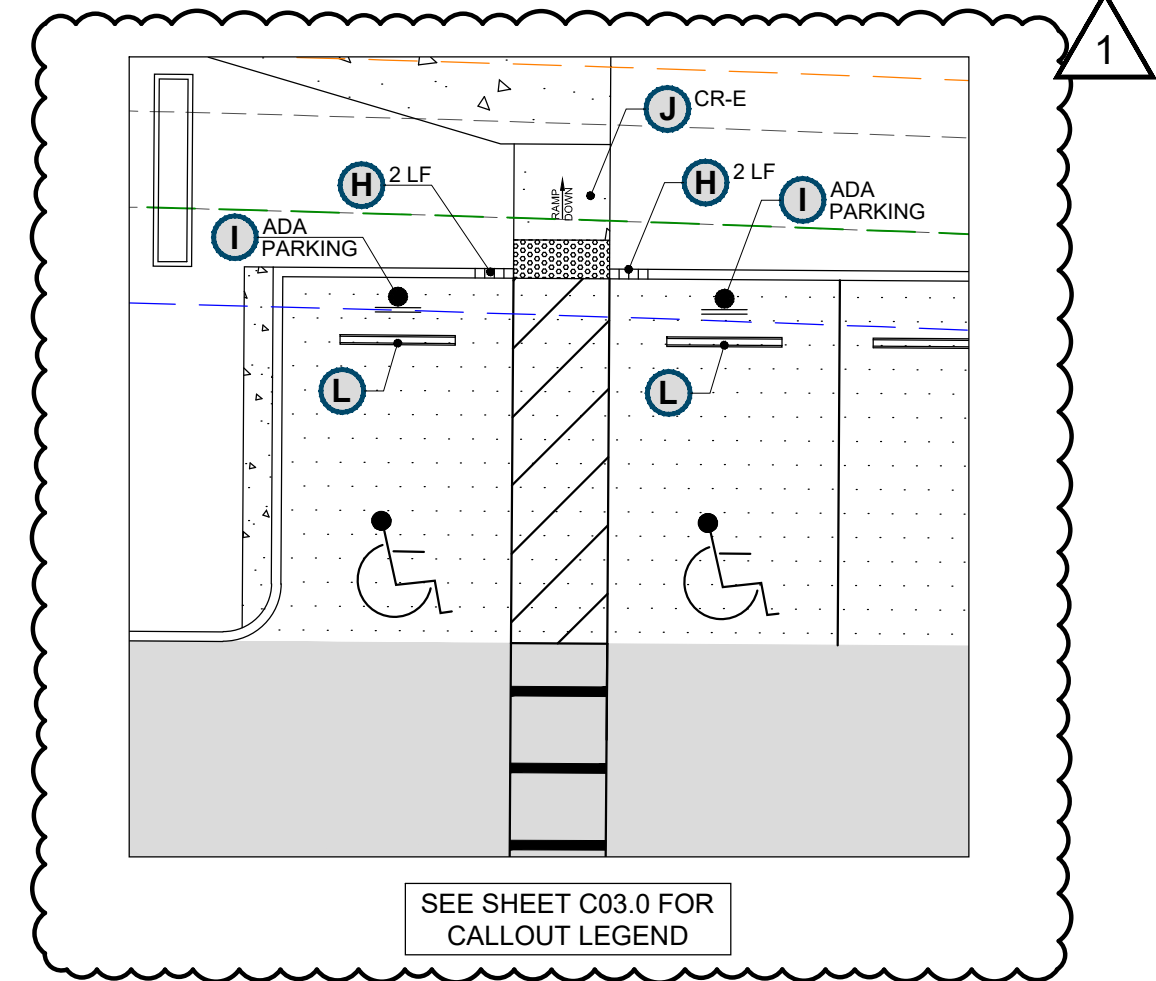
THE BASE COURSE SHALL CONSIST OF APPROVED, CRUSHED CONCRETE, BANK RUN SHELL OR LIMEROCK MATERIAL. THE BASE COURSE MATERIAL SHOULD HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 100 AND SHOULD BE COMPACTED TO 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557, AASHTO T-180) VALUE.



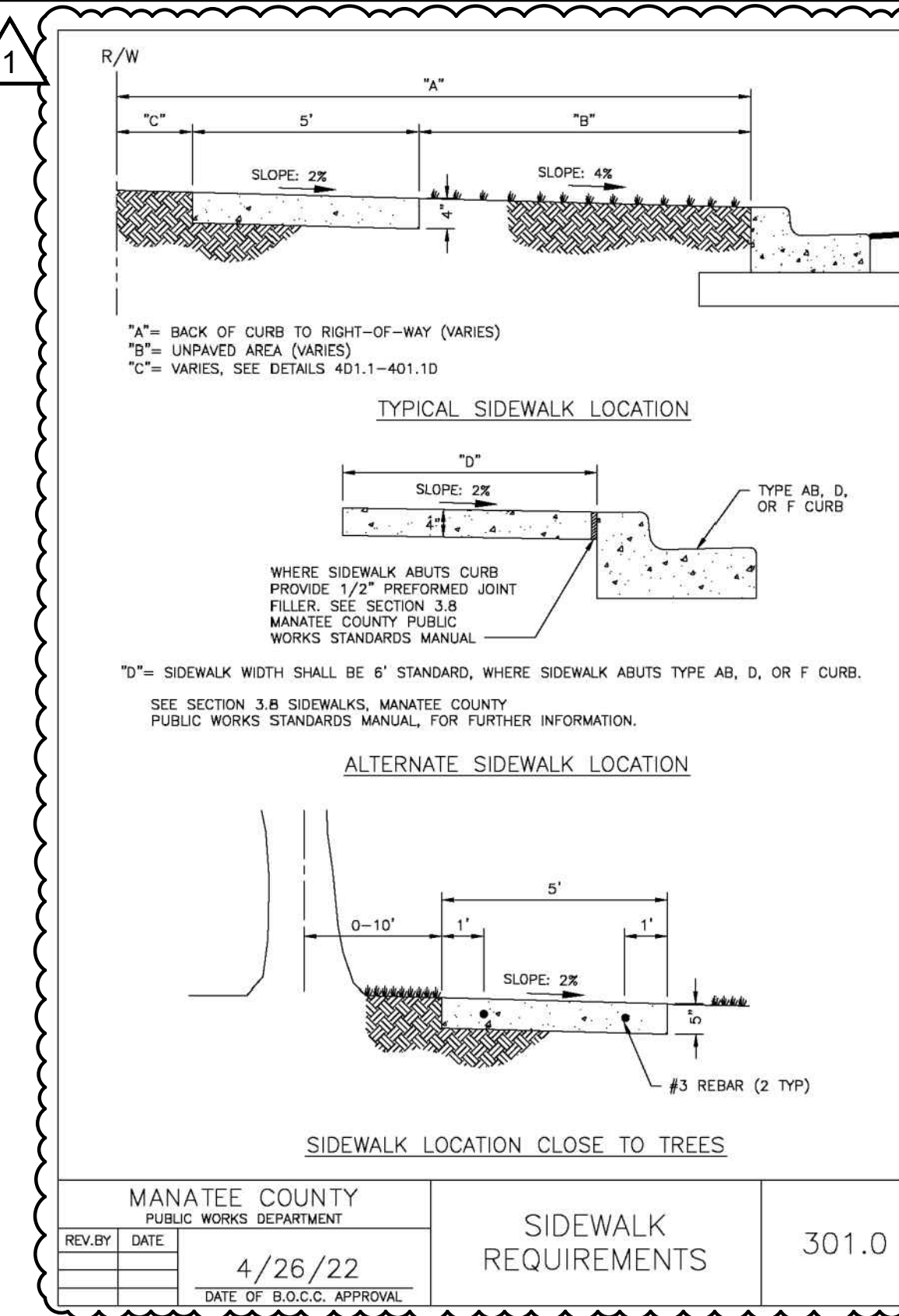
## 2 PAVEMENT SECTION

THESE PLANS WERE PREPARED USING THE GEOTECH REPORT PREPARED BY UNIVERSAL ENGINEERING SERVICES DATED 02/25/2020. THIS REPORT WAS PREPARED FOR THE PUBLIC WITHIN THE OVERALL DEVELOPMENT AND WAS PROVIDED TO INGENIUM BY PUBLIX. INGENIUM RECOMMENDS THAT PANDA EXPRESS PERFORM NEW GEOTECHNICAL TESTING PRIOR TO CONSTRUCTION START

## 3 ADA PARKING



## 4 SIDEWALKS



**PANDA EXPRESS, INC.**  
1883 WALNUT GROVE AVE,  
ROSEMEAD, CALIFORNIA 91770  
TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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REVISIONS:	
08/16/23	ADDED COUNTY SIDEWALK DETAIL

ISSUE DATE:	
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

**DRAWN BY:** JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



**INGENIUM ENTERPRISES, INC.**  
19445 SHUMARD OAK DR.  
SUITE 102  
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PHONE: (813) 387-0084  
FBPE CERT. OF AUTHORITY #8370

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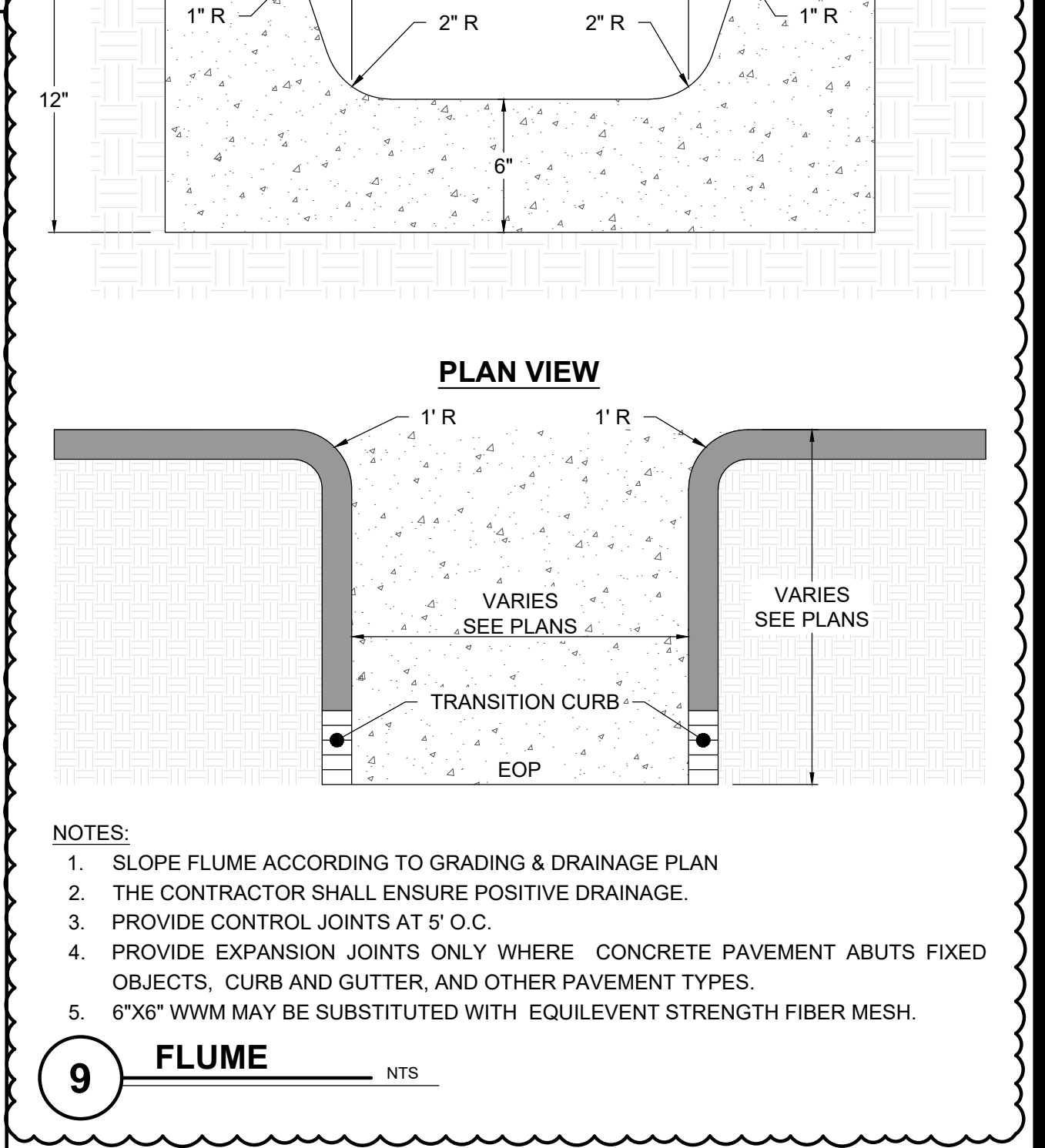
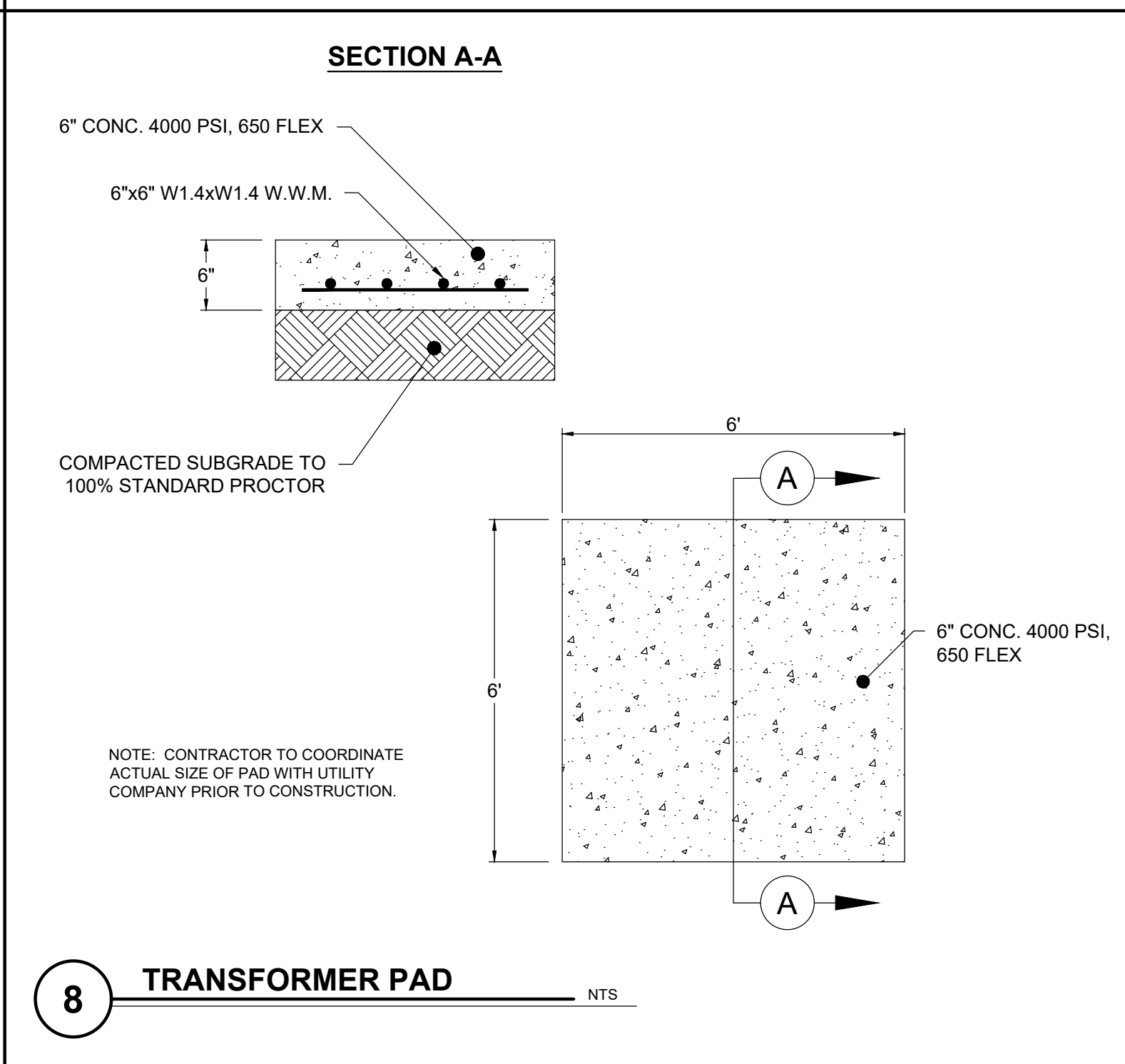
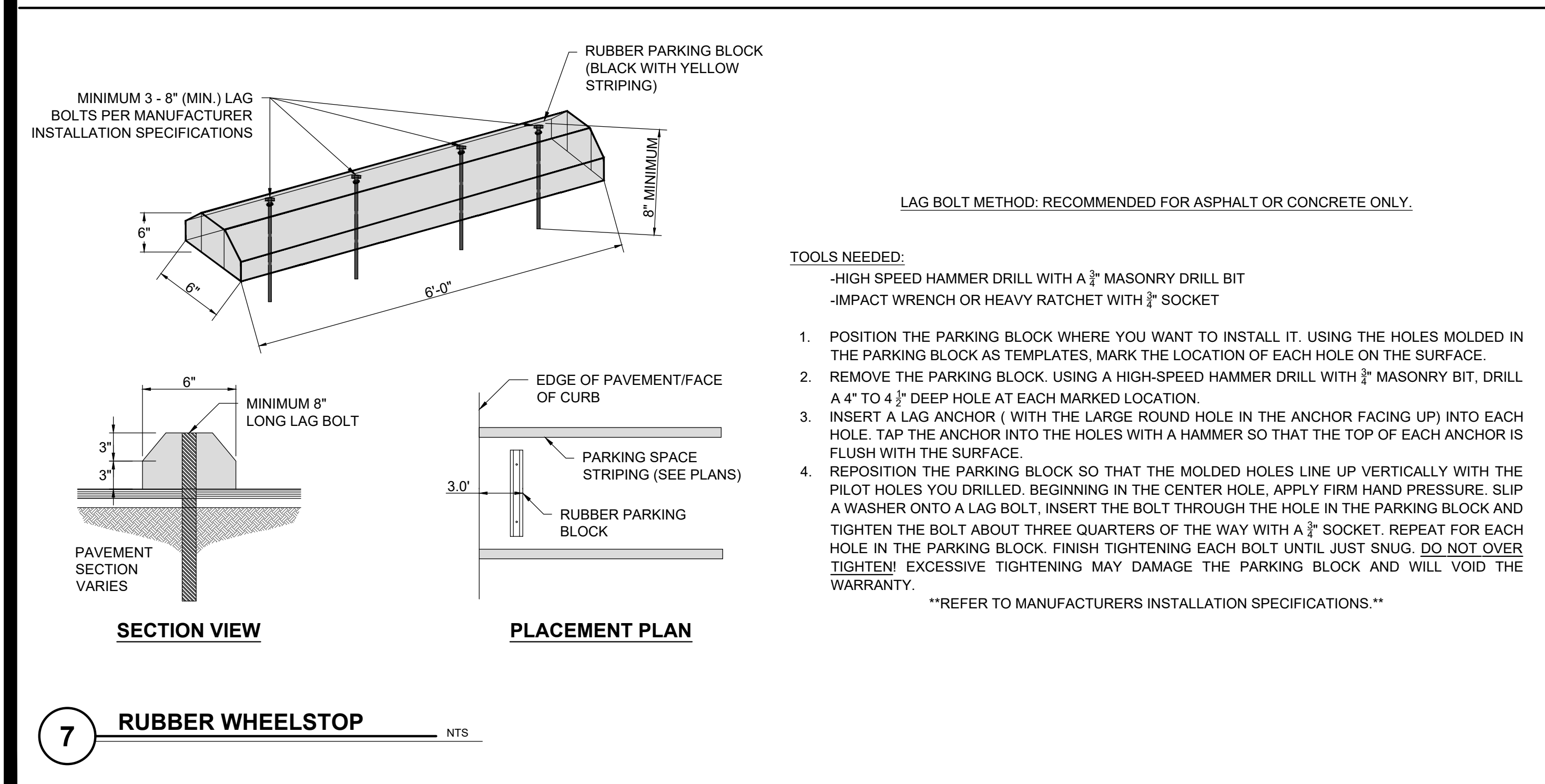
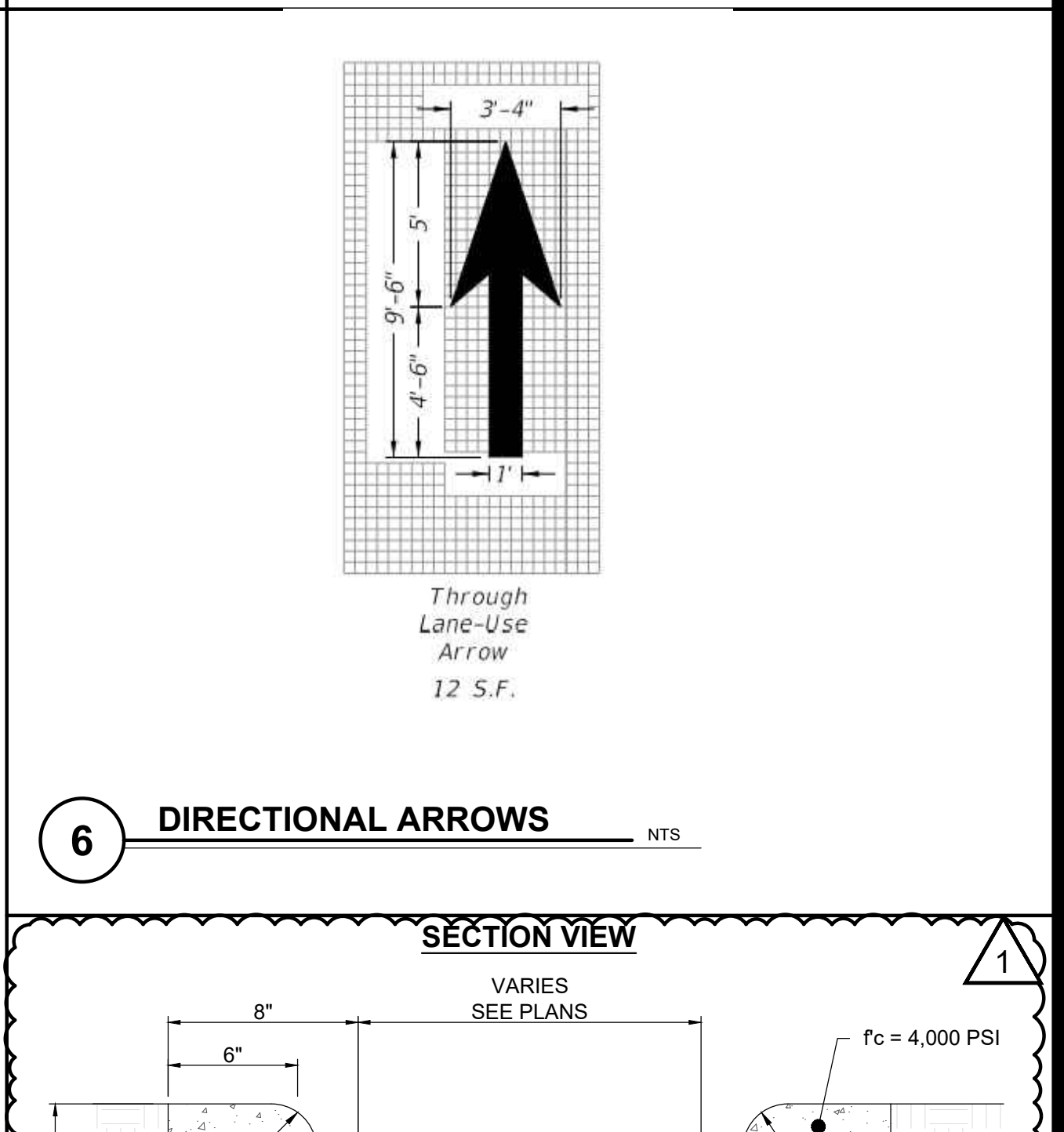
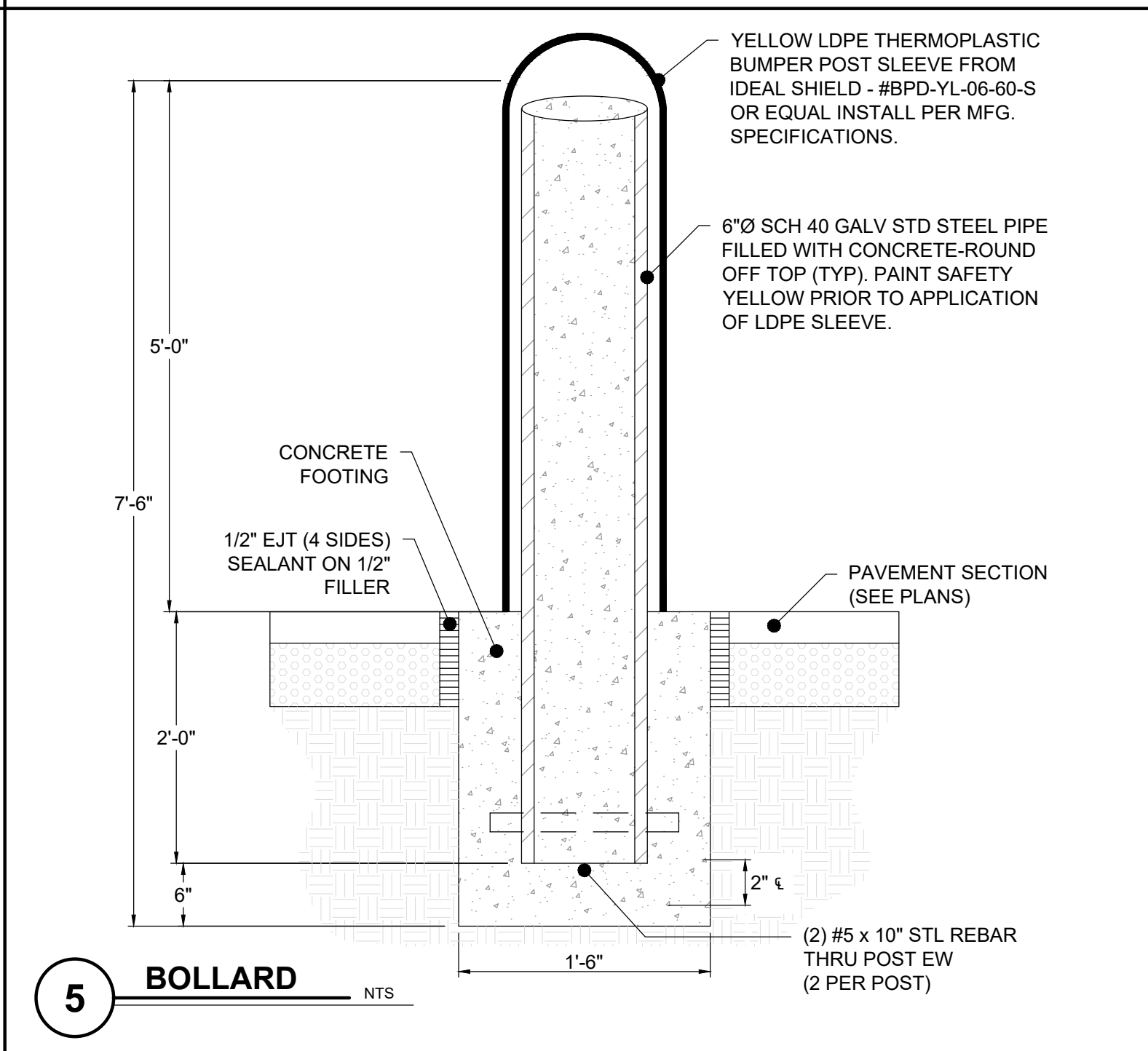
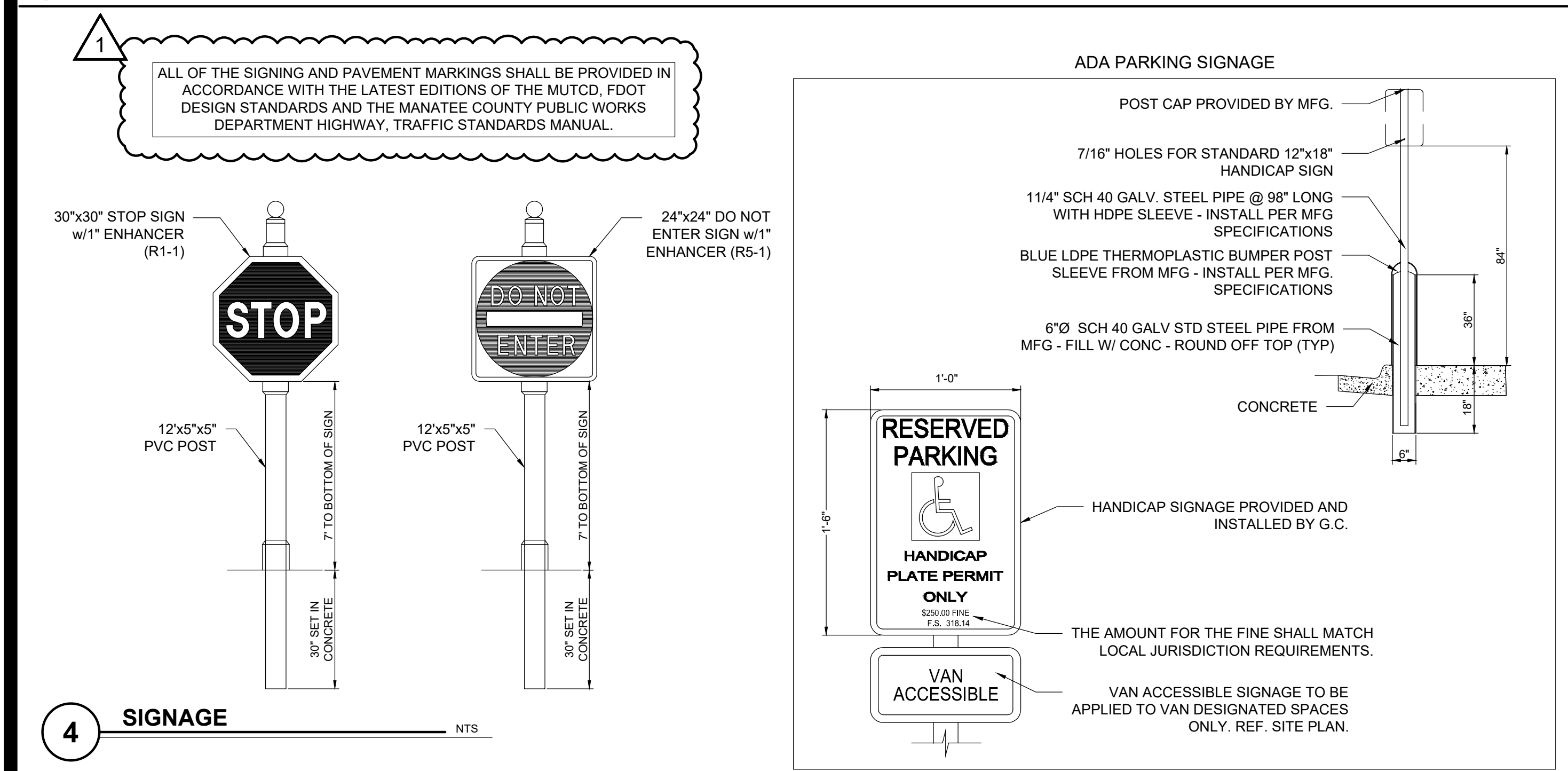
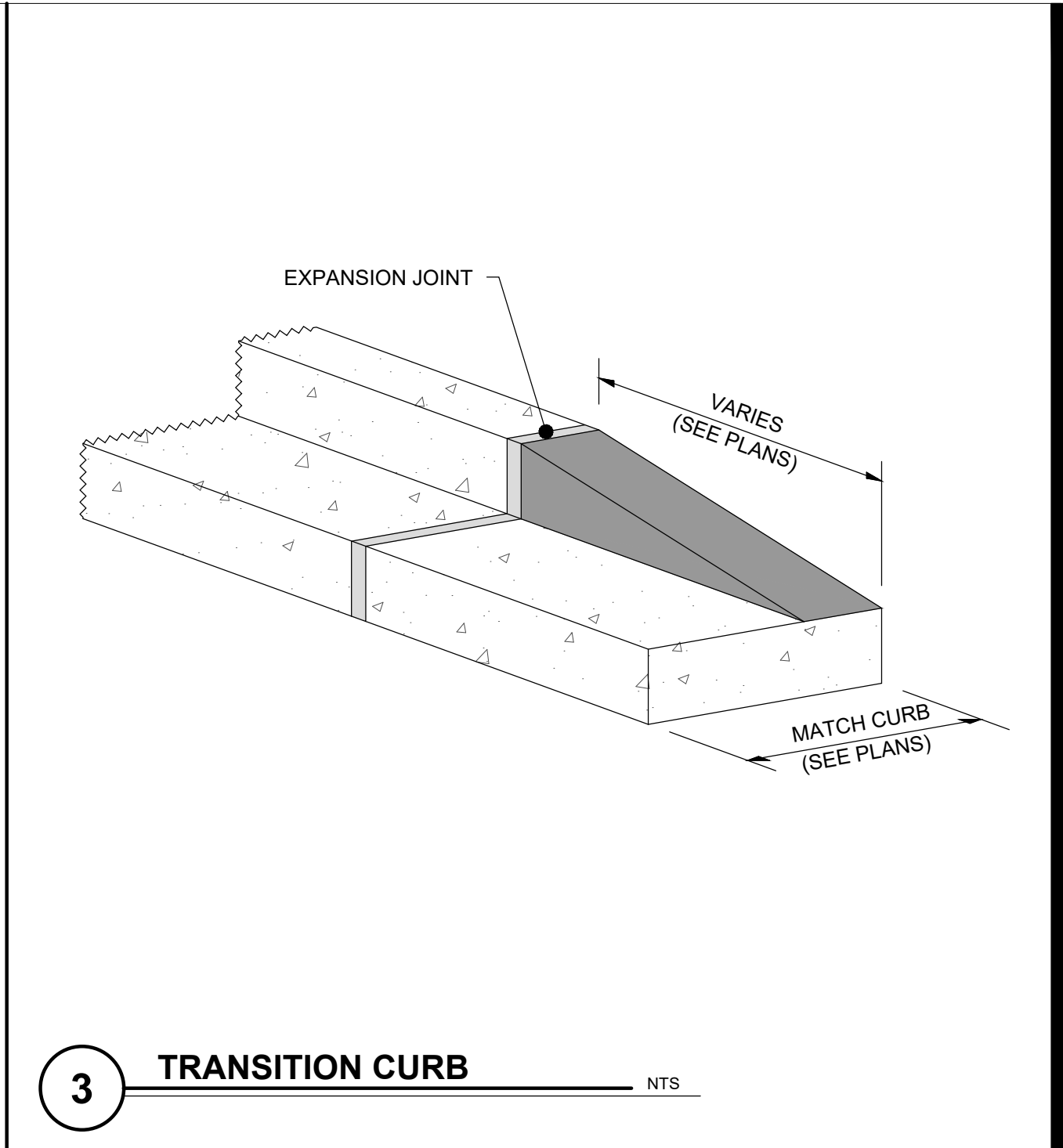
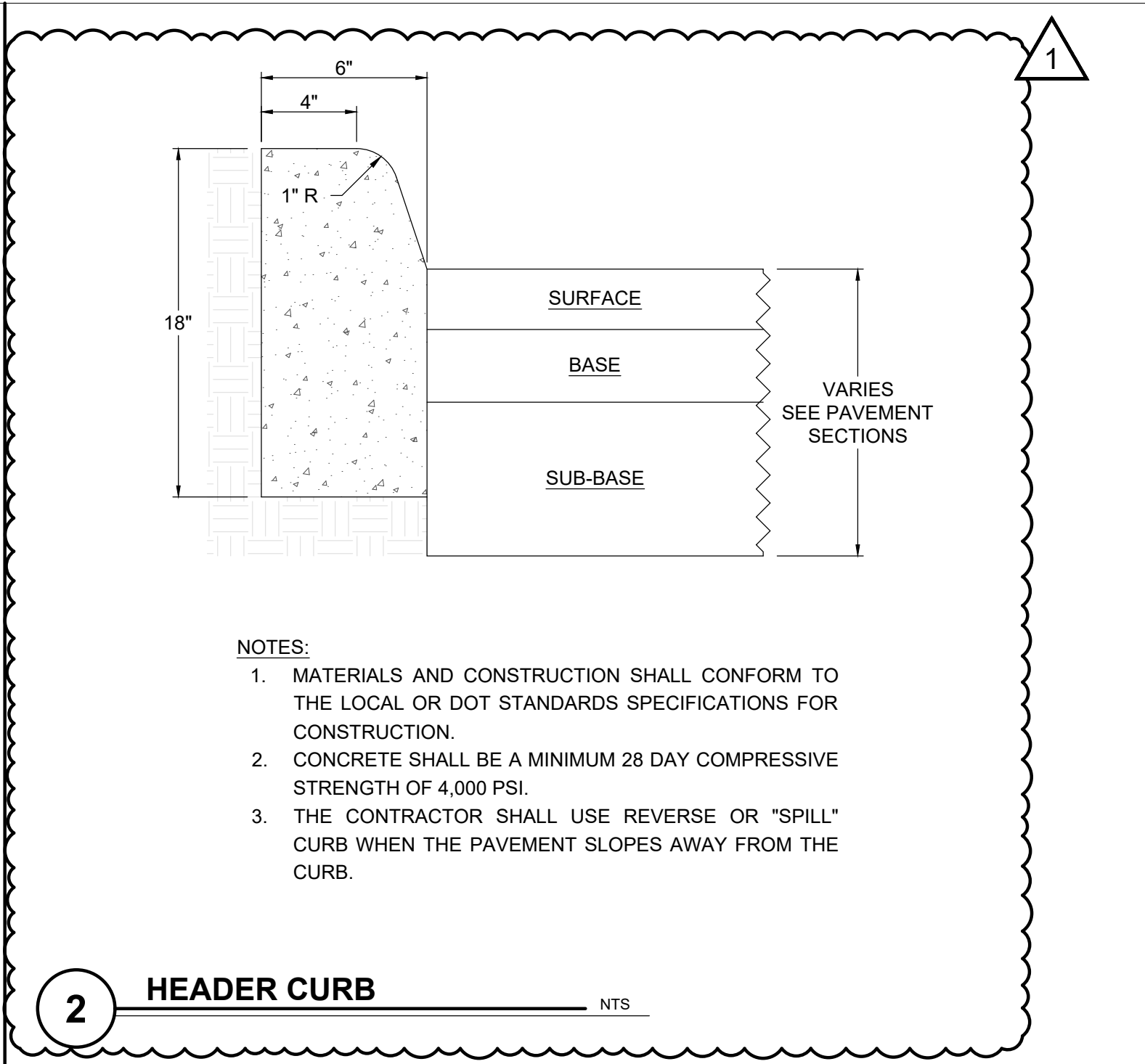
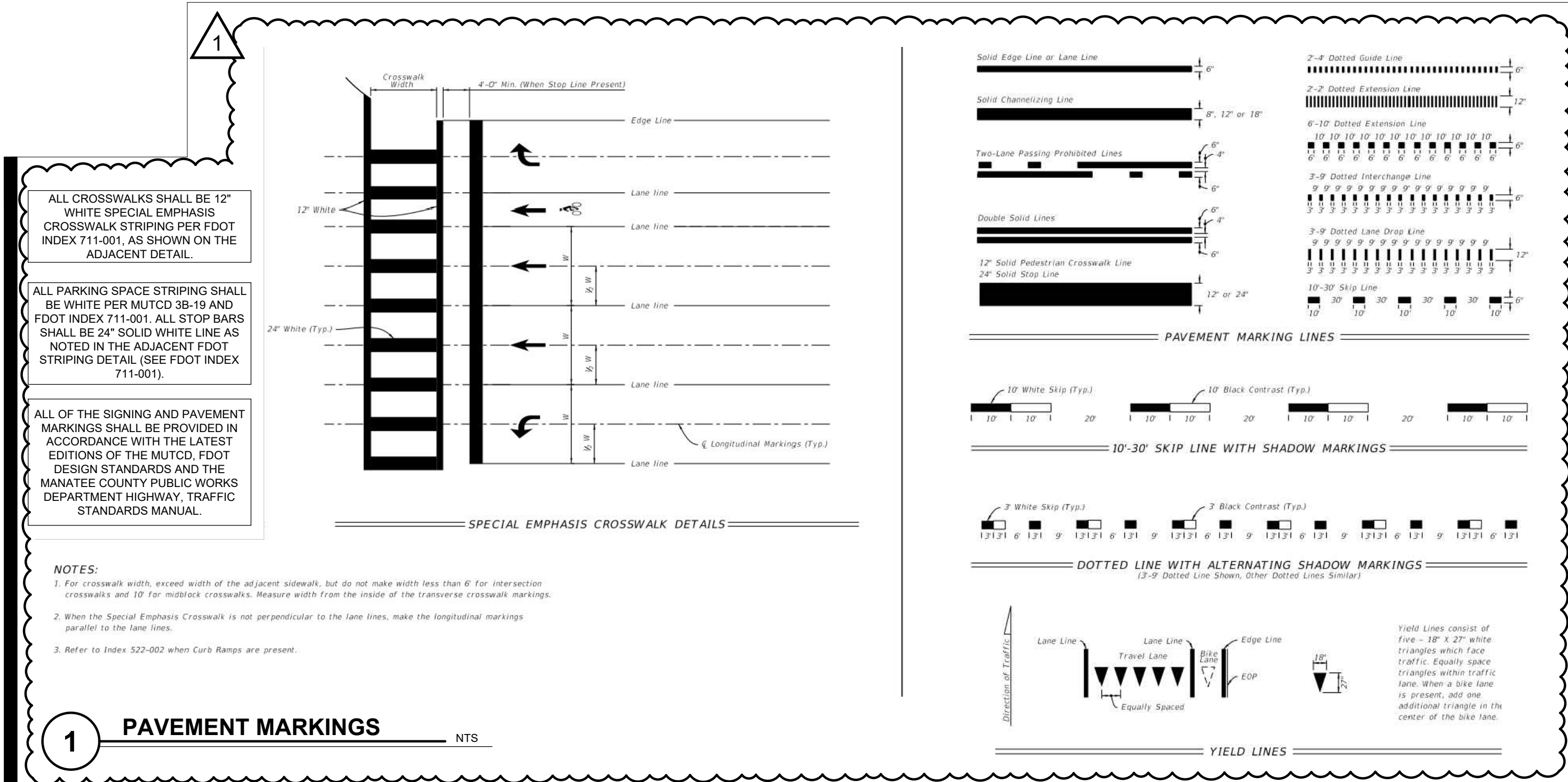
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HARDSCAPE DETAIL I

**C03.2**  
SHEET 8 OF 38

PANDA HOME R3





**PANDA EXPRESS**  
CHINESE KITCHEN

PANDA EXPRESS, INC.  
1883 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770  
TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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REVISIONS:

NO.	DATE	DESCRIPTION
1	08/16/23	UPDATED DETAILS

ISSUE DATE:

REVIEW	DATE
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109

**INGENIUM**

INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084  
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HARDSCAPE DETAIL II

**C03.3**

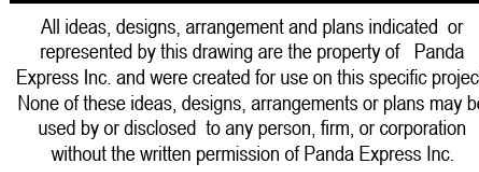
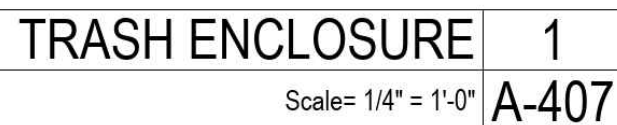
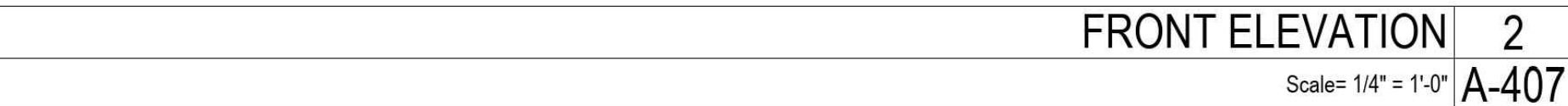
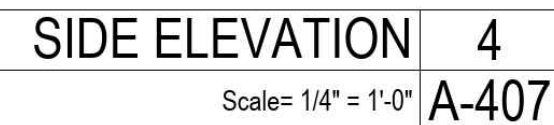
SHEET 9 OF 38

PANDA HOME R3







[illegible]

DRAWN BY: BDG

**bdg**  
architects

400 N. Ashley Dr.  
Suite 600  
Tampa, FL 33602

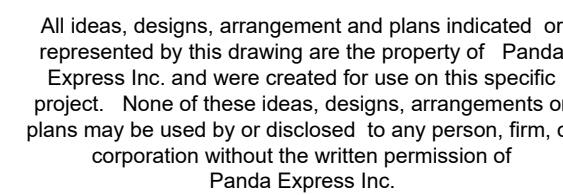
tel. 813.233.0233  
fax 813.233.0234  
FL LP#AT-0014732  
www.bdg-llp.com

Architect of Record:  
Gregg A. Holdsworth, AIA, LEED AP  
FL License # AR0017669

PANDA HOME 2600  
SR 64 & POPE ROAD  
BRADENTON, FL 34208

### TRASH ENCLOSURE DETAILS

PANDA HOME 2600 R3



ISSUE DATE:		
	DEVELOPER REVIEW	01/20/2024
	PERMIT SET	04/04/2024
	PERMIT SET	08/16/2024
	CONSTRUCTION	XX-XX-XX

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



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### TRASH ENCLOSURE DETAILS

HARDSCAPE DETAIL IV

SHEET 11 OF 38

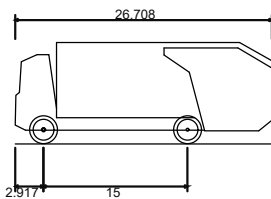
PANDA HOME R3



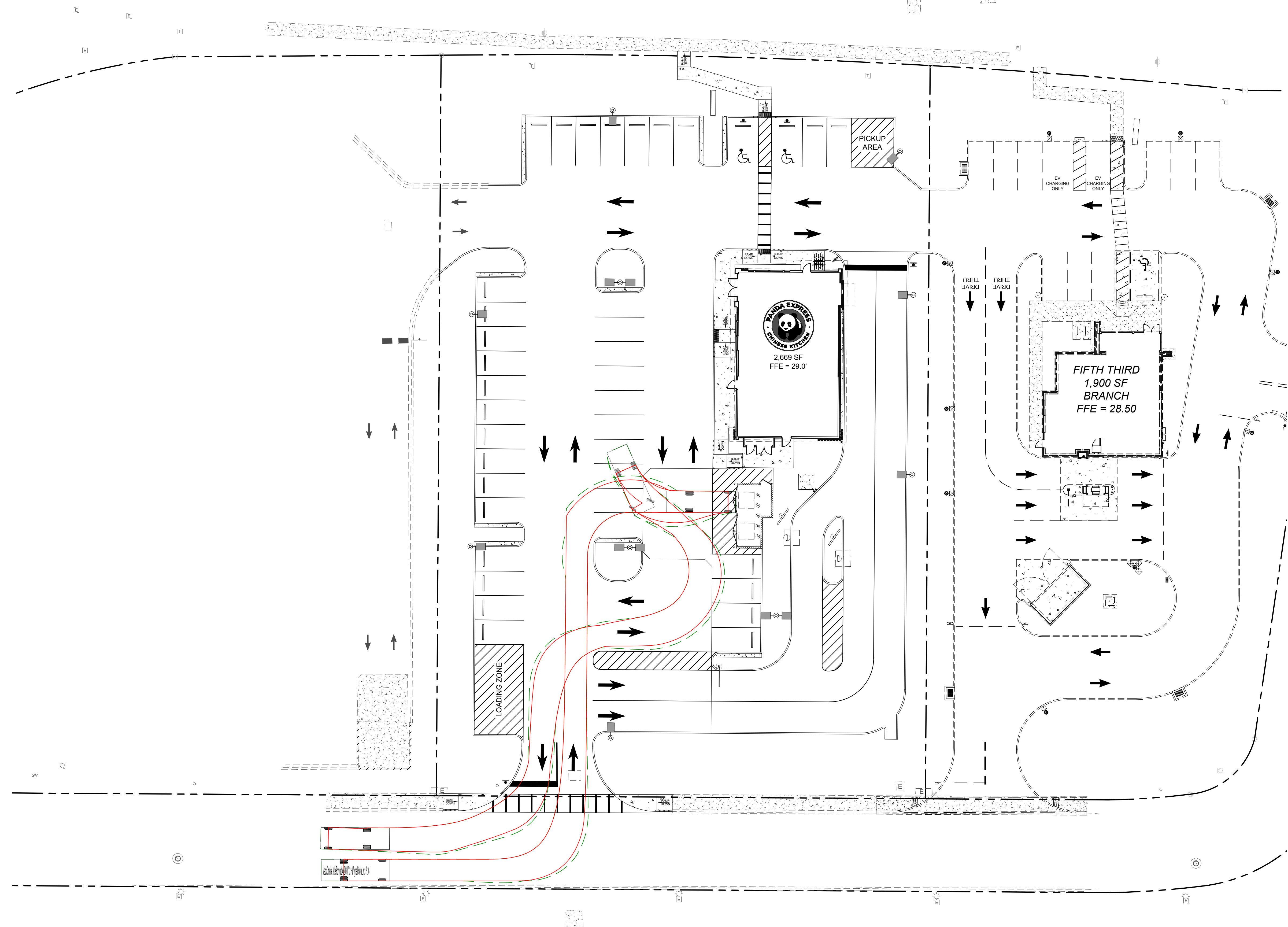
E STATE ROAD 64  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY  
(FDOT ROADWAY ID 13050-000)

TURNING LEGEND

WHEEL TRACKING PATH  
BODY OVERHANG TRACKING PATH



Mack Granite Axle Forward 4x2 GU712 + Wayne PowerLynx PL16  
Overall Length 26.708ft  
Overall Width 8.375ft  
Overall Body Height 10.546ft  
Min Body Ground Clearance 1.376ft  
Track Width 8.375ft  
Lock-to-lock time 6.00s  
Curb to Curb Turning Radius 29.300ft



PANDA EXPRESS, INC.

1883 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
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REVISIONS:  
08/16/23  
UPDATED VEHICLE TRACKING

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
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1 VEHICLE TRAKING (GARBAGE TRUCK)

NTS

HARDSCAPE DETAIL V

C03.6

SHEET 12 OF 38

PANDA HOME R3

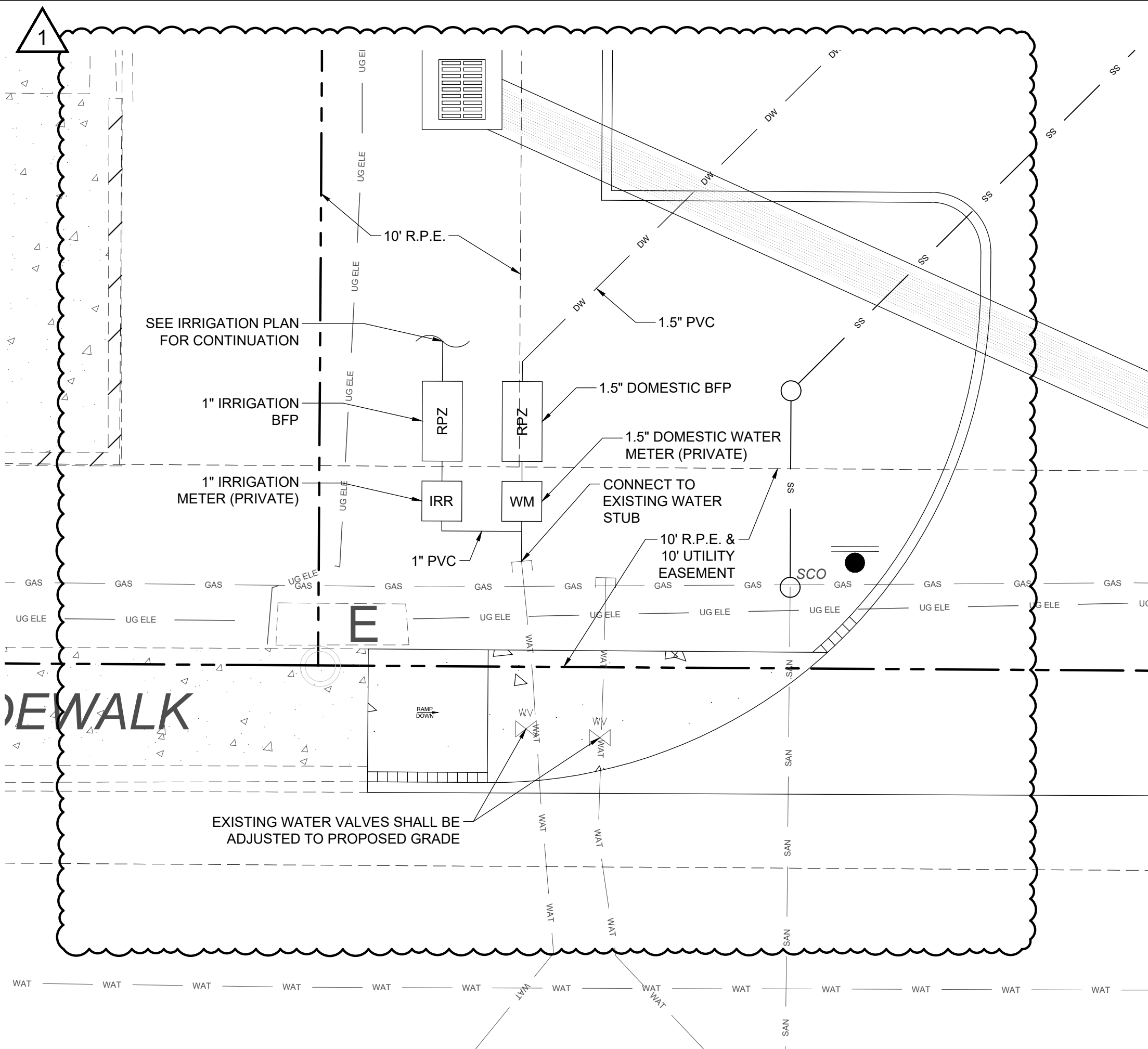




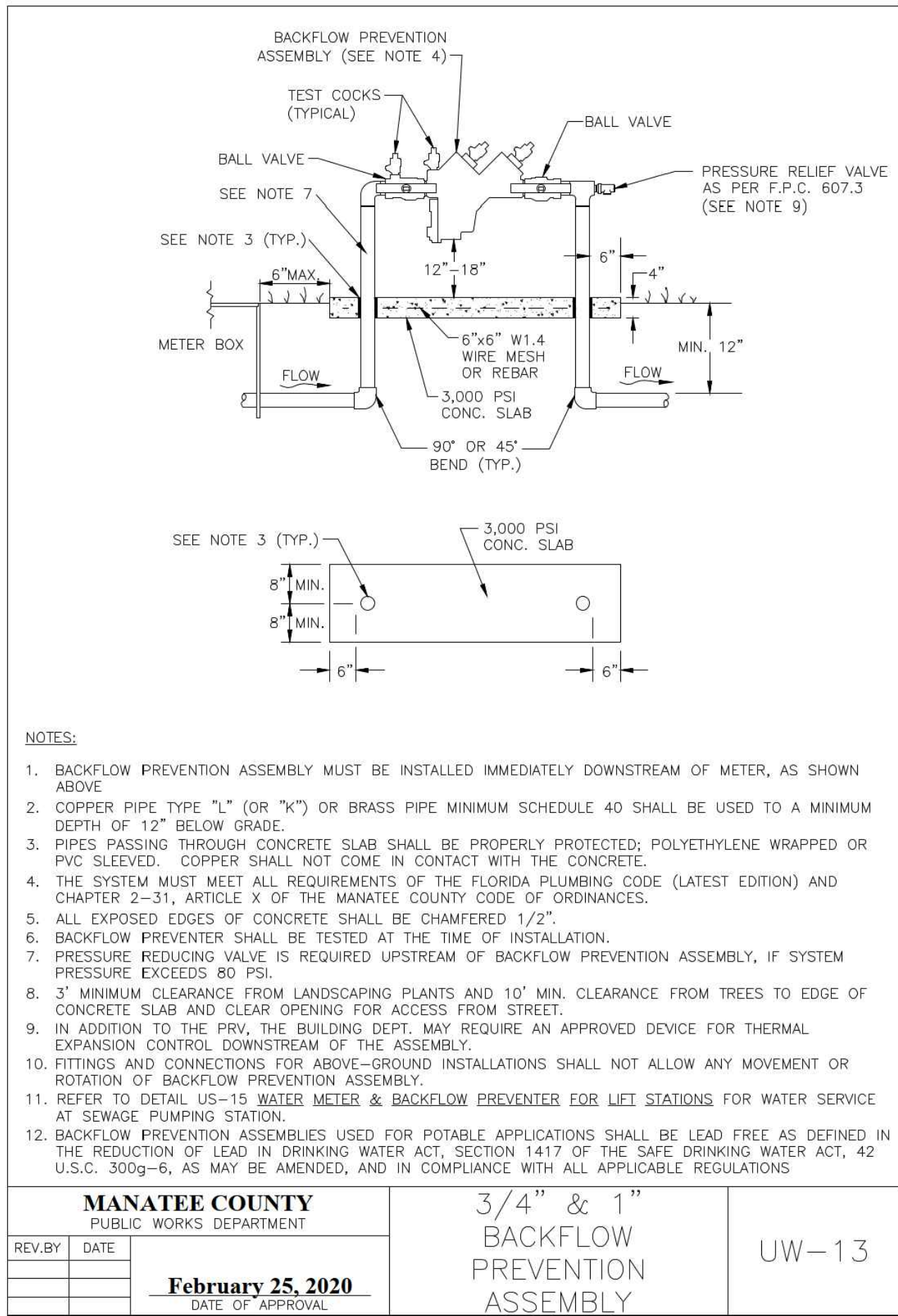


UTILITY INFORMATION					
WATER					
	GC	SELLER	OWNER	UTILITY	ADDITIONAL NOTES
LINE EXTENSION TO PROPERTY LINE					N/A
PIPEING FROM PROPERTY LINE TO BUILDING	●				**
TAPPING THE MAIN				●	**
WATER VAULT					N/A
WATER (METER) PIT					N/A
DOMESTIC METER				●	**
FIRE METER					N/A
IRRIGATION METER				●	**
DOMESTIC BFP	●				**
FIRE BFP					N/A
IRRIGATION BFP	●				**
OBTAINING EASEMENTS			●		**
OBTAINING ROW WORK PERMITS			●		**
SANITARY SEWER					
	GC	SELLER	OWNER	UTILITY	ADDITIONAL NOTES
LINE EXTENSION TO PROPERTY LINE					N/A
TAPPING THE MAIN				●	**
SERVICE LATERAL (INSIDE PROPERTY)	●				**
OBTAINING EASEMENTS					N/A
OBTAINING ROW WORK PERMITS			●		**
ELECTRIC					
	GC	SELLER	OWNER	UTILITY	ADDITIONAL NOTES
PRIMARY CONDUIT	●				**
PRIMARY CABLE	●				**
PRIMARY FINAL CONNECTION	●				**
TRANSFORMER				●	**
TRANSFORMER PAD	●				**
POLE					N/A
SECONDARY CONDUIT	●				**
SECONDARY CABLE	●				**
SECONDARY FINAL INSPECTION	●				**
METER				●	**
CT CABINET					N/A
CT METER CONDUIT					N/A
SOCKET					N/A
OBTAINING EASEMENTS			●		**
OBTAINING ROW WORK PERMITS			●		**
TELEPHONE					
	GC	SELLER	OWNER	UTILITY	ADDITIONAL NOTES
CONDUIT	●				**
TRENCH & BACKFILL	●				**
CABLE & WIRE				●	**
OBTAINING EASEMENTS			●		**
OBTAINING ROW WORK PERMITS			●		**
GAS					
	GC	SELLER	OWNER	UTILITY	ADDITIONAL NOTES
TAP				●	**
TRENCH & BACKFILL	●				**
PIPING				●	**
METER				●	**
REGULATOR				●	**
OBTAINING EASEMENTS			●		**
OBTAINING ROW WORK PERMITS			●		**

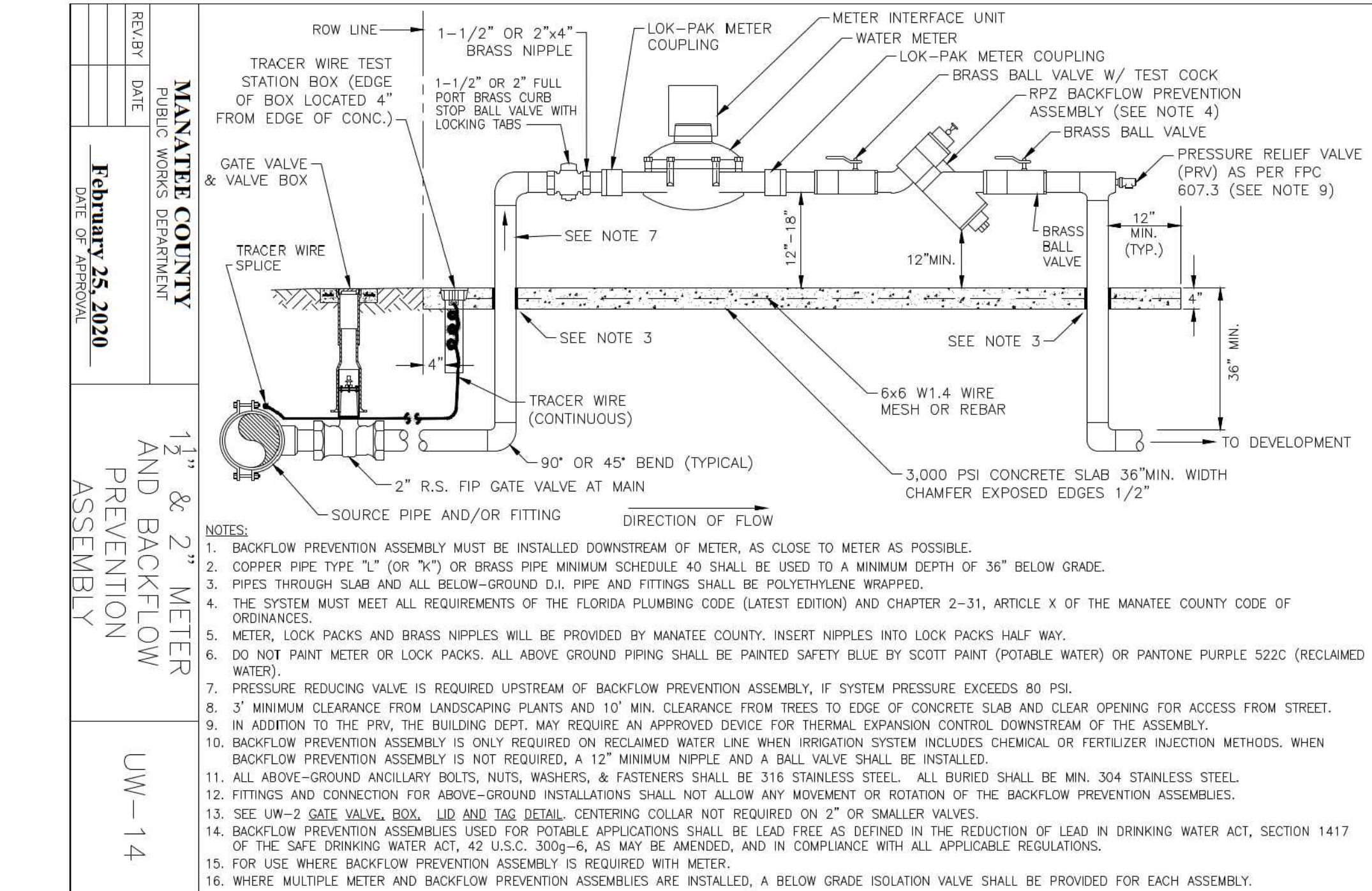
1 UTILITY INFORMATION NTS



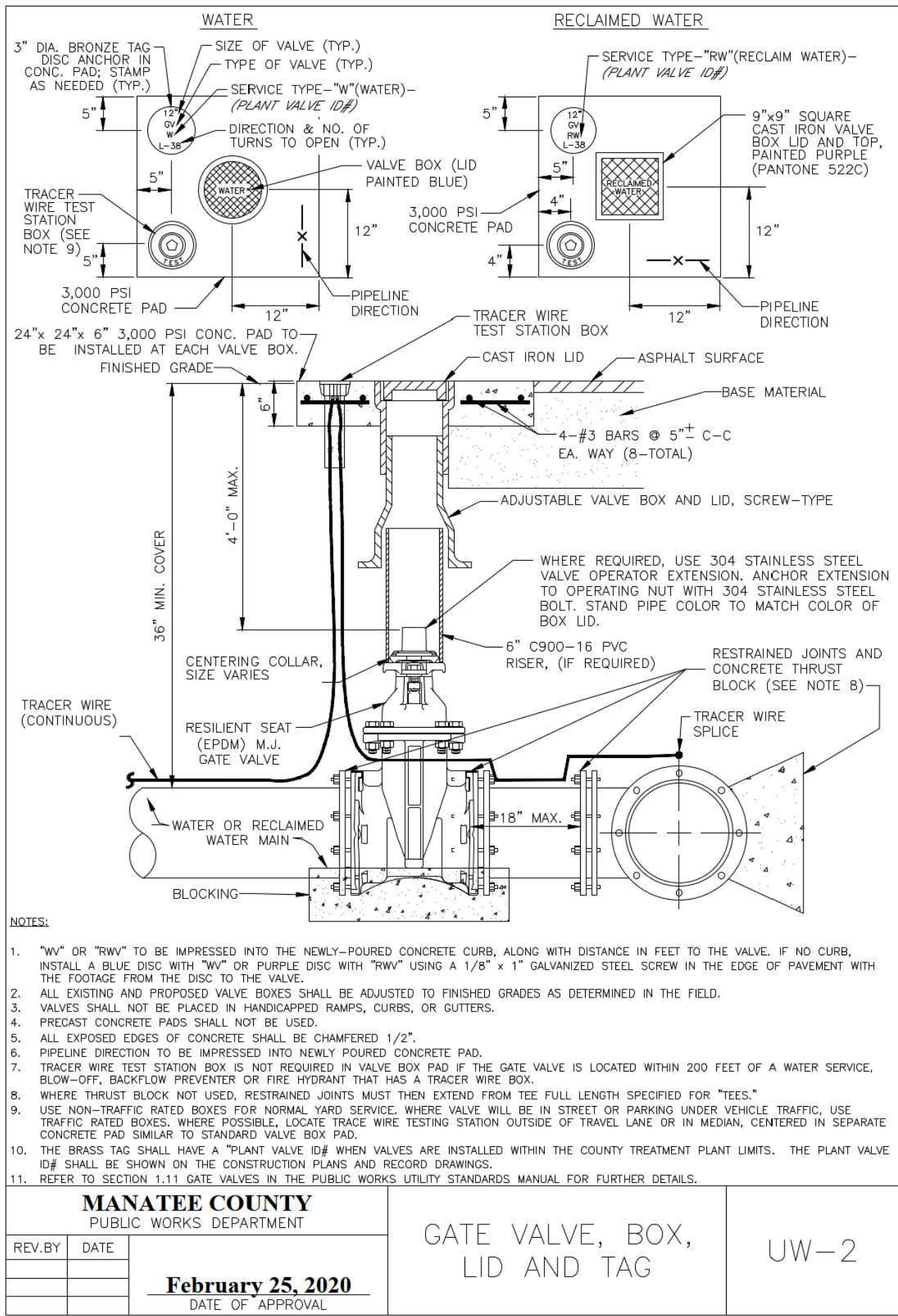
2 WATER METER AREA NTS



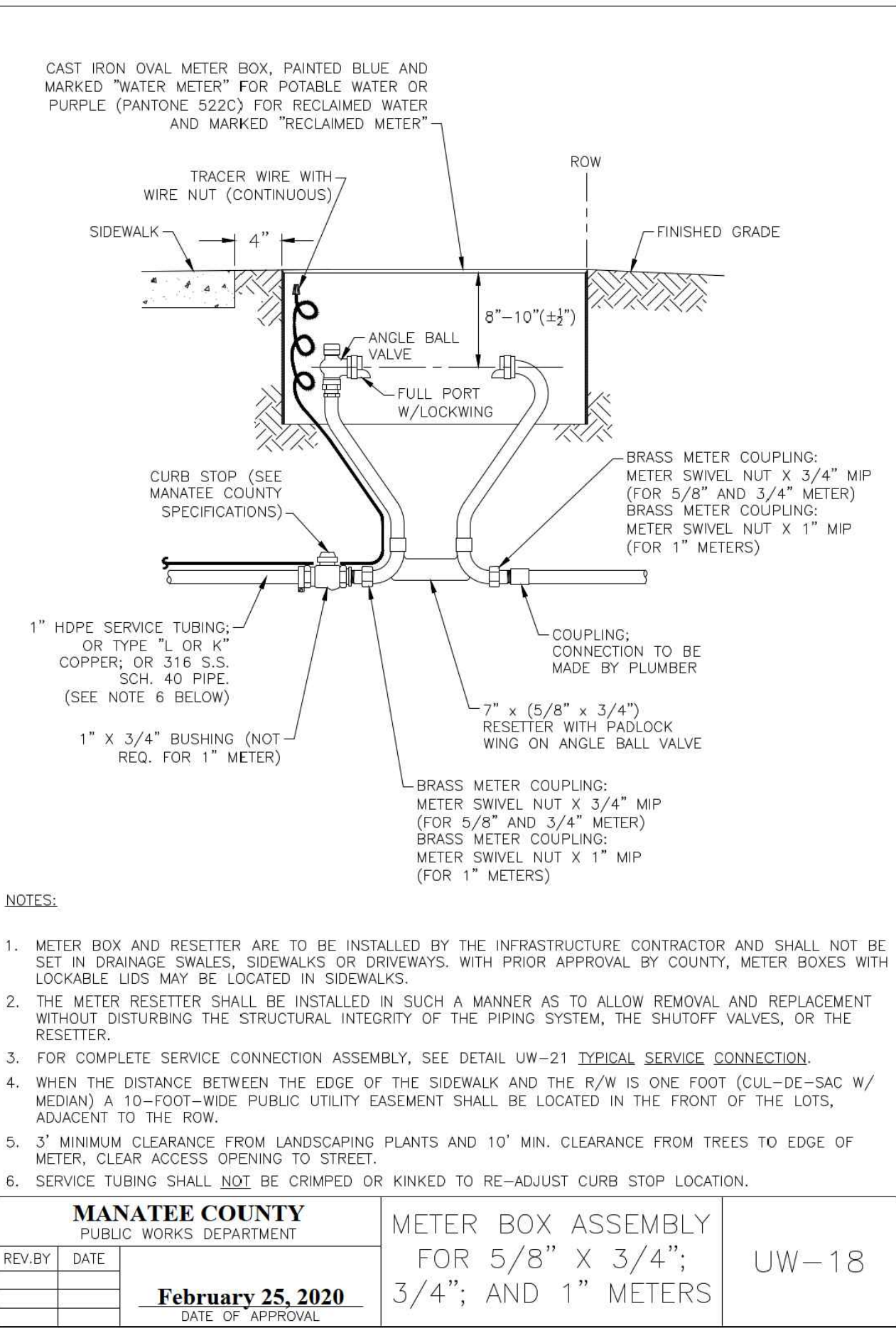
4 1" IRRIGATION BACKFLOW NTS



3 1.5" DOMESTIC BACKFLOW NTS



5 GATE VALVE NTS



6 METER BOX NTS



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FACSIMILE: 626.372.8288

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REVISIONS:	DATE	DESCRIPTION
1	08/16/23	UPDATED METER SIZE, UPDATED DETAILS

ISSUE DATE:	
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



**INGENIUM ENTERPRISES, INC.**  
19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084  
FBPE CERT. OF AUTHORITY #8370

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UTILITY DETAILS I

C04.1

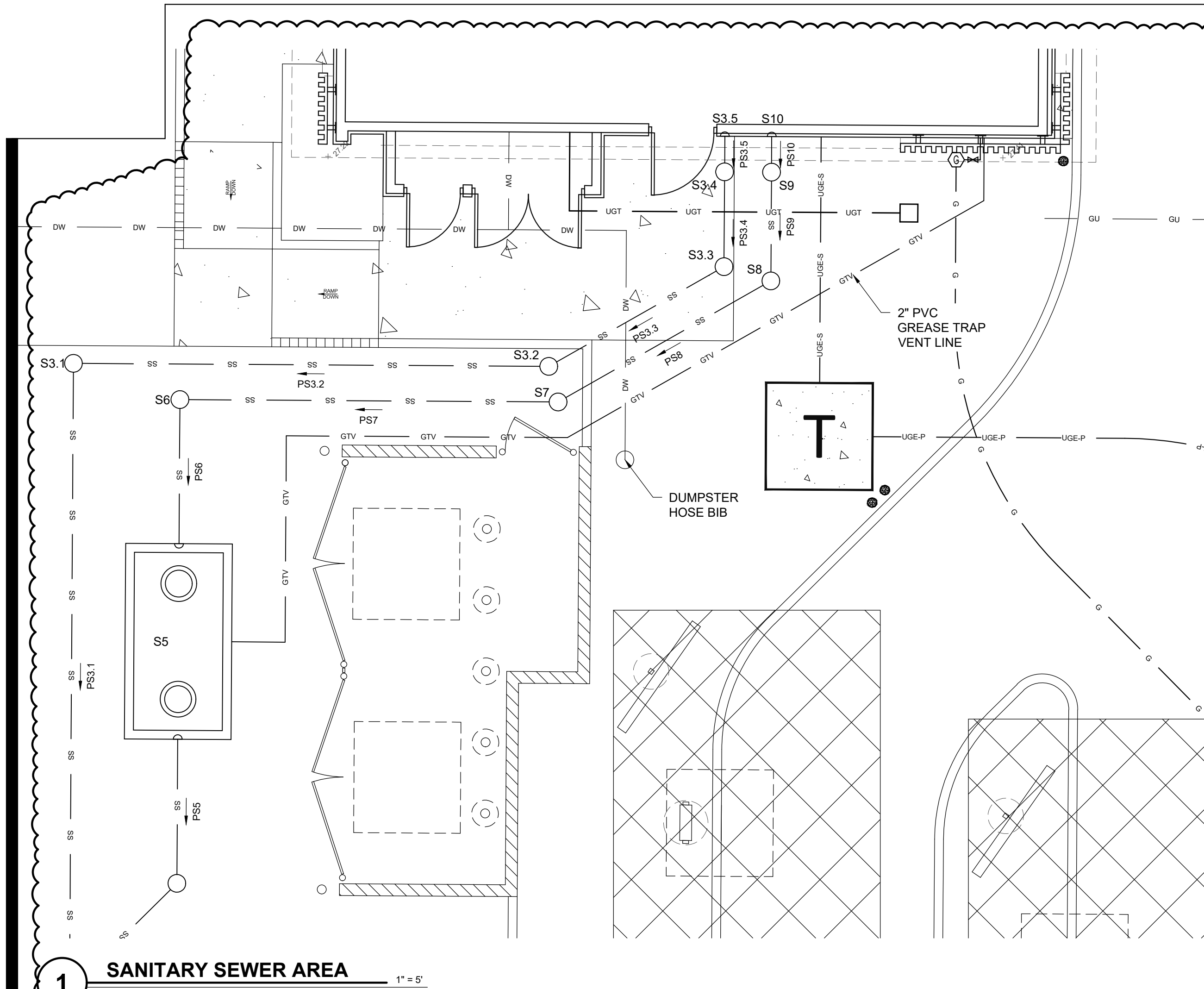
SHEET 14 OF 38

PANDA HOME R3





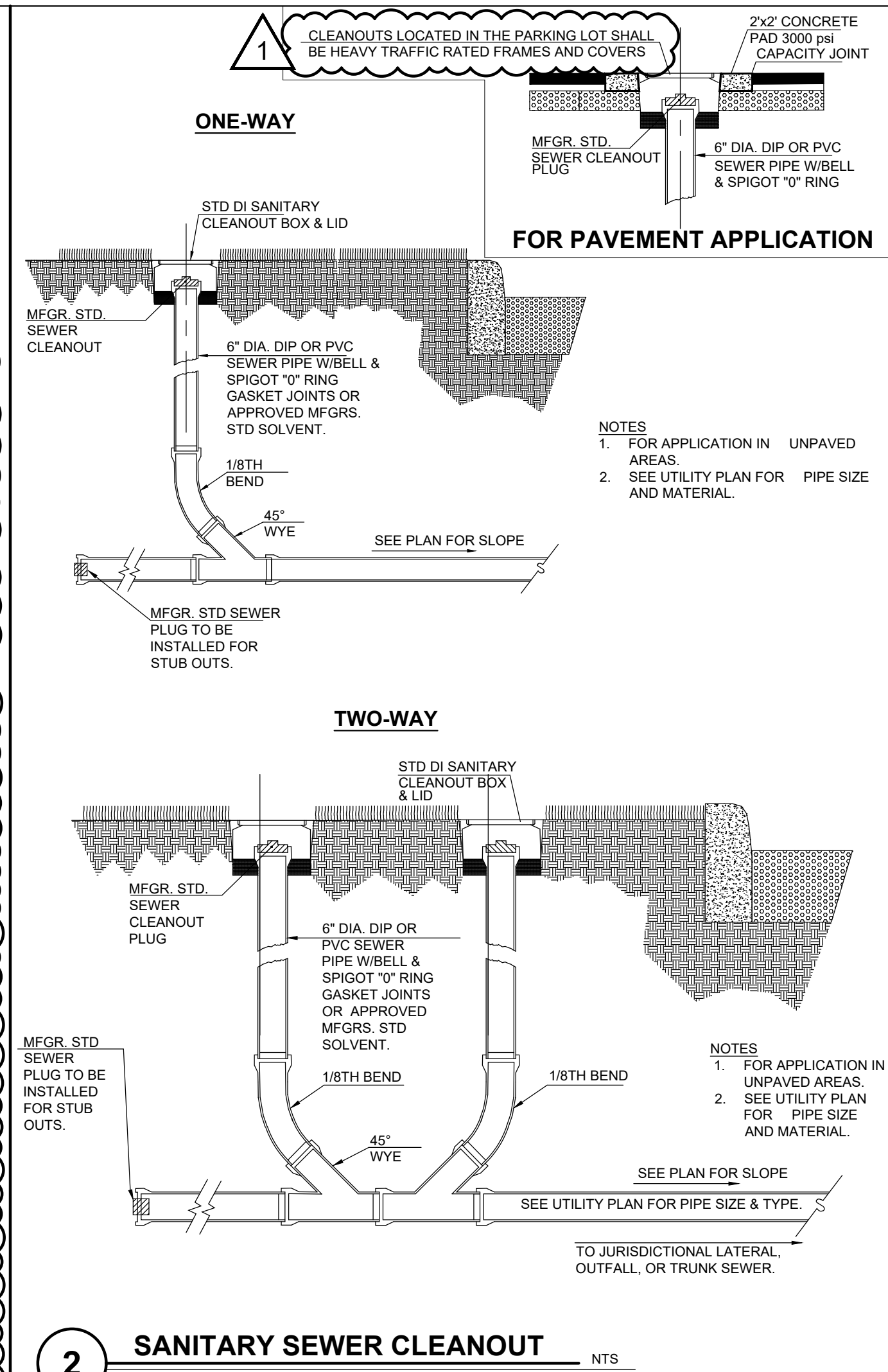




SANITARY STRUCTURE TABLE				
STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
S0	CLEANOUT DETAIL 2, SHEET C04.3	27.54	20.15 (PS1)	
S1	CLEANOUT DETAIL 2, SHEET C04.3	27.43	20.25 (PS2)	20.25 (PS1)
S2	CLEANOUT DETAIL 2, SHEET C04.3	26.81	21.43 (PS3)	21.43 (PS2)
S3	CLEANOUT DETAIL 2, SHEET C04.3	27.97	22.44 (PS3.1) 22.44 (PS4)	22.44 (PS3)
S3.1	CLEANOUT DETAIL 2, SHEET C04.3	28.20	23.09 (PS3.2)	23.09 (PS3.1)
S3.2	CLEANOUT DETAIL 2, SHEET C04.3	28.39	23.63 (PS3.3)	23.63 (PS3.2)
S3.3	CLEANOUT DETAIL 2, SHEET C04.3	28.87	23.85 (PS3.4)	23.85 (PS3.3)
S3.4	CLEANOUT DETAIL 2, SHEET C04.3	28.94	23.96 (PS3.5)	23.96 (PS3.4)
S3.5	BUILDING STUB	28.95		24.00 (PS3.5)
S4	CLEANOUT DETAIL 2, SHEET C04.3	28.12	22.61 (PS5)	22.61 (PS4)
S5	1,000 GAL GREASE TRAP DETAIL 3, SHEET C04.3	28.17		
S5-IN	GREASE TRAP STUB IN	28.20	22.98 (PS6)	
S5-OUT	GREASE TRAP STUB OUT	28.15		22.78 (PS5)
S6	CLEANOUT DETAIL 2, SHEET C04.3	28.26	23.14 (PS7)	23.14 (PS6)
S7	CLEANOUT DETAIL 2, SHEET C04.3	28.39	23.56 (PS8)	23.56 (PS7)
S8	CLEANOUT DETAIL 2, SHEET C04.3	28.81	23.84 (PS9)	23.84 (PS8)
S9	CLEANOUT DETAIL 2, SHEET C04.3	28.93	23.96 (PS10)	23.96 (PS9)
S10	BUILDING STUB	28.95		24.00 (PS10)

PROPOSED WASTEWATER CALCULATIONS	
THE EXISTING MIXED USE COMMERCIAL DEVELOPMENT HAS ALREADY PROVIDED THE LIFT STATION FOR THIS PROPOSED DEVELOPMENT. THE ANTICIPATED FLOW FROM OUTPARCEL LOT 18 WAS DETERMINED BY THE SQUARE FOOTAGE OF THE BUILDING AND THE LAND USE ACCORDING TO THE UTILITY FLOW CONTRIBUTION TABLE PER THE LIFT STATION REPORT PREPARED BY ZNS ENGINEERING, DATED JUNE 2021. OUTPARCEL 18 HAD AN ANTICIPATED FLOW OF 2.08 GPM USING THE SAME DESIGN FLOW FROM THE EXISTING REPORT, THE PANDA EXPRESS TOTAL ADF IS 1.58 GPM, WHICH IS LESS THAN THE ORIGINAL ESTIMATED FLOW.	
TOTAL ANTICIPATED DAILY FLOW (ADF) FOR OUTPARCEL 18	≈ 2.08 GPM
TOTAL ADF PER SQUARE FOOT OF A FAST FOOD RESTAURANT	≈ 0.85 GPD
SIZE OF THE PANDA EXPRESS BUILDING	≈ 2,669 SF
2,669 SF * 0.85 GPD / 24 HOURS/DAY / 60 MINUTES/HOUR = 1.58 GPM	
1.58 GPM < 2.08 GPM; THEREFORE THE PANDA EXPRESS DEMANDS DONT EXCEED THE APPROVED LIFT STATION CALCULATIONS FOR THE LIFT STATION ON THE PUBLIX SITE.	

SANITARY PIPE TABLE				
PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PS1	6"	9.85'	1.06%	PVC
PS2	6"	59.01'	2.00%	PVC
PS3	6"	50.51'	2.00%	PVC
PS3.1	6"	35.23'	1.84%	PVC
PS3.2	6"	26.74'	2.00%	PVC
PS3.3	6"	11.34'	2.00%	PVC
PS3.4	6"	5.34'	2.00%	PVC
PS3.5	6"	2.01'	2.00%	PVC
PS4	6"	8.50'	2.00%	PVC
PS5	6"	8.11'	2.00%	PVC
PS6	6"	8.11'	2.00%	PVC
PS7	6"	21.28'	2.00%	PVC
PS8	6"	13.77'	2.00%	PVC
PS9	6"	6.12'	2.00%	PVC
PS10	6"	2.01'	2.00%	PVC



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REVISIONS:	DATE	DESCRIPTION
1	08/16/23	ADDED WASTEWATER CALCULATIONS PERMIT SET UPDATED DESIGN & DETAILS

ISSUE DATE:	
DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM  
PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109

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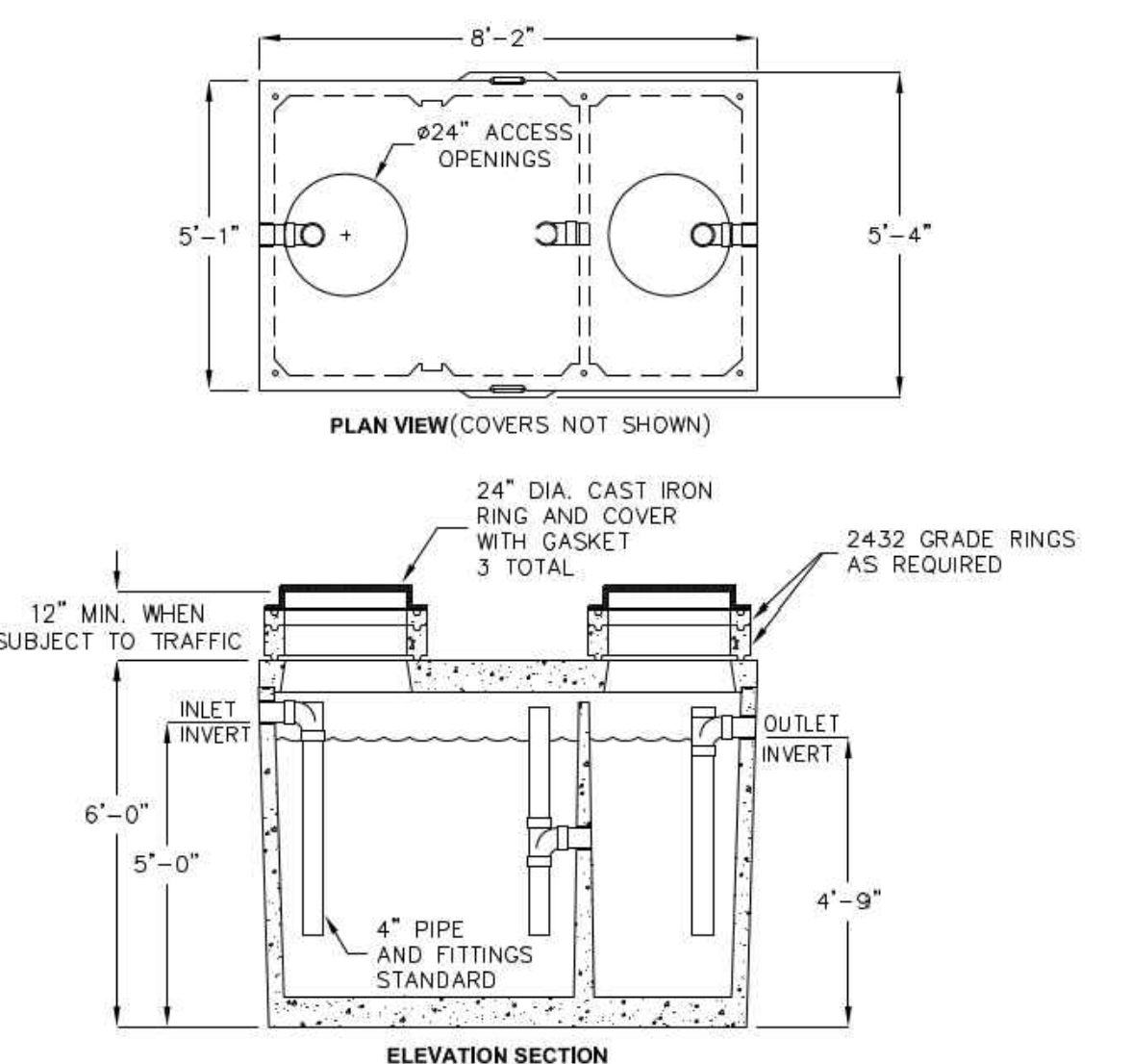
UTILITY DETAILS III

**C04.3**

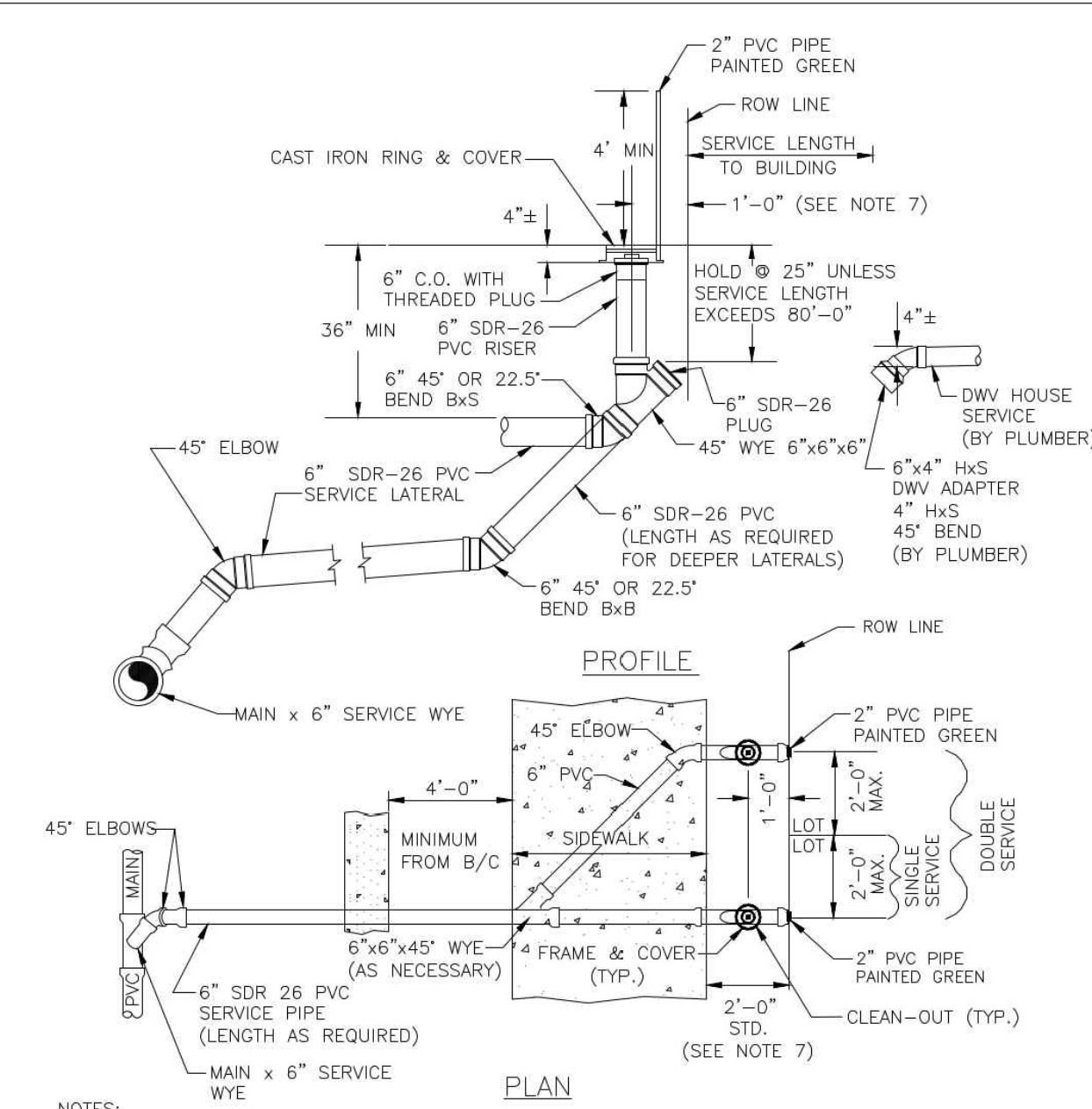
SHEET 16 OF 38

PANDA HOME R3

### 1000 GALLON GREASE INTERCEPTOR MODEL JP1000-EE-G TRAFFIC RATED

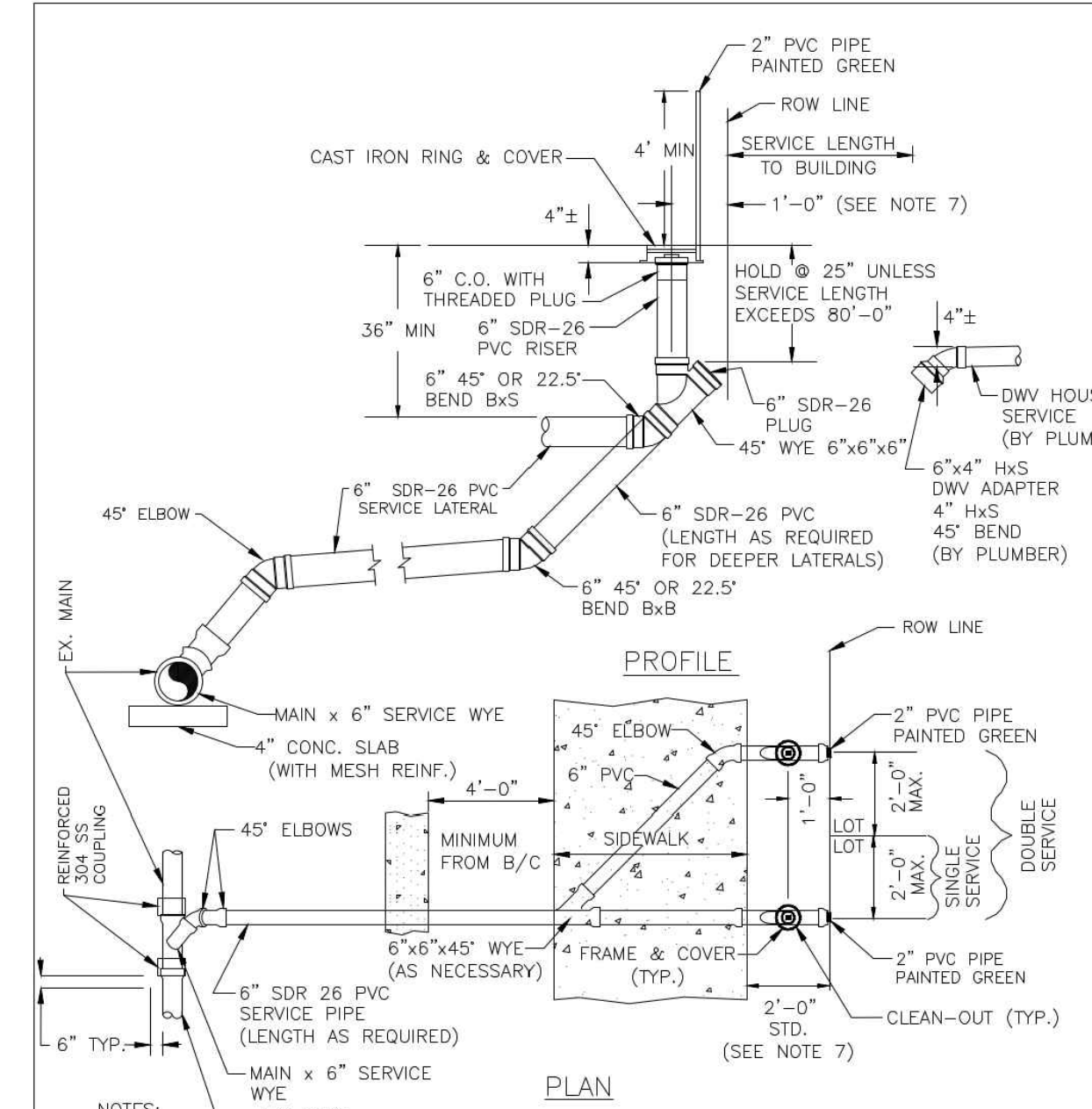


OPERATING CAPACITY: 1,000 GALLONS.  
DESIGN LOAD: H-20 TRAFFIC WITH DRY SOIL CONDITIONS (WATER LEVEL BELOW TANK) AND 1 TO 6 FEET EARTH COVER.  
BEDDING NOTE: SUITABLE SUB-BASE BEDDED WITH GRANULAR MATERIAL SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS.  
FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.



NOTES:  
1. RUBBER DONUTS ARE NOT TO BE USED.  
2. "SCO" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE CLEAN-OUT. IF NO CURB INSTALL A GREEN DISC WITH "SCO" AND 1/8" X 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE CLEAN-OUT.  
3. SANITARY SEWER CLEAN-OUTS SHALL NOT BE LOCATED IN DRAINAGE SWALES, EASEMENTS, SIDEWALKS OR DRIVEWAYS.  
4. NO SERVICE CONNECTIONS TO BE MADE TO THE CLEAN-OUT RISER. ALL DOMESTIC CONNECTIONS SHALL BE MADE TO THE STUB-OUT PROVIDED.  
5. SEWER SERVICE SHALL BE 5' MIN. FROM WATER SERVICE OR FIRE HYDRANT.  
6. CLEAN-OUT ADAPTER TO BE SOLVENT-WELDED TO RISER TOP. CLEAN-OUT THREADS SHALL BE WRAPPED WITH TEFLON PLUMBERS TAPE TO SEAL PLUG WATERIGHT.  
7. WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK & THE ROW LINE IS ONE FOOT (CUL-DE-SAC W/MEDIAN) THE DISTANCE BETWEEN THE CENTER OF THE CLEAN-OUT RISER & THE ROW LINE SHALL BE 6".

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		SINGLE AND DOUBLE SERVICE CONNECTION	US-13A
REV.	DATE		
1	February 25, 2020		
	DATE OF APPROVAL		



NOTES:  
1. RUBBER DONUTS ARE NOT TO BE USED.  
2. "SCO" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE CLEAN-OUT. IF NO CURB INSTALL A GREEN DISC WITH "SCO" AND 1/8" X 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE CLEAN-OUT.  
3. SANITARY SEWER CLEAN-OUTS SHALL NOT BE LOCATED IN DRAINAGE SWALES, EASEMENTS, SIDEWALKS OR DRIVEWAYS.  
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7. WHEN THE DISTANCE BETWEEN THE EDGE OF THE SIDEWALK & THE ROW LINE IS ONE FOOT (CUL-DE-SAC W/MEDIAN) THE DISTANCE BETWEEN THE CENTER OF THE CLEAN-OUT RISER & THE ROW LINE SHALL BE 6".

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		CUT-IN SINGLE AND DOUBLE SERVICE WYES	US-13B
REV.	DATE		
1	February 25, 2020		
	DATE OF APPROVAL		

**3 1,000 GAL GREASE TRAP** NTS

**4 SANITARY SEWER LATTERAL** NTS



125 EXCAVATION FOR STRUCTURES AND PIPE.  
(REV 6-25-04) (FA 8-3-04) (7-05)

SUBARTICLE 125-8.1.1 (Page 169) is deleted and the following substituted:

**125-8.1.1 General:** Backfill in the Dry whenever normal dewatering equipment and methods can accomplish the needed dewatering. A LOT is defined as one lift of backfill material placement, not to exceed 500 feet [150 m] in length or a single run of pipe connecting two successive structures, whichever is less. Backfill around structures compacted separately from the pipe will be considered as separate LOTs. Backfill on each side of the pipe for the first lift will be considered a separate LOT. Backfill on opposite sides of the pipe for the remaining lifts will be considered separate LOTs, unless the same compactive effort is applied. For multiple phase backfill, a LOT shall not extend beyond the limits of the phase.

When placing backfill within a trench box each lift of backfill is considered a LOT. Placement of backfill within trench box limits will be considered a complete operation before trench box is moved for next backfill operation. When the trench box is moved for next backfill operation this will start new LOTs for each lift.

ARTICLE 125-9 (Pages 172 and 173) is deleted and the following substituted:

**125-9 Acceptance Program.**

**125-9.1 General Requirements:** Meet the requirements of 120-10.1, except replace the requirements of 120-10.2 with 125-9.2

**125-9.2 Acceptance Criteria:**

**125-9.2.1 Density:** Obtain a minimum Quality Control (QC) density in any LOT of 100% of the Standard Proctor maximum density as determined by AASHTO T 99, Method C, or the requirements of 125-8.3.3.1 when applicable. For metal and plastic pipe, compact the backfill in the cover zone to a density of at least 95% of the Standard Proctor maximum density as determined by AASHTO T 99, Method C.

**125-9.2.2 Exceptions to Pipe Density Requirements:** Compact the backfill to a firmness approximately equal to that of the soil next to the pipe trench in locations outside the plane described by a two (horizontal) to one (vertical) slope downward from the roadway shoulder line or the back of curb as applicable. Apply 120-9.2.1 when compacting side-drain pipe backfill under driveways serving a property that is not a single residential lot.

**125-9.3 Additional Requirements:**

**125-9.3.1 Frequency:** Conduct QC Standard Proctor maximum density sampling and testing at a minimum frequency of one test per soil type. The Verification test will be at a minimum of one test per soil type:

Test Name	Quality Control	Verification
Standard Proctor Maximum Density	One per soil type	One per soil type
Density	One per LOT	One per four LOTs and for wet conditions, the first lift not affected by water
Soil Classification	One per Standard Proctor Maximum density	One per Standard Proctor Maximum density

ARTICLE 125-10 (Page 173) is deleted and the following substituted:

**125-10 Verification Comparison Criteria and Resolution Procedures:**

**125-10.1 Standard Proctor Maximum Density Determination:** The Engineer will verify the Quality Control results if the results compare within 4.5 PCF [72 kg/m<sup>3</sup>] of the Verification test result. Otherwise, the Engineer will take one additional sample of material from the soil type in question. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with AASHTO T 99, Method C.

The Engineer will compare the Resolution test result with the Quality Control test results. If the Resolution test result is within 4.5 PCF [72 kg/m<sup>3</sup>] of the corresponding Quality Control test results, the Engineer will use the Quality Control test results for material acceptance purposes for each LOT with that soil type. If the Resolution Test result is not within 4.5 PCF [72 kg/m<sup>3</sup>] of the Contractor's Quality Control test, the Verification Test result will be used for material acceptance purposes.

**125-10.2 Density Testing:** When a Verification or Independent Verification density test fails the Acceptance Criteria, retest the site within a 5 feet (1.5 meter) radius and the following actions will be taken:

1. If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, the Engineer will accept those LOTs.

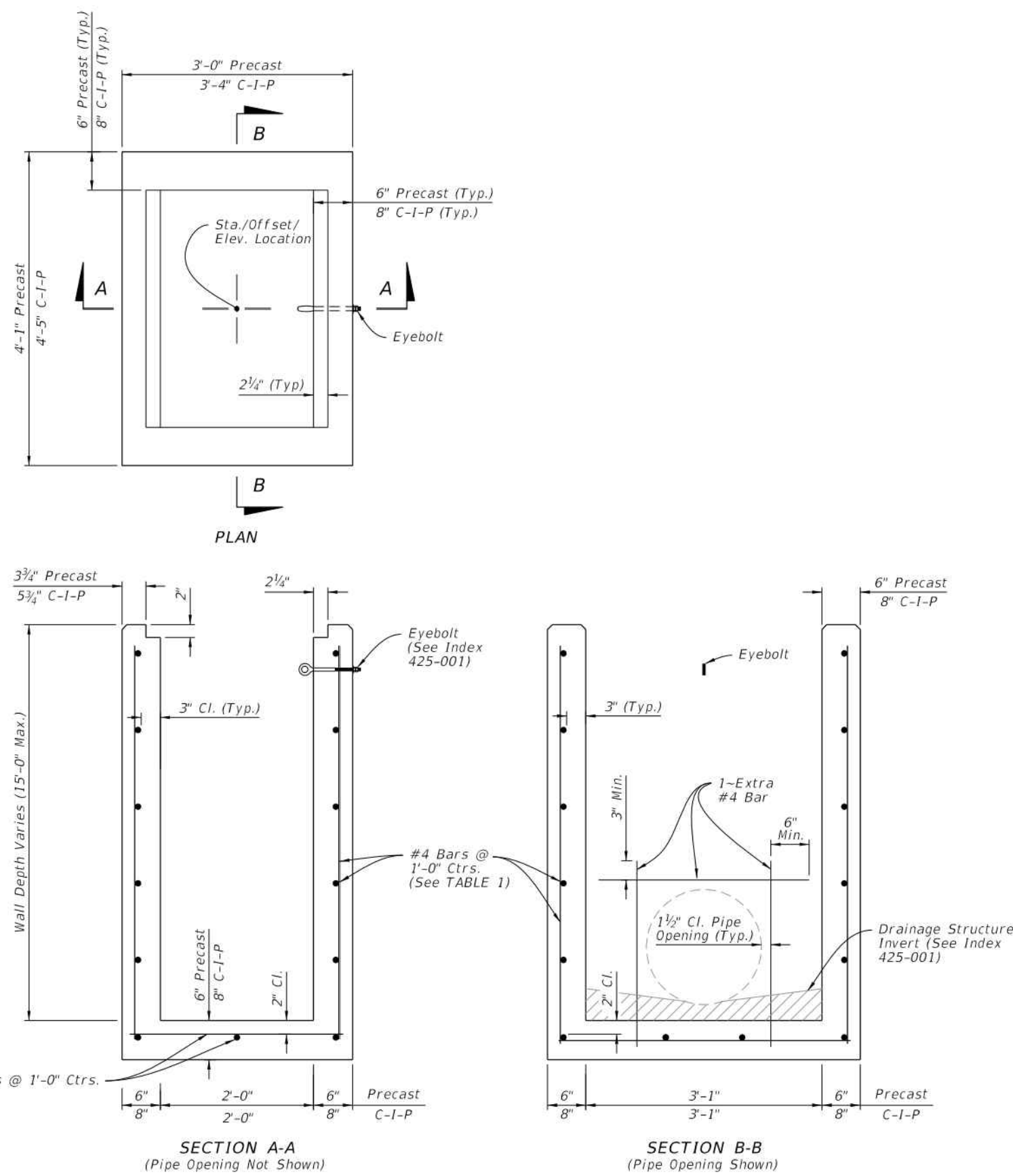
2. If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, rework and retest the LOT. The Engineer will re-verify those LOTs.

3. If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new equipment-comparison analysis as defined in 120-10.1.2. Once acceptable comparison is achieved, retest the LOTs. The Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until the Contractor has a gauge that meets the comparison requirements.

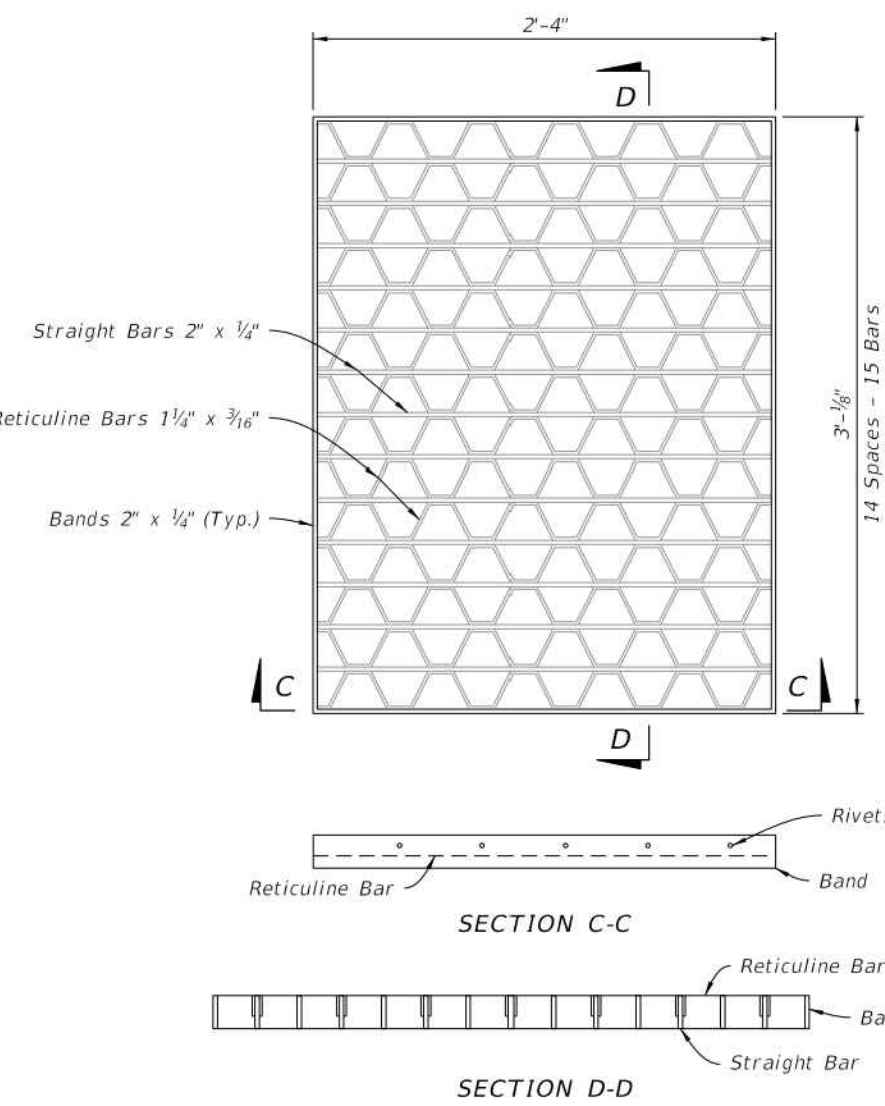
**125-10.3 Soil Classification:** Meet the requirements of 120-10.4.3.

1 STORM PIPE BEDDING

NTS



DIMENSIONAL AND REINFORCING DETAILS



STEEL GRATE DETAIL  
(Approx. 104 Lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 1 HORIZONTAL WALL REINFORCING SCHEDULE				
WALL DEPTH	SCHEDULE	AREA (in. <sup>2</sup> /ft.)	MAX. SPACING BARS	WWF
0' - 15'	A12	0.20	12"	8"

**NOTES:**  
1. Grate, Concrete Apron, and Sod not shown on structure detail.  
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

2 FDOT TYPE "C" GRATE INLET

NTS

LAST REVISION	DESCRIPTION	FDOT	FY 2023-24 STANDARD PLANS	INDEX	SHEET
10/01/20				425-052	2 of 14



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REVISIONS:

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



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FBP CERT. OF AUTHORITY #8370

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UTILITY DETAILS IV

C04.4

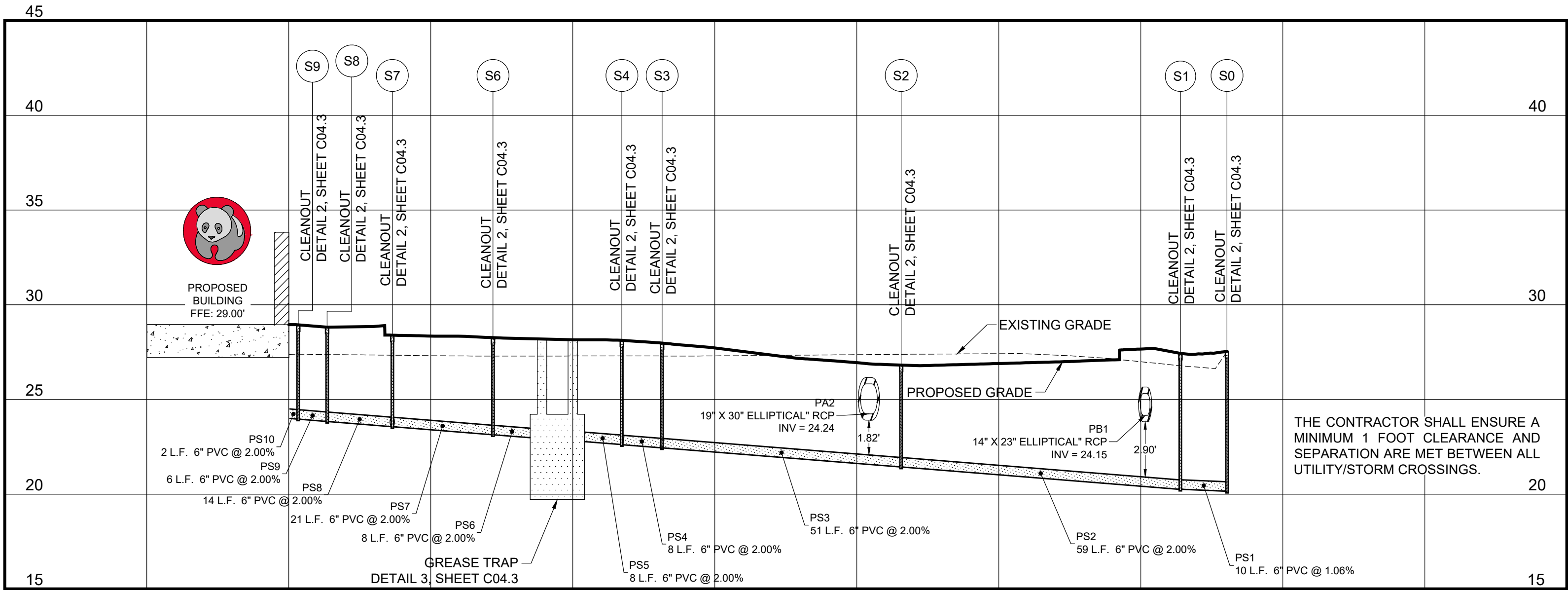
SHEET 17 OF 38

PANDA HOME R3



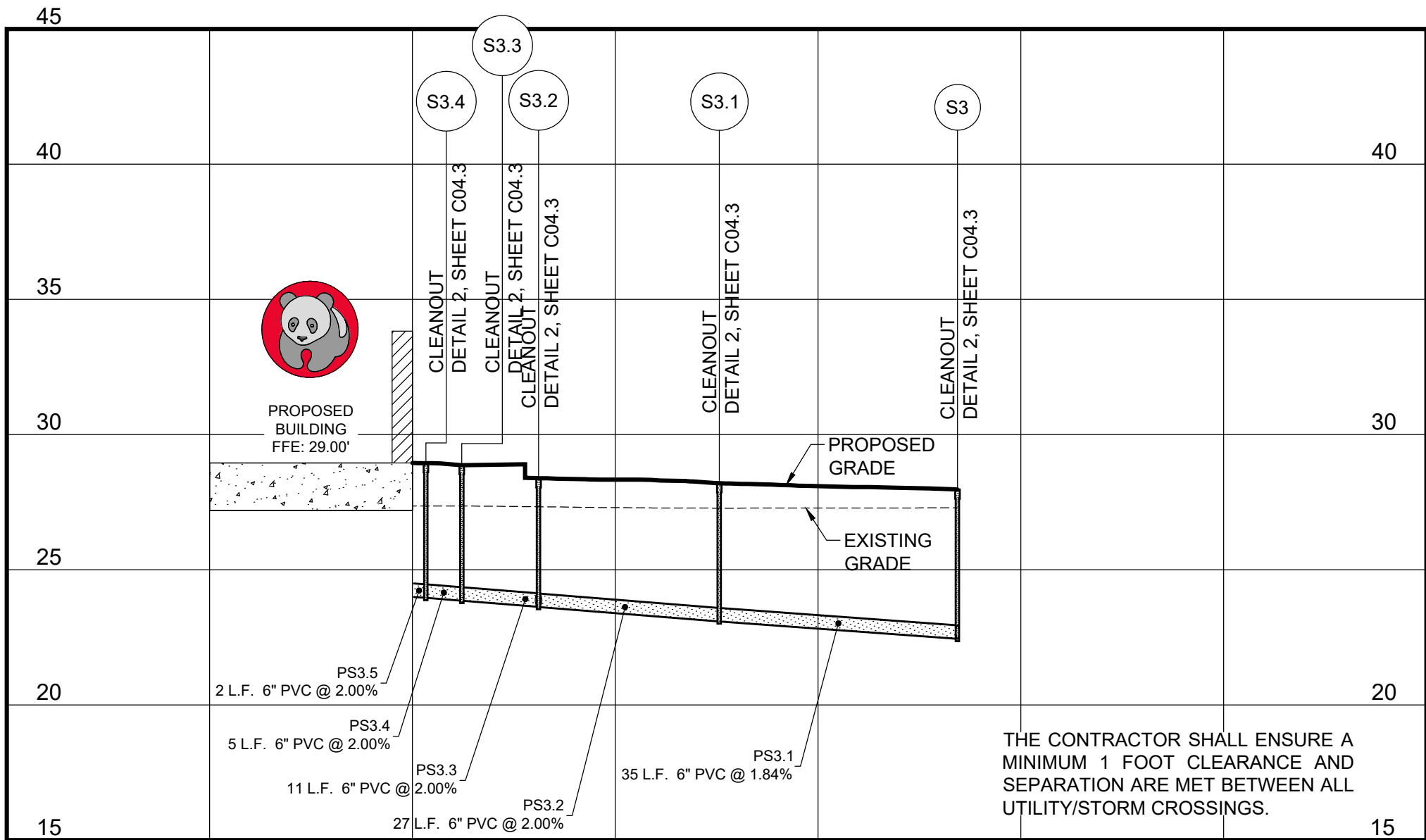
1

SANITARY PROFILE S10-S0



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

SANITARY PROFILE S3.5-S3



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

SANITARY STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
S0	CLEANOUT DETAIL 2, SHEET C04.3	27.54	20.15 (PS1)	
S1	CLEANOUT DETAIL 2, SHEET C04.3	27.43	20.25 (PS2)	20.25 (PS1)
S2	CLEANOUT DETAIL 2, SHEET C04.3	26.81	21.43 (PS3)	21.43 (PS2)
S3	CLEANOUT DETAIL 2, SHEET C04.3	27.97	22.44 (PS3.1) 22.44 (PS4)	22.44 (PS3)
S3.1	CLEANOUT DETAIL 2, SHEET C04.3	28.20	23.09 (PS3.2)	23.09 (PS3.1)
S3.2	CLEANOUT DETAIL 2, SHEET C04.3	28.39	23.63 (PS3.3)	23.63 (PS3.2)
S3.3	CLEANOUT DETAIL 2, SHEET C04.3	28.87	23.85 (PS3.4)	23.85 (PS3.3)
S3.4	CLEANOUT DETAIL 2, SHEET C04.3	28.94	23.96 (PS3.5)	23.96 (PS3.4)
S3.5	BUILDING STUB	28.95		24.00 (PS3.5)
S4	CLEANOUT DETAIL 2, SHEET C04.3	28.12	22.61 (PS5)	22.61 (PS4)
S5	1,000 GAL GREASE TRAP DETAIL 3, SHEET C04.3	28.17		
S5-IN	GREASE TRAP STUB IN	28.20	22.98 (PS6)	
S5-OUT	GREASE TRAP STUB OUT	28.15		22.78 (PS5)
S6	CLEANOUT DETAIL 2, SHEET C04.3	28.26	23.14 (PS7)	23.14 (PS6)
S7	CLEANOUT DETAIL 2, SHEET C04.3	28.39	23.56 (PS8)	23.56 (PS7)
S8	CLEANOUT DETAIL 2, SHEET C04.3	28.81	23.84 (PS9)	23.84 (PS8)
S9	CLEANOUT DETAIL 2, SHEET C04.3	28.93	23.96 (PS10)	23.96 (PS9)
S10	BUILDING STUB	28.95		24.00 (PS10)

SANITARY PIPE TABLE

PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PS1	6"	9.85'	1.06%	PVC
PS2	6"	59.01'	2.00%	PVC
PS3	6"	50.51'	2.00%	PVC
PS3.1	6"	35.23'	1.84%	PVC
PS3.2	6"	26.74'	2.00%	PVC
PS3.3	6"	11.34'	2.00%	PVC
PS3.4	6"	5.34'	2.00%	PVC
PS3.5	6"	2.01'	2.00%	PVC
PS4	6"	8.50'	2.00%	PVC
PS5	6"	8.11'	2.00%	PVC
PS6	6"	8.11'	2.00%	PVC
PS7	6"	21.28'	2.00%	PVC
PS8	6"	13.77'	2.00%	PVC
PS9	6"	6.12'	2.00%	PVC
PS10	6"	2.01'	2.00%	PVC

PROFILE NOTES

1. CONTROLLED BACK FILL TO BE PLACED IN 6" LOOSE LIFT AND COMPACTED TO 100% ASTM D698 PRIOR TO STORM AND SANITARY SEWER CONSTRUCTION. BACK FILL SHALL BE PLACED TO A MINIMUM OF 12' ABOVE THE CROWN ELEVATION OF THE PIPES.
2. STORM DRAIN AND SANITARY SEWER LENGTHS ARE MEASURED FROM CENTER LINE OF STRUCTURE TO CENTERLINE OF STRUCTURE OR FACE OF HEADWALL.
3. ALL PIPE LENGTHS SHOWN ARE ROUNDED TO THE NEAREST FOOT.
4. ALL STORM DRAIN PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH DETAIL 1 ON SHEET C04.4 UNLESS SPECIFICALLY NOTED OTHERWISE.
5. ALL SANITARY SEWER PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH DETAIL 1 ON SHEET C04.2 UNLESS SPECIFICALLY NOTED OTHERWISE.
6. 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.
7. 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.
8. EXCAVATIONS FOR STRUCTURES SHALL BE TAKEN AS A TRENCHING EXCAVATION WITHOUT FURTHER COMPENSATION.
9. SEE SHEET C01.1 FOR GENERAL NOTES.



PANDA EXPRESS, INC.

1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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REVISIONS:  
08/16/23  
UPDATED PROFILES AND SANITARY PIPE DESIGN

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
19445 SHUMARD OAK DR.  
SUITE 102  
LAND O LAKES, FL 34638  
PHONE: (813) 387-0084

FBPE CERT. OF AUTHORITY #8370

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PIPE PROFILES I

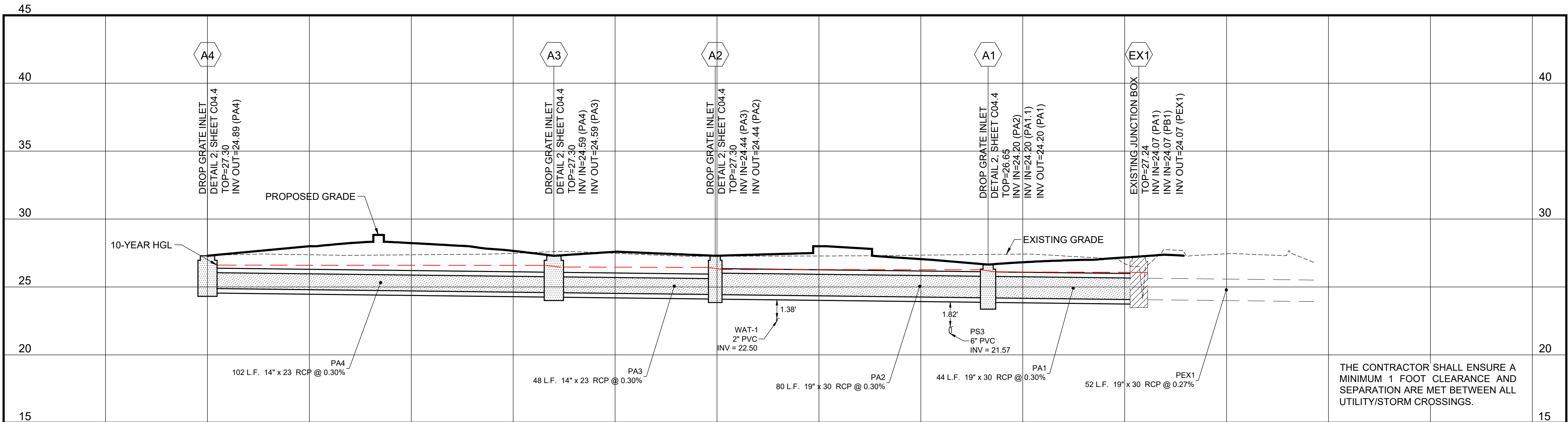
C04.5

SHEET 18 OF 38

PANDA HOME R3

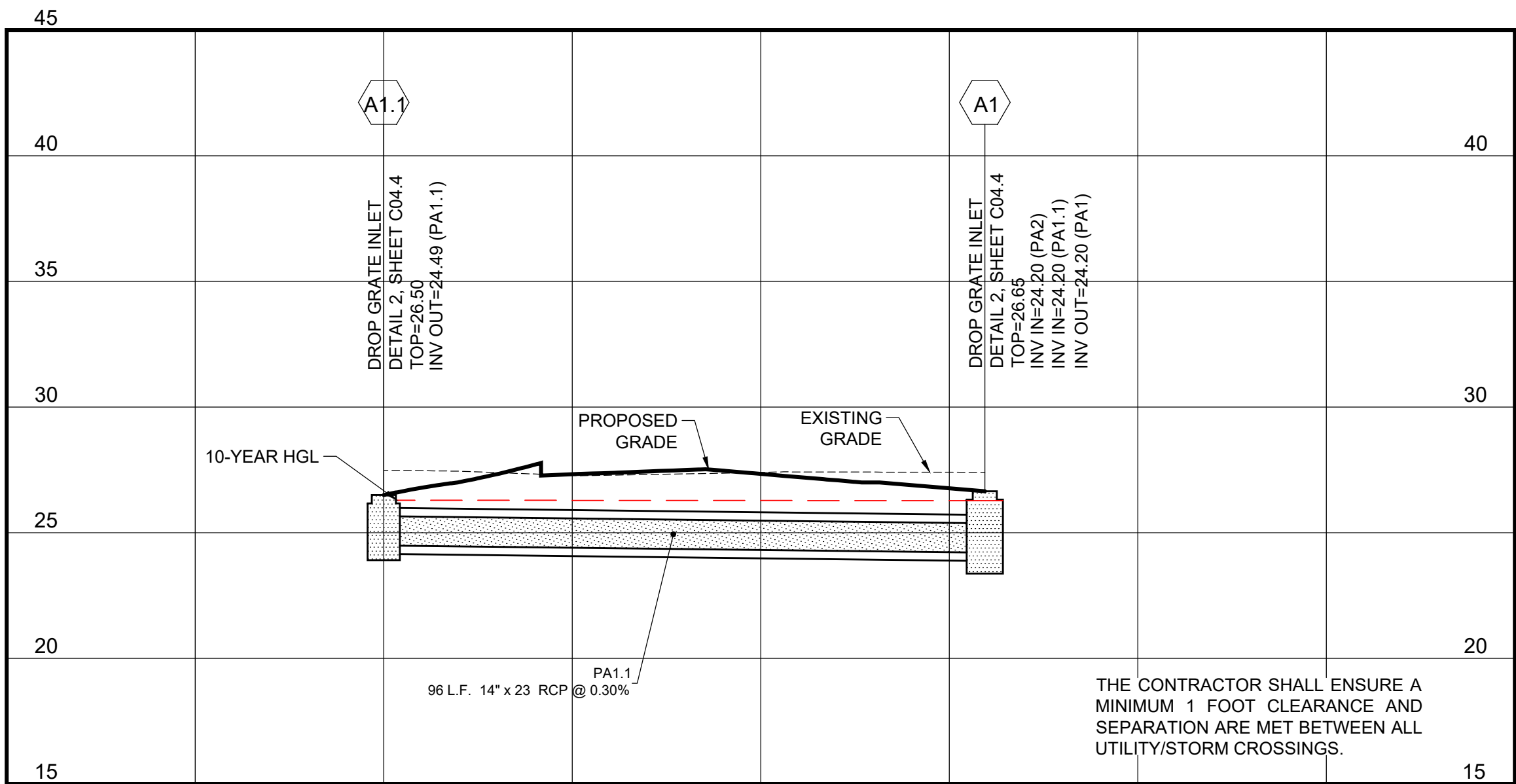


STORM PROFILE A4-OUTFALL



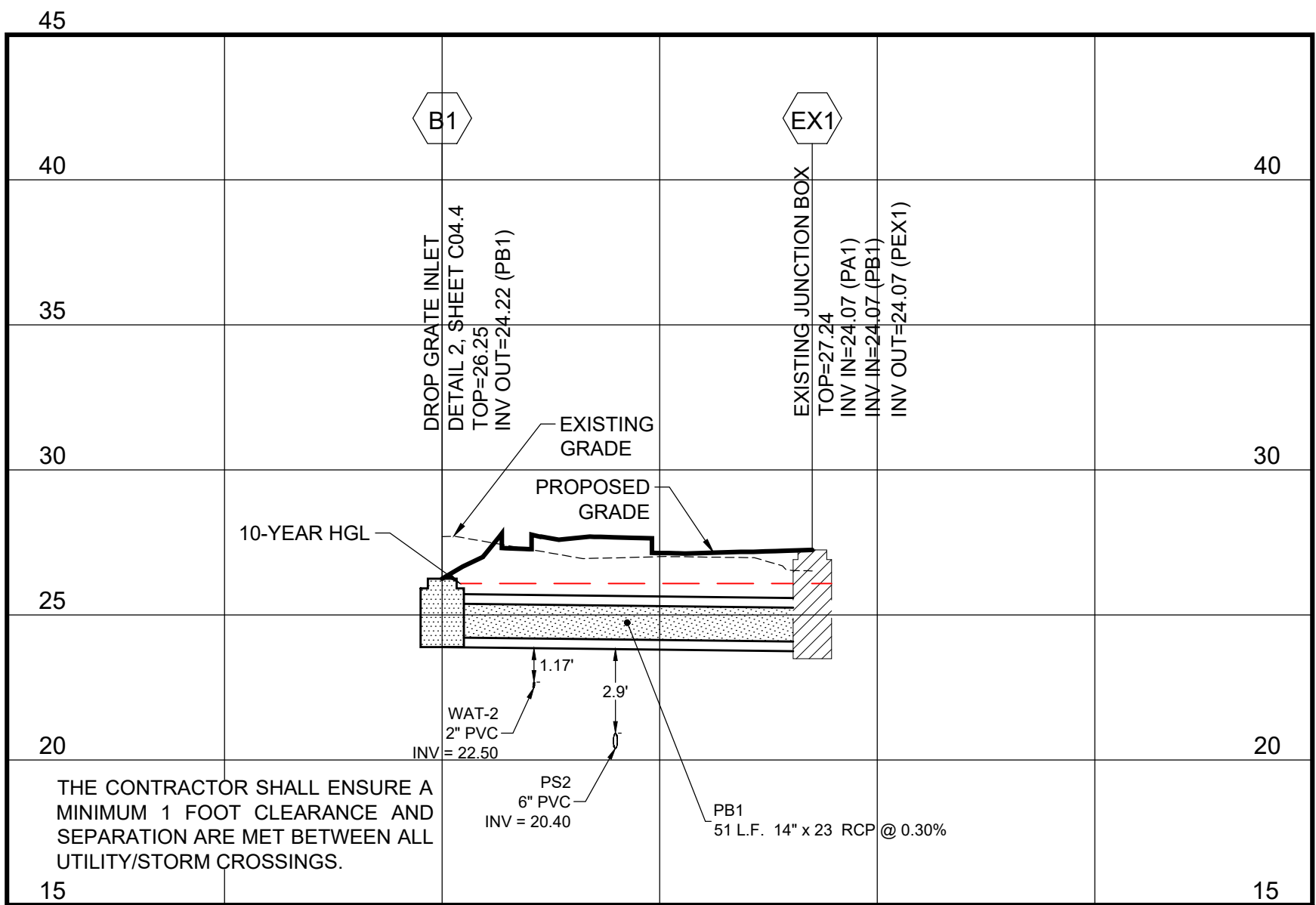
HORIZONTAL SCALE: 1"=20'  
VERTICAL SCALE: 1"=5'

STORM PROFILE A1.1-A1



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

STORM PROFILE B1-EX1



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

STORM STRUCTURE TABLE				
STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.65	24.20 (PA2) 24.20 (PA1.1)	24.20 (PA1)
A1.1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.50		24.49 (PA1.1)
A2	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.44 (PA3)	24.44 (PA2)
A3	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.59 (PA4)	24.59 (PA3)
A4	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30		24.89 (PA4)
B1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.25		24.22 (PB1)
EX1	EXISTING JUNCTION BOX	27.24	24.07 (PA1) 24.07 (PB1)	24.07 (PEX1)

STORM PIPE TABLE				
PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PA1	19" x 30"	44.38'	0.30%	RCP
PA1.1	14" x 23"	95.65'	0.30%	RCP
PA2	19" x 30"	80.32'	0.30%	RCP
PA3	14" x 23"	47.51'	0.30%	RCP
PA4	14" x 23"	101.97'	0.30%	RCP
PB1	14" x 23"	51.04'	0.30%	RCP
PEX1	19" x 30"	51.52'	0.27%	RCP

PROFILE NOTES

- CONTROLLED BACK FILL TO BE PLACED IN 6" LOOSE LIFT AND COMPACTED TO 100% ASTM D698 PRIOR TO STORM AND SANITARY SEWER CONSTRUCTION. BACK FILL SHALL BE PLACED TO A MINIMUM OF ±2' 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 1 ON SHEET C04.4 UNLESS SPECIFICALLY NOTED OTHERWISE.
- ALL SANITARY SEWER PIPING SHALL BE TRENCHED, BEDDED AND BACK FILLED ACCORDING WITH DETAIL 1 ON SHEET C04.2 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.
- EXCAVATIONS FOR STRUCTURES SHALL BE TAKEN AS A TRENCHING EXCAVATION WITHOUT FURTHER COMPENSATION.
- SEE SHEET C01.1 FOR GENERAL NOTES.



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REVISIONS:

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.  
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LAND O LAKES, FL 34638  
PHONE: (813) 387-0084

FBP CERT. OF AUTHORITY #8370

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PIPE PROFILES II

C04.6

SHEET 19 OF 38

PANDA HOME R3





PANDA EXPRESS, INC.

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REVISIONS:  
08/16/23  
UPDATED THE GRADING AND STORM DESIGN.

ISSUE DATE:

DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



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GRADING PLAN

C05.0

SHEET 20 OF 38

PANDA HOME R3

## GRADING & DRAINAGE LEGEND

GRADING / DRAINAGE	LINETYPE/SYMBOL
GRADE	1000
PROPOSED SPOT ELEVATION	1000.00
MATCH EXISTING SPOT	M.E.E.
MATCH EXISTING SPOT W/ ESTIMATED EXISTING ELEVATION	M.E.E. 1000.00
STORM DRAIN	
HEADWALL (HW) / FLARED END SECTION (FES)	
DROP INLET (GRATE)	
DROP INLET (GRATE AND HOOD)	
JUNCTION BOX (JB) / OCS	
CATCH BASIN (SINGLE WING)	
CATCH BASIN (DOUBLE WING)	
PEDESTAL TOP	
STORM STRUCTURE NUMBER	A3

## STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.65	24.20 (PA2) 24.20 (PA1.1)	24.20 (PA1)
A1.1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.50		24.49 (PA1.1)
A2	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.44 (PA3)	24.44 (PA2)
A3	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.59 (PA4)	24.59 (PA3)
A4	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30		24.89 (PA4)
B1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.25		24.22 (PB1)
EX1	EXISTING JUNCTION BOX	27.24	24.07 (PA1) 24.07 (PB1)	24.07 (PEX1)

## STORM PIPE TABLE

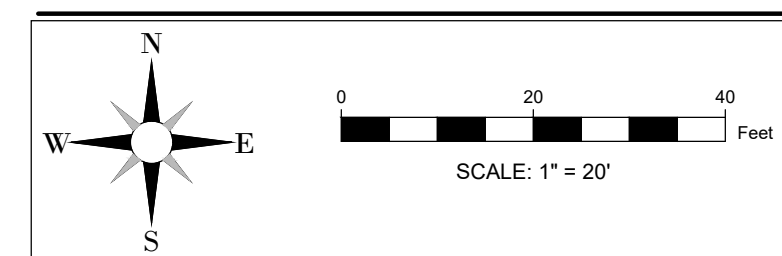
PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PA1	19" x 30"	44.38'	0.30%	RCP
PA1.1	14" x 23"	95.65'	0.30%	RCP
PA2	19" x 30"	80.32'	0.30%	RCP
PA3	14" x 23"	47.51'	0.30%	RCP
PA4	14" x 23"	101.97'	0.30%	RCP
PB1	14" x 23"	51.04'	0.30%	RCP
PEX1	19" x 30"	51.52'	0.27%	RCP

GRADING NOTES SEE SHEET C01.1

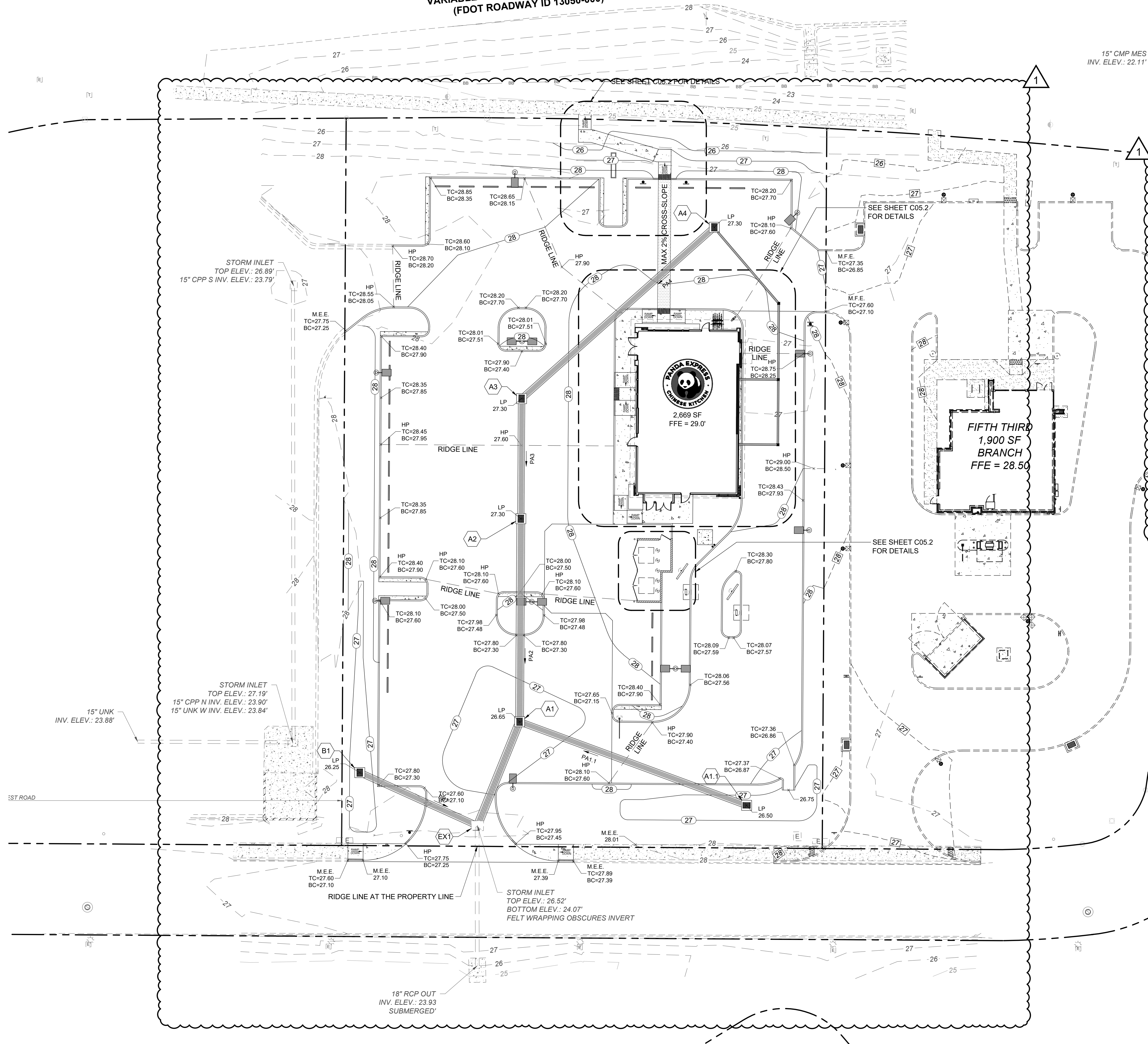
CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, UTILITIES, EXISTING IMPROVEMENTS, ETC. CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ALERT ENGINEER TO ANY DISCREPANCIES IMMEDIATELY



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811

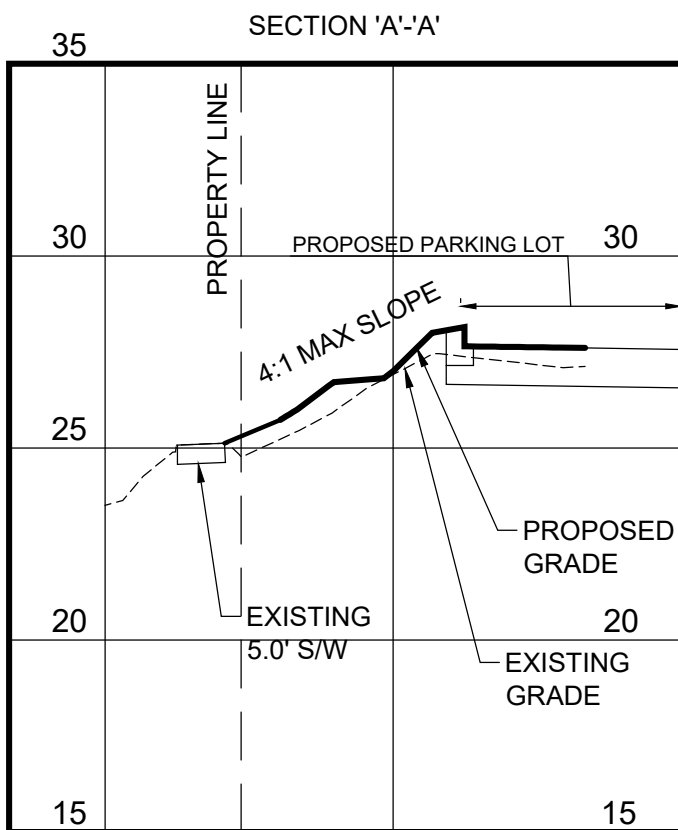


## E STATE ROAD 64 VARIABLE WIDTH PUBLIC RIGHT-OF-WAY (FDOT ROADWAY ID 13050-000)



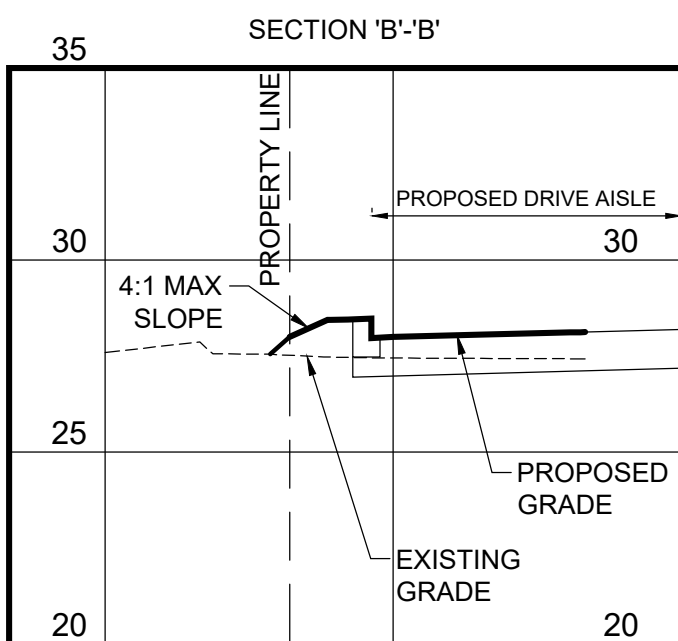


NORTH CROSS SECTION



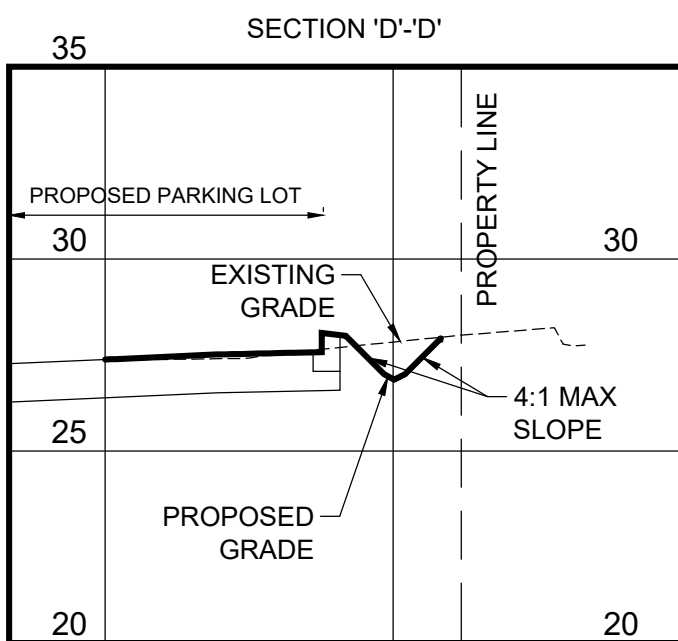
HORIZONTAL SCALE: 1"=20'  
VERTICAL SCALE: 1"=5'

EAST CROSS SECTION



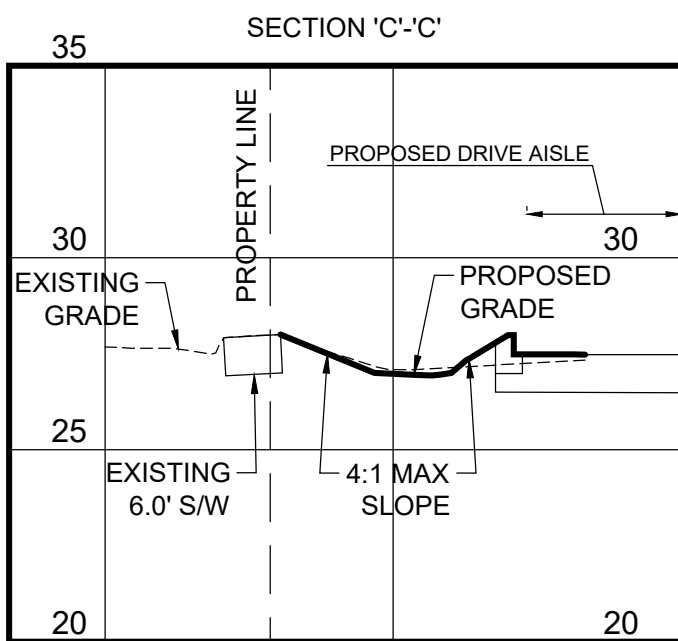
HORIZONTAL SCALE: 1"=20'  
VERTICAL SCALE: 1"=5'

WEST CROSS SECTION



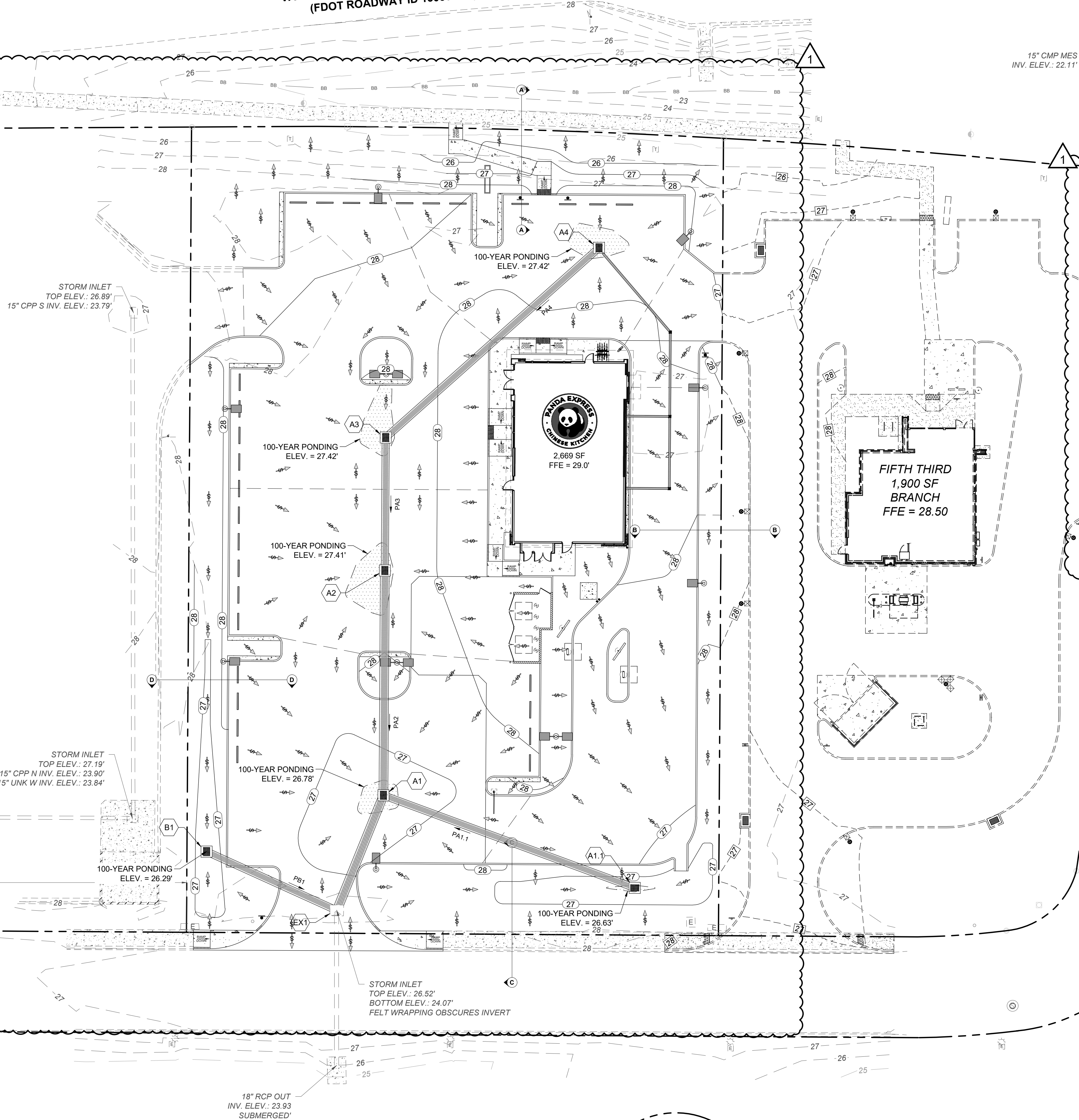
HORIZONTAL SCALE: 1"=20'  
VERTICAL SCALE: 1"=5'

SOUTH CROSS SECTION



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

E STATE ROAD 64  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY  
(FDOT ROADWAY ID 13050-000)



GRADING & DRAINAGE LEGEND

GRADING / DRAINAGE	LINETYPE/SYMBOL
GRADE	1000
PROPOSED SPOT ELEVATION	1000.00
MATCH EXISTING SPOT	M.E.E.
MATCH EXISTING SPOT W/ ESTIMATED EXISTING ELEVATION	M.E.E. 1000.00
STORM DRAIN	
HEADWALL (HW) / FLARED END SECTION (FES)	
DROP INLET (GRATE)	
DROP INLET (GRATE AND HOOD)	
JUNCTION BOX (JB) / OCS	
CATCH BASIN (SINGLE WING)	
CATCH BASIN (DOUBLE WING)	
PEDESTAL TOP	
STORM STRUCTURE NUMBER	A3

STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.65	24.20 (PA2) 24.20 (PA1.1)	24.20 (PA1)
A1.1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.50		24.49 (PA1.1)
A2	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.44 (PA3)	24.44 (PA2)
A3	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30	24.59 (PA4)	24.59 (PA3)
A4	DROP GRATE INLET DETAIL 2, SHEET C04.4	27.30		24.89 (PA4)
B1	DROP GRATE INLET DETAIL 2, SHEET C04.4	26.25		24.22 (PB1)
EX1	EXISTING JUNCTION BOX	27.24	24.07 (PA1) 24.07 (PB1)	24.07 (PEX1)

STORM PIPE TABLE

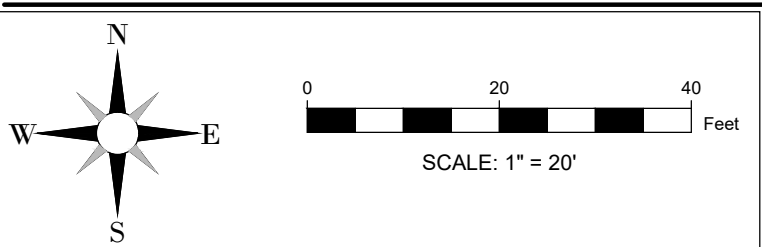
PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PA1	19" x 30"	44.38'	0.30%	RCP
PA1.1	14" x 23"	95.65'	0.30%	RCP
PA2	19" x 30"	80.32'	0.30%	RCP
PA3	14" x 23"	47.51'	0.30%	RCP
PA4	14" x 23"	101.97'	0.30%	RCP
PB1	14" x 23"	51.04'	0.30%	RCP
PEX1	19" x 30"	51.52'	0.27%	RCP

GRADING NOTES SEE SHEET C01.1

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING  
FEATURES, INCLUDING BUT NOT LIMITED TO,  
UTILITIES, EXISTING IMPROVEMENTS, ETC.  
CONTRACTOR SHALL VERIFY THEIR LOCATIONS  
AND ELEVATIONS PRIOR TO STARTING  
CONSTRUCTION AND ALERT ENGINEER TO ANY  
DISCREPANCIES IMMEDIATELY



24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811



PANDA EXPRESS, INC.

1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
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REVISIONS:  
08/16/23  
DESIGN, ADDED CROSS SECTIONS

ISSUE DATE:

DEVELOPER REVIEW 01/20/23  
PERMIT SET 04/04/23  
PERMIT SET 08/16/23  
CONSTRUCTION XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

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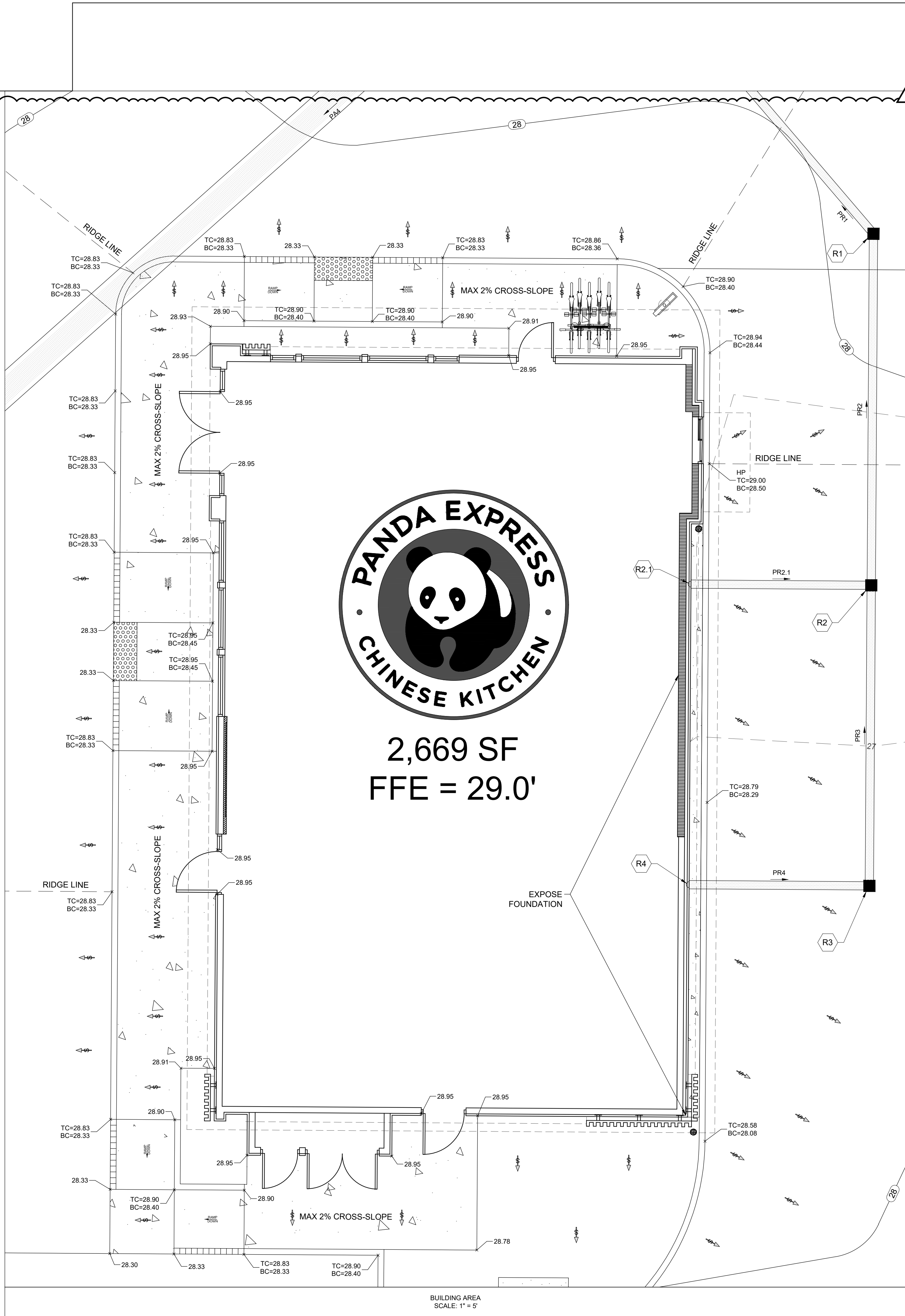
DRAINAGE PLAN

C05.1

SHEET 21 OF 38

PANDA HOME R3



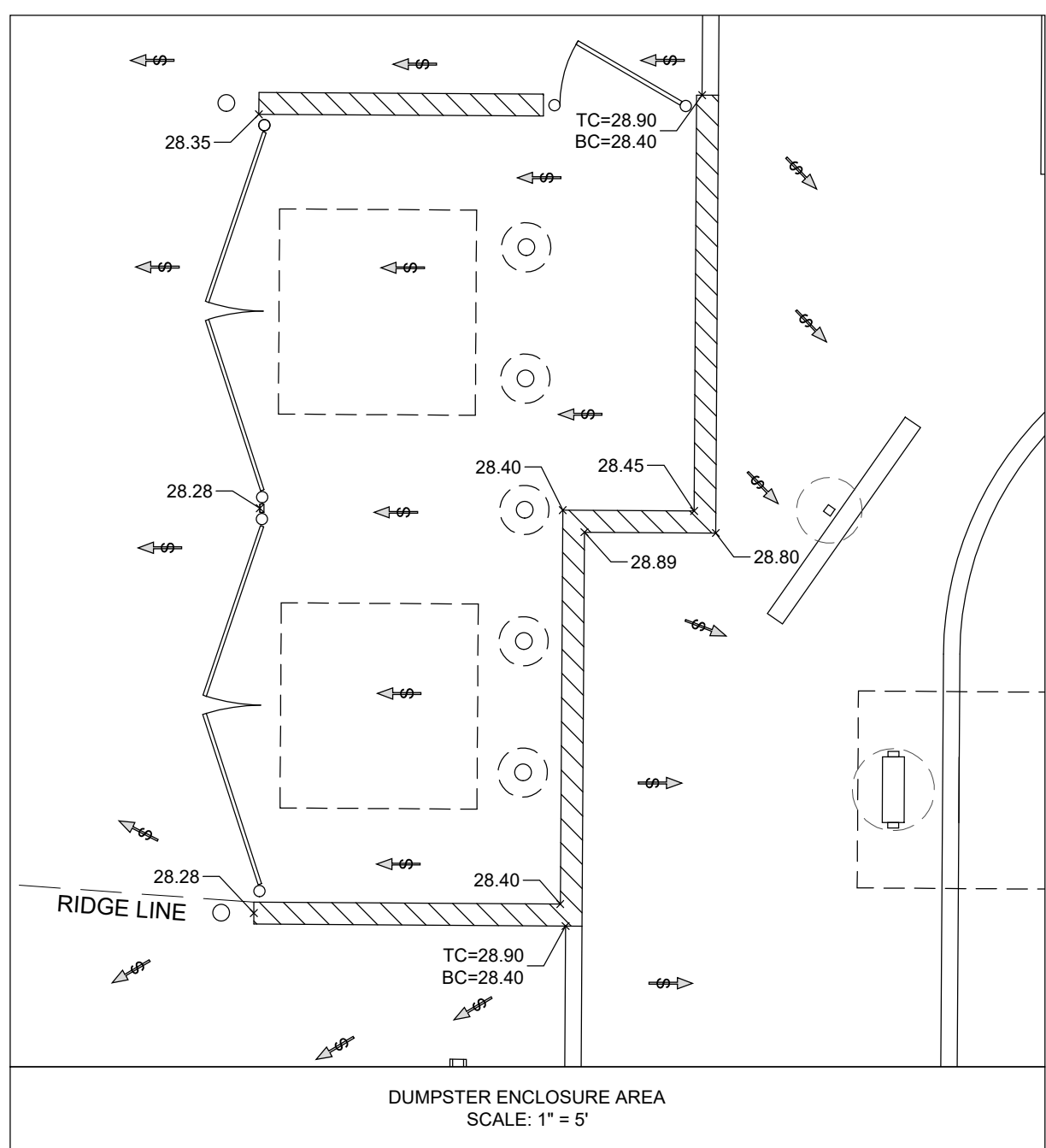
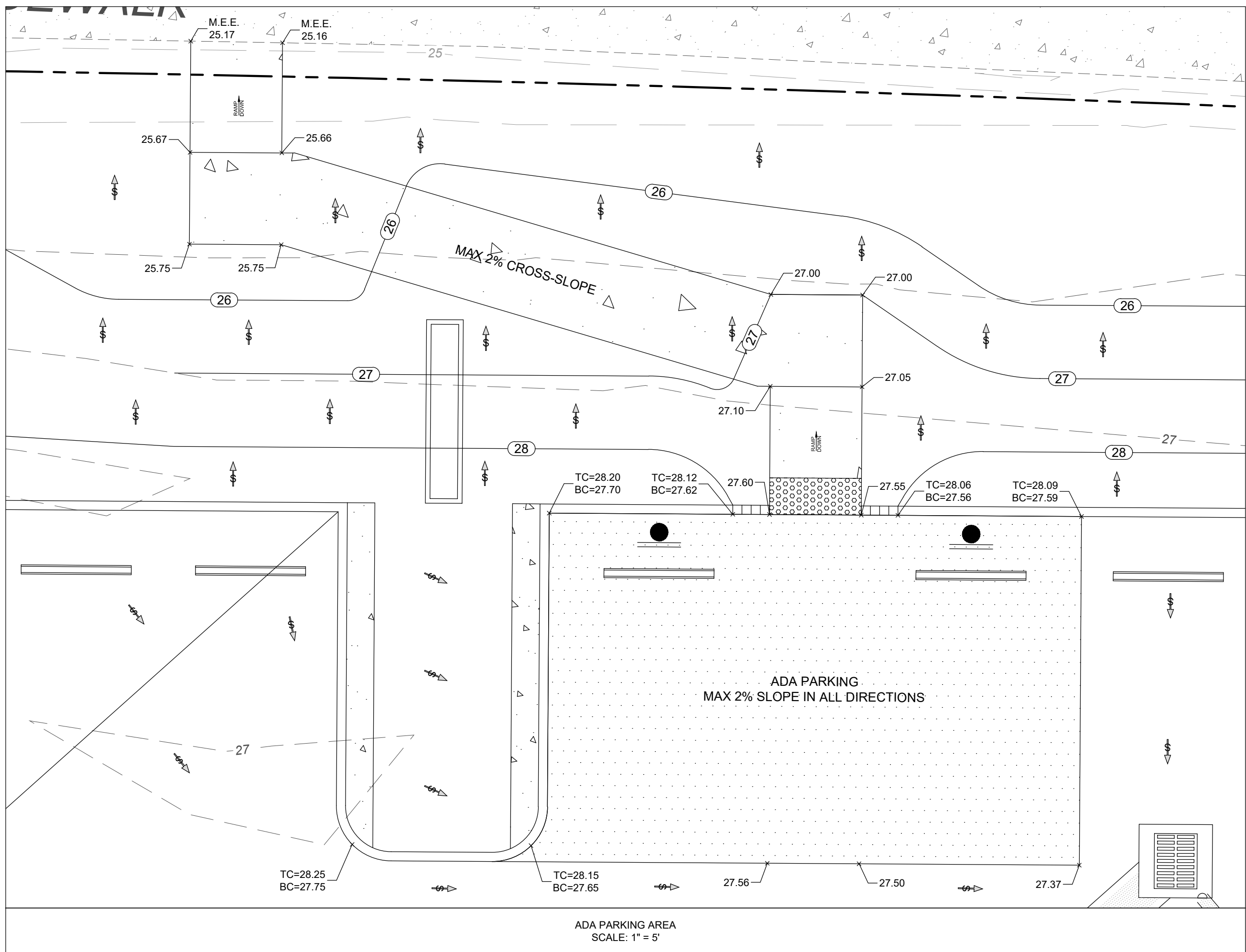


ROOF DRAINS STRUCTURE TABLE			
STRUCTURE NAME	STRUCTURE TYPE	INVERT IN	INVERT OUT
R0	STUB	24.92 (PR1)	
R1	60 DEGREE BEND	25.29 (PR2)	25.29 (PR1)
R2	TEE	25.59 (PR3)	25.59 (PR2)
R2.1	BUILDING STUB		26.00 (PR2.1)
R3	90 DEGREE BEND	25.85 (PR4)	25.84 (PR3)
R4	BUILDING STUB		26.00 (PR4)

ROOF DRAINS PIPE TABLE				
PIPE NAME	SIZE	LENGTH	SLOPE	MATERIAL
PR1	8"	36.98'	1.00%	PVC
PR2	8"	30.13'	1.00%	PVC
PR2.1	8"	15.46'	2.67%	PVC
PR3	8"	25.75'	1.00%	PVC
PR4	8"	15.46'	1.00%	PVC

GRADING & DRAINAGE LEGEND

GRADING / DRAINAGE	LINETYPE/SYMBOL
GRADE	1000
PROPOSED SPOT ELEVATION	1000.00
MATCH EXISTING SPOT	M.E.E.
MATCH EXISTING SPOT W/ ESTIMATED EXISTING ELEVATION	M.E.E. 1000.00
STORM DRAIN	
HEADWALL (HW) / FLARED END SECTION (FES)	
DROP INLET (GRATE)	
DROP INLET (GRATE AND HOOD)	
JUNCTION BOX (JB) / OCS	
CATCH BASIN (SINGLE WING)	
CATCH BASIN (DOUBLE WING)	
PEDESTAL TOP	
STORM STRUCTURE NUMBER	A3

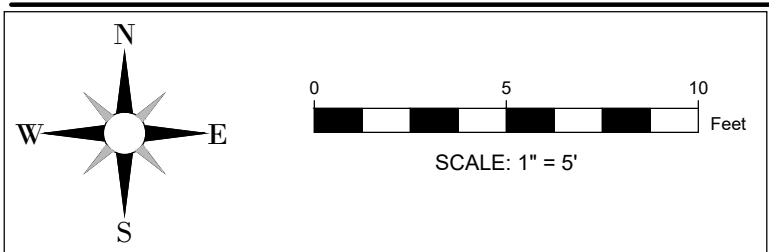


GRADING NOTES SEE SHEET C01.1

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REVISIONS:  
08/16/23  
UPDATED THE GRADING AND STORM DESIGN.

ISSUE DATE:

DEVELOPER REVIEW 01/20/23  
PERMIT SET 04/04/23  
PERMIT SET 08/16/23  
CONSTRUCTION XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



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DETAIL GRADING  
& DRAINAGE PLAN I

C05.2

SHEET 22 OF 38

PANDA HOME R3



"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECT OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

PROJECT NAME AND LOCATION INFORMATION:	PANDA EXPRESS - BRADENTON, FL 13028 SR 64
--	--

1. DRAINAGE PATTERNS.
2. APPROXIMATE SLOPES AFTER MAJOR GRADING ACTIVITIES.
3. AREAS OF SOIL DISTURBANCE.
4. OUTLINE ALL AREAS THAT ARE NOT TO BE DISTURBED.
5. LOCATION OF ALL MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS.
6. THE LOCATION OF EXPECTED STABILIZATION PRACTICES.
7. WETLANDS AND SURFACE WATERS. AND
8. LOCATIONS WHERE STORMWATER MAY DISCHARGE TO A SURFACE WATER OR MS4

DESCRIBE THE NATURE OF THE CONSTRUCTION ACTIVITY:	THE PROJECT CONSISTS OF THE NEW RESTAURANT WITH ASSOCIATED PARKING, UTILITY CONNECTIONS, LANDSCAPING, AND STORMWATER SEWER UTILITIES.
DESCRIBE THE INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:	<ul style="list-style-type: none"> <li>• 0-14 DAYS: INSTALLATION OF EROSION CONTROL DEVICES. CLEARING AND GRUBBING.</li> <li>• 14-30 DAYS: GRADING. INSTALLATION OF TEMPORARY VEGETATION AND 14 DAY INTERVALS. INSTALLATIONS OF STORM SEWER SYSTEM. MAINTENANCE OF EROSION CONTROL DEVICES.</li> <li>• 30-60 DAYS: INSTALLATION OF UTILITIES, PERMANENT VEGETATION AT 30 DAY INTERVALS. COMMENCE BUILDING PAD CONSTRUCTION. MAINTENANCE OF EROSION CONTROL DEVICES.</li> <li>• 60-90 DAYS: BUILDING PAD CONSTRUCTION. MAINTENANCE OF EROSION CONTROL DEVICES.</li> <li>• 90-120 DAYS: PAVING. MAINTENANCE OF EROSION CONTROL DEVICES. REMOVAL OF EROSION CONTROL DEVICES.</li> </ul>
TOTAL AREA OF THE SITE:	1.25 ACRES
TOTAL AREA OF THE SITE TO BE DISTURBED:	1.25 ACRES
EXISTING DATA DESCRIBING THE SOIL OR QUALITY OF ANY STORMWATER DISCHARGE FROM THE SITE:	EAUGALLIE-EAUGALLIE WET, FINE SAND, 0 TO 2 PERCENT SLOPES
ESTIMATE THE DRAINAGE AREA SIZE FOR EACH DISCHARGE POINT:	1.25 ACRES
LATITUDE AND LONGITUDE OF EACH DISCHARGE POINT AND IDENTIFY THE RECEIVING WATER OR MS4 FOR EACH DISCHARGE POINT:	27°28'58.7"N 82°24'42.8"W

• PRIOR TO CLEARING, A SILT FENCE (TRENCHED 4 INCHES DEEP AND BACKFILLED ON THE UPHILL SIDE), SHALL BE INSTALLED ALONG THE PERIMETER OF THE SITE.

• AFTER CLEARING, GRUBBING AND/OR EXCAVATION STAGES, AREAS THAT ARE DISTURBED MORE THAN 7 DAYS SHALL BE STABILIZED WITH RYB GRASS APPLIED AT MANUFACTURER'S RECOMMENDATIONS. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 4,000 POUNDS OF STRAW PER ACRE. A ROCK ACCESS ROAD (THAT IS 50FT LONG WITH A 6-INCH DEPTH OF FOOTING) SHALL BE LINED WITH 18" RYB GRASS TO MINIMIZE THE EFFECT OF TRUCK TRAFFIC AND SEDIMENTATION TRACKING BOTH ON AND OFF THE SITE. THERE WILL BE ONLY ONE CONSTRUCTION ENTRANCE AT THIS SITE.

• ALL INITIAL AND TEMPORARY EXPOSED INLETS/SOUTFALLS, ONCE INSTALLED, SHALL BE PROTECTED FROM EROSION AND SEDIMENT RUNOFF USING PROPERLY INSTALLED INLET PROTECTION. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES ARE TEMPORARILY SUSPENDED SHALL BE PROTECTED WITH MULCH TO MINIMIZE EROSION. MULCH WILL BE MODIFIED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. SEEDING SHALL BE THE SAME AS IN TEMPORARY SEEDING.

• ALL INSTALLATION SHALL BE COMMENCED AS DEPICTED ON THE INSTALLATION "TYPICAL" SHEET.

DESCRIBE ALL STRUCTURAL CONTROLS TO BE IMPLEMENTED TO DIVERT STORMWATER FLOW FROM EXPOSED SOILS AND STRUCTURAL PRACTICES TO STORE FLOWS, RETAIN SEDIMENT ON-SITE OR IN ANY OTHER WAY LIMIT STORMWATER RUNOFF. THESE CONTROLS INCLUDE SILT FENCES, EARTH DIKES, DIVERSIONS, SWALES, SEDIMENT TRAPS, CHECK DAMS, SUBSURFACE DRAINS, PIPE SLOPE DRAINS, LEVEL SPREADERS, STORM DRAIN INLET PROTECTION, ROCK OUTLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, GABIONS, COAGULATING AGENTS AND TEMPORARY OR PERMANENT SEDIMENT BASINS

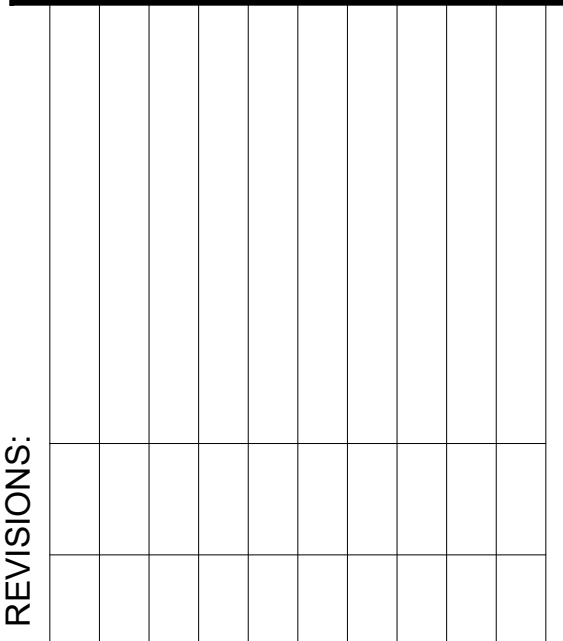
AS STATED IN THE MASTER STORMWATER DRAINAGE REPORT, THE OUTPARCELS 1A, 1B, AND 1C SHALL NOT EXCEED A CURVE NUMBER OF 95.2. THESE PARCELS WILL OUTFALL INTO A DRY DETENTION BASIN LOCATED SOUTH OF THE SUBJECT SITE. THIS POND IS KNOWN AS "DRY POND" WITHIN THE MASTER DRAINAGE REPORT PREPARED BY ZNS ENGINEERING, DATED MAY 2021.

<p>WASTE DISPOSAL, THIS MAY INCLUDE CONSTRUCTION DEBRIS, CHEMICALS, LITTER, AND SANITARY WASTES:</p>	<p>ALL CONSTRUCTION MATERIALS AND DEBRIS WILL BE PLACED IN A DUMPMSTER AND HAULED OFF SITE TO A LANDFILL OR OTHER PROPER DISPOSAL SITE. THE DUMPMSTER SHALL BE LOCATED AS SHOWN ON THE SITE MAP. NO MATERIALS WILL BE BURIED ON SITE</p>
	<p>TO BE COMPLETED BY CONTRACTOR</p>
<p>OFFSITE VEHICLE TRACKING FROM CONSTRUCTION ENTRANCES/EXITS:</p>	<p>OFFSITE VEHICLE TRACKING OF SEDIMENTS AND DUST GENERATION WILL BE MINIMIZED VIA A ROCK CONSTRUCTION ENTRANCE, DAILY STREET SWEEPING AND THE USE OF WATER TO KEEP DUST DOWN.</p>
	<p>TO BE COMPLETED BY CONTRACTOR</p>
<p>THE PROPER APPLICATION RATES OF ALL FERTILIZERS, HERBICIDES AND PESTICIDES USED AT THE CONSTRUCTION SITE:</p>	<p>FERTILIZERS AND PESTICIDES WILL BE USED AT A MINIMUM AND IN ACCORDANCE WITH THE MANUFACTURERS' SUGGESTED APPLICATION RATES. THE FERTILIZERS AND PESTICIDES WILL BE STORED IN A COVERED SHED, AS INDICATED ON SITE MAP.</p>
	<p>TO BE COMPLETED BY CONTRACTOR</p>
<p>THE STORAGE, APPLICATION, GENERATION AND MIGRATION OF ALL TOXIC SUBSTANCES:</p>	<p>A SPILL PREVENTION PLAN IS IN PLACE. A DOUBLE WALLED FUEL TANK SHALL BE PLACED ON A DRIP PAN TO CONTAIN AND PREVENT ANY DRIPS OR LEAKS FROM BEING DISCHARGED IN STORMWATER RUNOFF. ALL PAINTS AND OTHER CHEMICALS WILL BE STORED IN A LOCKED COVERED SHED, AS INDICATED ON SITE MAP.</p>
	<p>TO BE COMPLETED BY CONTRACTOR</p>
<p>OTHER:</p>	<p>PORT-O-LETS WILL BE PLACED AWAY FROM STORM SEWER SYSTEMS, STORM INLET(S), SURFACE WATERS AND WETLANDS. SPECIFIC PLACEMENT IS DEPICTED ON THE SITE MAP. NO VEHICLE MAINTENANCE SHALL BE CONDUCTED ON-SITE. A WASHDOWN AREA SHALL BE DESIGNATED AT ALL TIMES AND WILL NOT BE LOCATED IN ANY AREA THAT WILL ALLOW FOR THE DISCHARGE OF POLLUTED RUNOFF. A SMALL-VEGETATED BERM SHALL BE PLACED AROUND THE WASHDOWN AREA.</p>
	<p>TO BE COMPLETED BY CONTRACTOR</p>

TO BE COMPLETED BY CONTRACTOR

NAME	TITLE	COMPANY NAME (ADDRESS AND PHONE NUMBER)	DATE

Name (Responsible Authority)	Date
------------------------------	------



DEVELOPER REVIEW	01/20/23
PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

FBPE CERT. OF AUTHORITY #8370

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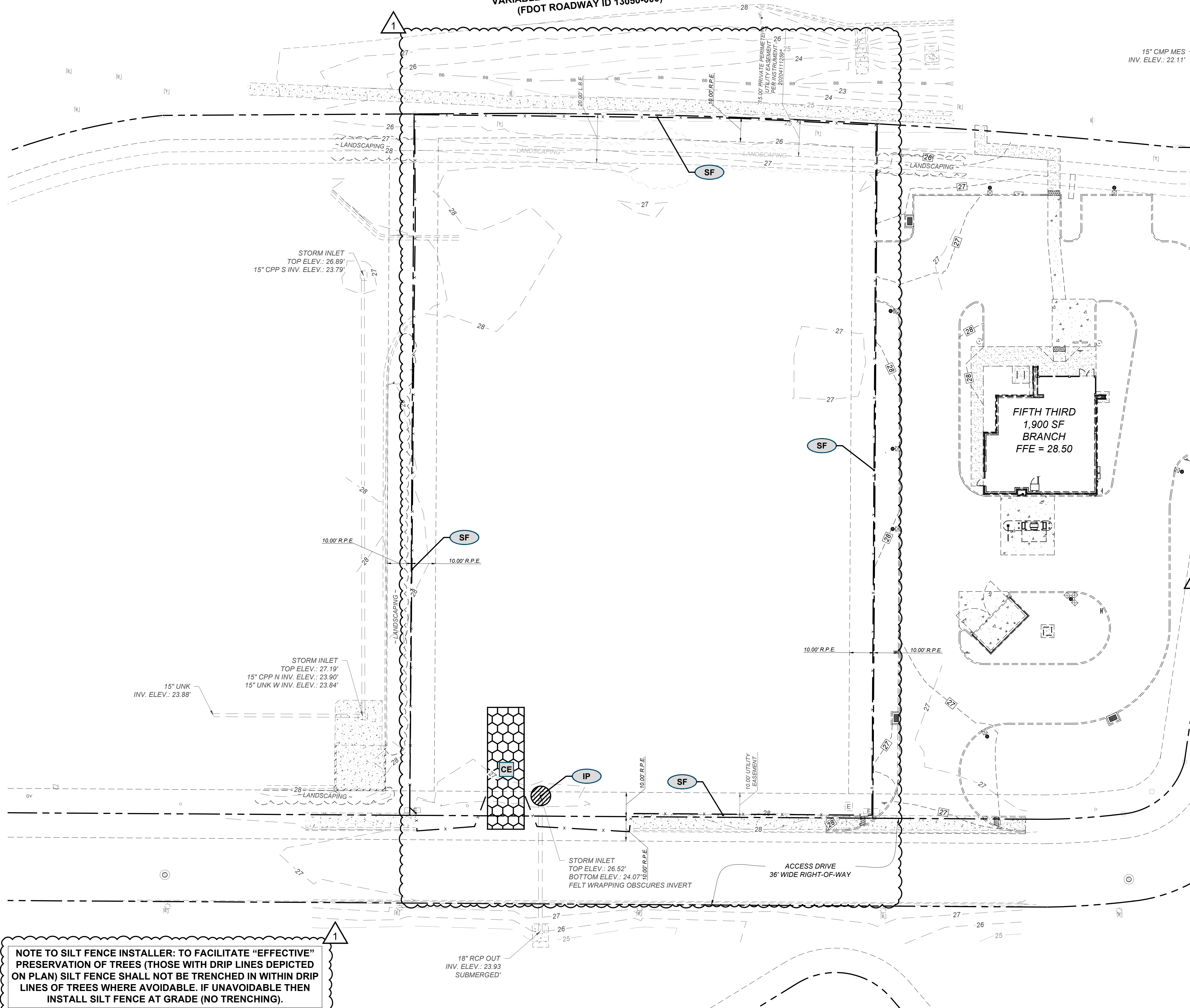
SWPPP

SHEET 23 OF 38

PANDA HOME R3



E STATE ROAD 64  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY  
(FDOT ROADWAY ID 13050-000)



ESPC LEGEND

ESPC / BMP	LINETYPE/SYMBOL
CONSTRUCTION EXIT (CO)	
SILT FENCE - TYPE C (SF)	
SILT FENCE - TYPE C DOUBLE (SF)	
INLET PROTECTION (IP)	
OUTLET PROTECTION (OP)	
DUST CONTROL-DISTURBED AREAS	
TEMPORARY SEEDING	
PERMANENT SEEDING	
MULCHING	
SODDING	
SLOPE STABILIZATION	
TREE PROTECTION	

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

ESPC NOTES

GENERAL

1. 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.
2. 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.
3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
4. 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.
5. 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.
6. EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
7. SEE GRADING & DRAINAGE NOTES.

SLOPES AND DISTURBED AREA STABILIZATION

1. CONCENTRATED FLOW AREAS AND ALL SLOPES 2H:1V OR STEEPER SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKET.
2. ALL CUT AND FILL SLOPES MUST BE SURFACE ROUGHENED AND VEGETATED WITHIN (7) DAYS OF THEIR CONSTRUCTION.
3. ALL DISTURBED AREAS SHALL BE GRASSED AS SOON AS CONSTRUCTION PHASES PERMIT. NO EXPOSED GRADE WILL BE LEFT UNSTABLE FOR MORE THAN 7 DAYS.
4. 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.
5. WIRE MESH REINFORCED SEDIMENT BARRIERS SHALL BE PLACED AT THE TOE OF ALL FILL SLOPES.

DRAINAGE

1. ALL DRAINAGE STRUCTURES SHALL BE EROSION PROOFED.

MAINTENANCE AND INSPECTIONS

1. 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.
2. MAINTENANCE OF ALL SOIL AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.

LISTED SPECIES

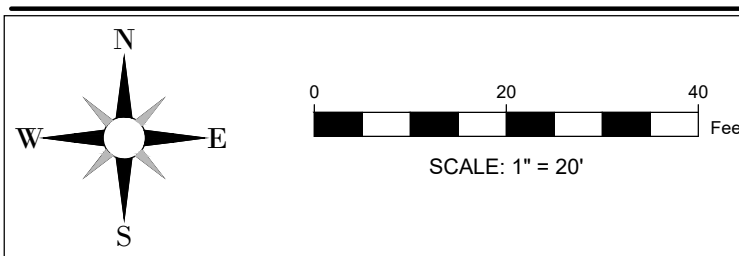
1. THE OWNER IS RESPONSIBLE FOR ENSURING THAT NO LISTED SPECIES, INCLUDING, BUT NOT LIMITED TO, GOPHER TORTOISES OR THEIR BURROWS ARE LOCATED WITHIN THE PROJECT AREA. LISTED SPECIES, AND THEIR NESTS AND BURROWS, ARE PROTECTED BY LAW AND REQUIRE A PERMIT FOR RELOCATION. IF ANY ARE ENCOUNTERED, ALL CONSTRUCTION ACTIVITY MUST CEASE UNTIL A PERMIT IS OBTAINED. A COPY OF THE PERMIT SHALL BE SUBMITTED TO EPS WITHIN 30 DAYS OF PERMIT ISSUANCE.

**BASED IN THE WEB SOIL SURVEY  
INFORMATION, ALL SOILS AT THIS  
SITE ARE CLASSIFIED AS  
EAUGALLIE-EAUGALLIE WET, FINE  
SAND, 0 TO 2 PERCENT SLOPES.**

**TOTAL DISTURBED AREA THIS  
PHASE: 1.25 AC.**



**24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811**



**NOTE TO SILT FENCE INSTALLER: TO FACILITATE "EFFECTIVE"  
PRESERVATION OF TREES (THOSE WITH DRIP LINES DEPICTED  
ON PLAN) SILT FENCE SHALL NOT BE TRENCHED IN WITHIN DRIP  
LINES OF TREES WHERE AVOIDABLE. IF UNAVOIDABLE THEN  
INSTALL SILT FENCE AT GRADE (NO TRENCHING).**



**PANDA EXPRESS, INC.**

1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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08/16/23  
UPDATED THE DESIGN, ADDED NOTES

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CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



**INGENIUM ENTERPRISES, INC.**

19445 SHUMARD OAK DR.

SUITE 102

LAND O LAKES, FL 34638

PHONE: (813) 387-0084

FBPE CERT. OF AUTHORITY #8370

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ESPC PLAN  
CLEARING PHASE

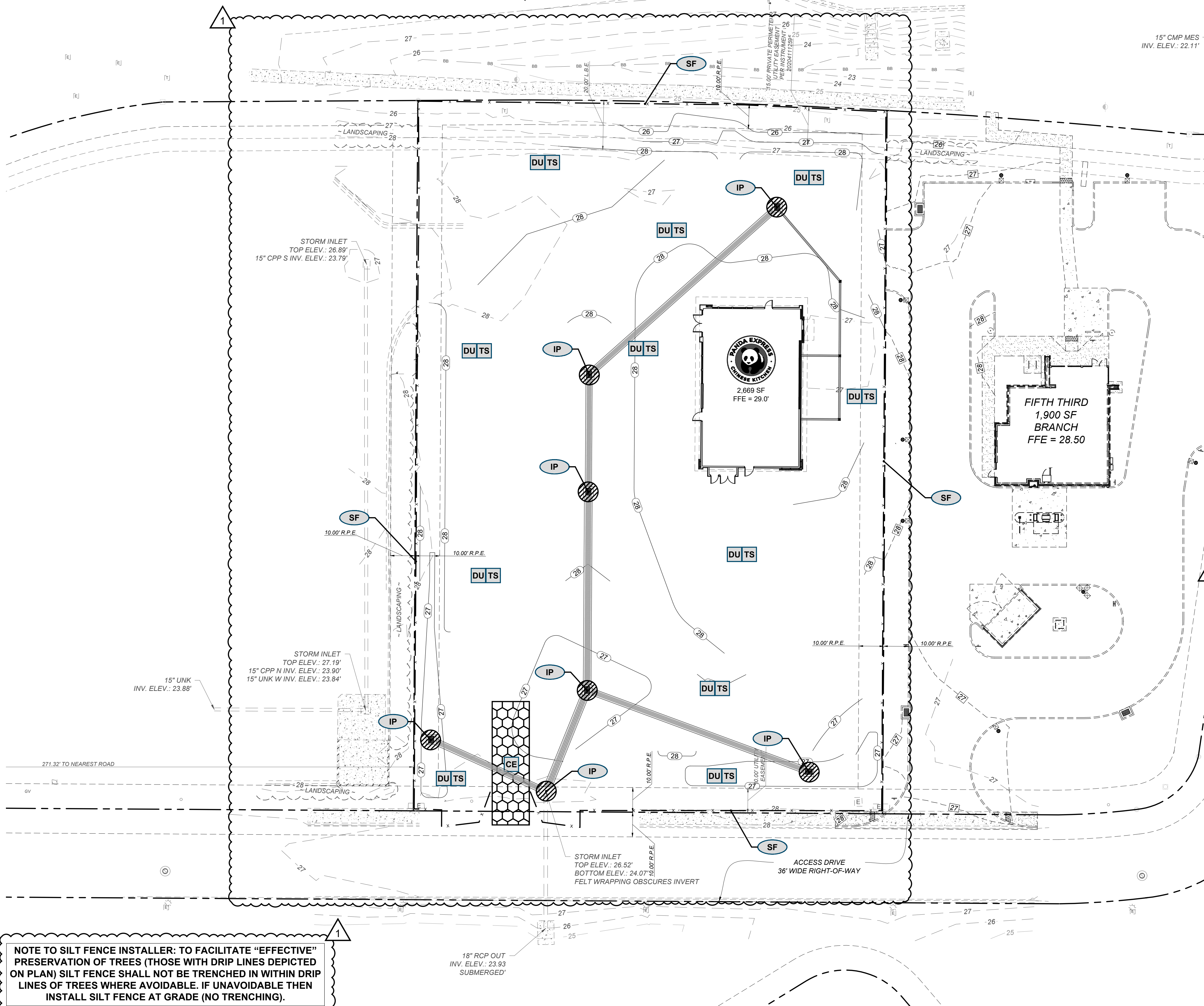
**C06.1**

SHEET 24 OF 38

PANDA HOME R3



E STATE ROAD 64  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY  
(FDOT ROADWAY ID 13050-000)



ESPC LEGEND

ESPC / BMP	LINETYPE/SYMBOL
CONSTRUCTION EXIT (CO)	
SILT FENCE - TYPE C (SF)	
SILT FENCE - TYPE C DOUBLE (SF)	
INLET PROTECTION (IP)	
OUTLET PROTECTION (OP)	
DUST CONTROL-DISTURBED AREAS	
TEMPORARY SEEDING	
PERMANENT SEEDING	
MULCHING	
SODDING	
SLOPE STABILIZATION	
TREE PROTECTION	

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

ESPC NOTES

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LISTED SPECIES

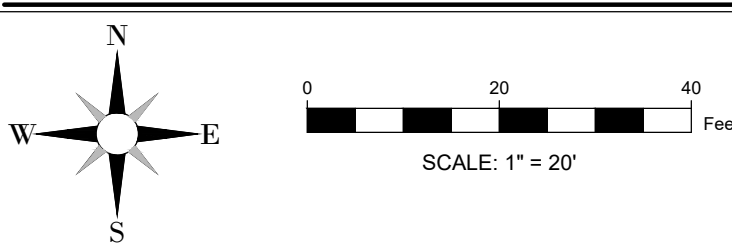
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**BASED IN THE WEB SOIL SURVEY INFORMATION, ALL SOILS AT THIS SITE ARE CLASSIFIED AS EAUGALLIE-EAUGALLIE WET, FINE SAND, 0 TO 2 PERCENT SLOPES.**

**TOTAL DISTURBED AREA THIS PHASE: 1.25 AC.**



**24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811**



**NOTE TO SILT FENCE INSTALLER: TO FACILITATE "EFFECTIVE" PRESERVATION OF TREES (THOSE WITH DRIP LINES DEPICTED ON PLAN) SILT FENCE SHALL NOT BE TRENCHED IN WITHIN DRIP LINES OF TREES WHERE AVOIDABLE. IF UNAVOIDABLE THEN INSTALL SILT FENCE AT GRADE (NO TRENCHING).**



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CONSTRUCTION	XX-XX-XX

DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



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LAND O LAKES, FL 34638  
PHONE: (813) 387-0084

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ESPC PLAN  
GRADING PHASE

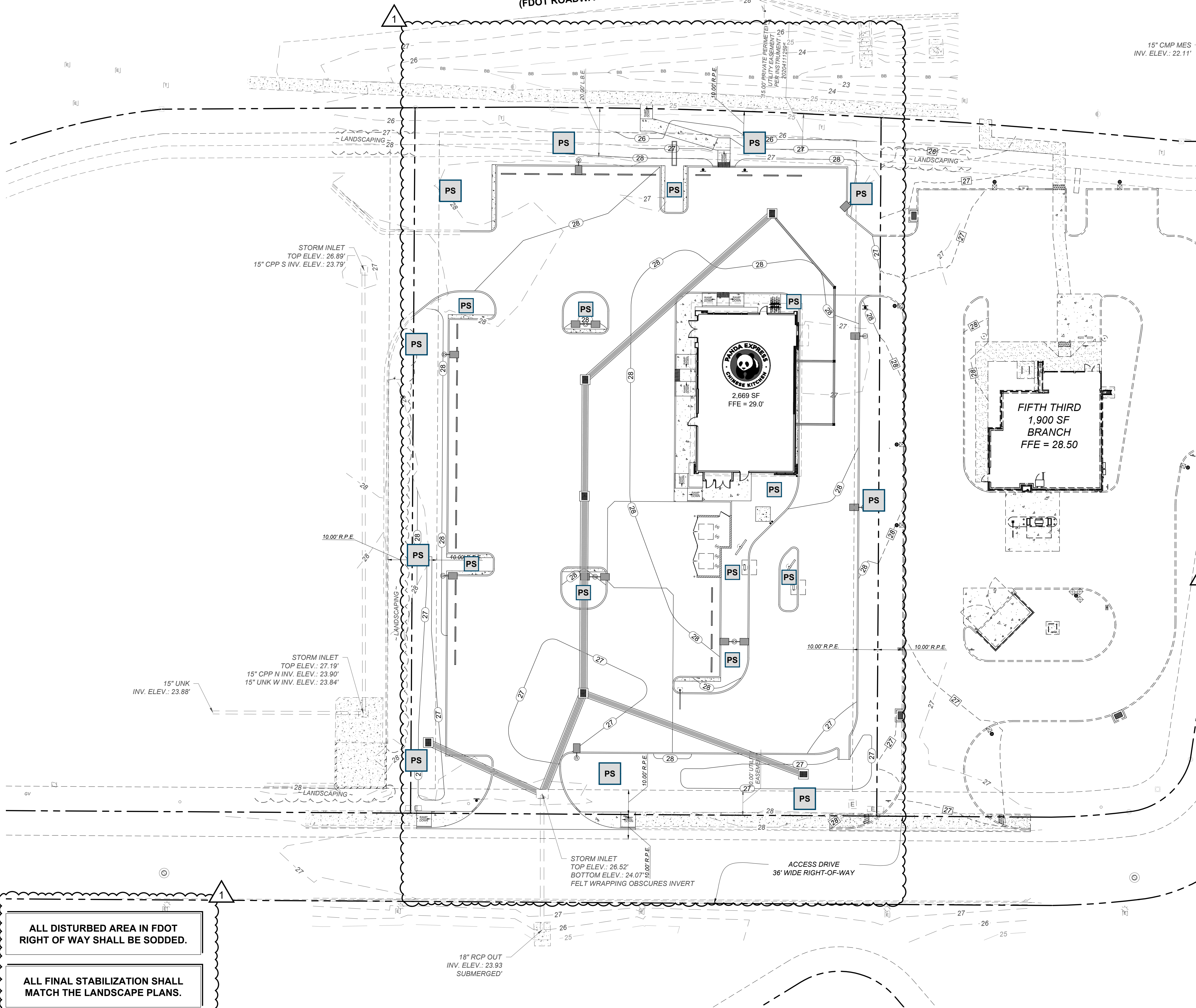
**C06.2**

SHEET 25 OF 38

PANDA HOME R3



E STATE ROAD 64  
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY  
(FDOT ROADWAY ID 13050-000)



ESPC LEGEND

ESPC / BMP	LINETYPE/SYMBOL
CONSTRUCTION EXIT (CO)	
SILT FENCE - TYPE C (SF)	
SILT FENCE - TYPE C DOUBLE (SF)	
INLET PROTECTION (IP)	
OUTLET PROTECTION (OP)	
DUST CONTROL-DISTURBED AREAS	
TEMPORARY SEEDING	
PERMANENT SEEDING	
MULCHING	
SODDING	
SLOPE STABILIZATION	
TREE PROTECTION	

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

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  - WIRE MESH REINFORCED SEDIMENT BARRIERS SHALL BE PLACED AT THE TOE OF ALL FILL SLOPES.

- DRAINAGE
- ALL DRAINAGE STRUCTURES SHALL BE EROSION PROOFED.

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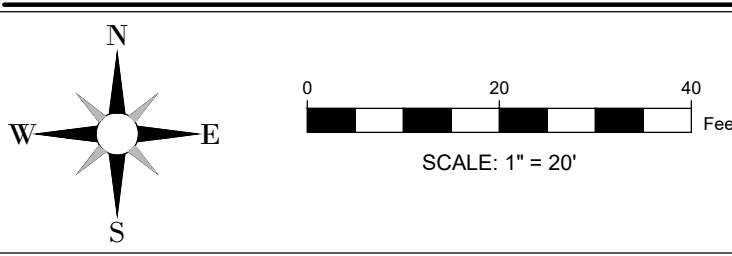
- LISTED SPECIES
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EAUGALLIE-EAUGALLIE WET, FINE  
SAND, 0 TO 2 PERCENT SLOPES.**

**TOTAL DISTURBED AREA THIS  
PHASE: 0.00 AC.**



**24-HOUR CONTACT:  
JOE CELENTO  
(912) 272-4811**



**ALL DISTURBED AREA IN FDOT  
RIGHT OF WAY SHALL BE SODDED.**

**ALL FINAL STABILIZATION SHALL  
MATCH THE LANDSCAPE PLANS.**



**PANDA EXPRESS, INC.**

1683 WALNUT GROVE AVE.  
ROSEMead, CALIFORNIA 91770

TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8288

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DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



INGENIUM ENTERPRISES, INC.

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SUITE 102

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ESPC PLAN  
FINAL PHASE

**C06.3**

SHEET 26 OF 38

PANDA HOME R3





PANDA EXPRESS, INC.

1683 WALNUT GROVE AVE.  
ROSEMEAD, CALIFORNIA 91770

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19445 SHUMARD OAK DR.  
SUITE 102  
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ESPC DETAILS I

C06.4

SHEET 27 OF 38

PANDA HOME R3

#### 4.03 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE & EXIT (ES BMP 1.01)

##### Definition

A stone stabilized pad located at points of vehicular ingress and egress on a construction site.

##### Purpose

To stabilize entrances to the construction site and reduce the amount of sediment transported onto public roads by motor vehicles or runoff.

##### Conditions Where Practice Applies

Wherever traffic will be leaving a construction site and moving directly onto a public road or other paved area.

##### Planning Considerations

Construction entrances provide an area where mud can be removed from construction vehicle tires before they enter a public road. If the action of the vehicle traveling over the gravel pad is not sufficient to remove most of the mud, then the tires must be washed before the vehicle enters a public road. If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried off-site. Construction entrances should be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles.

##### Design Criteria

###### Aggregate Size

FDOT No. 1 Coarse Aggregate (1.5 - 3.5 inch stone)(4 - 9 cm) should be used. Wood chips may be used for single family residential construction, provided that they can be prevented from floating away in a storm.

##### Entrance Dimensions

The aggregate layer must be at least 6 inches (15 cm) thick. It must extend the full width of the vehicular ingress and egress area. The length of the entrance must be at least 50 feet (20 m). The entrance must widen at its connection to the roadway in order to accommodate the turning radius of large trucks. (See Plate 4.03a)

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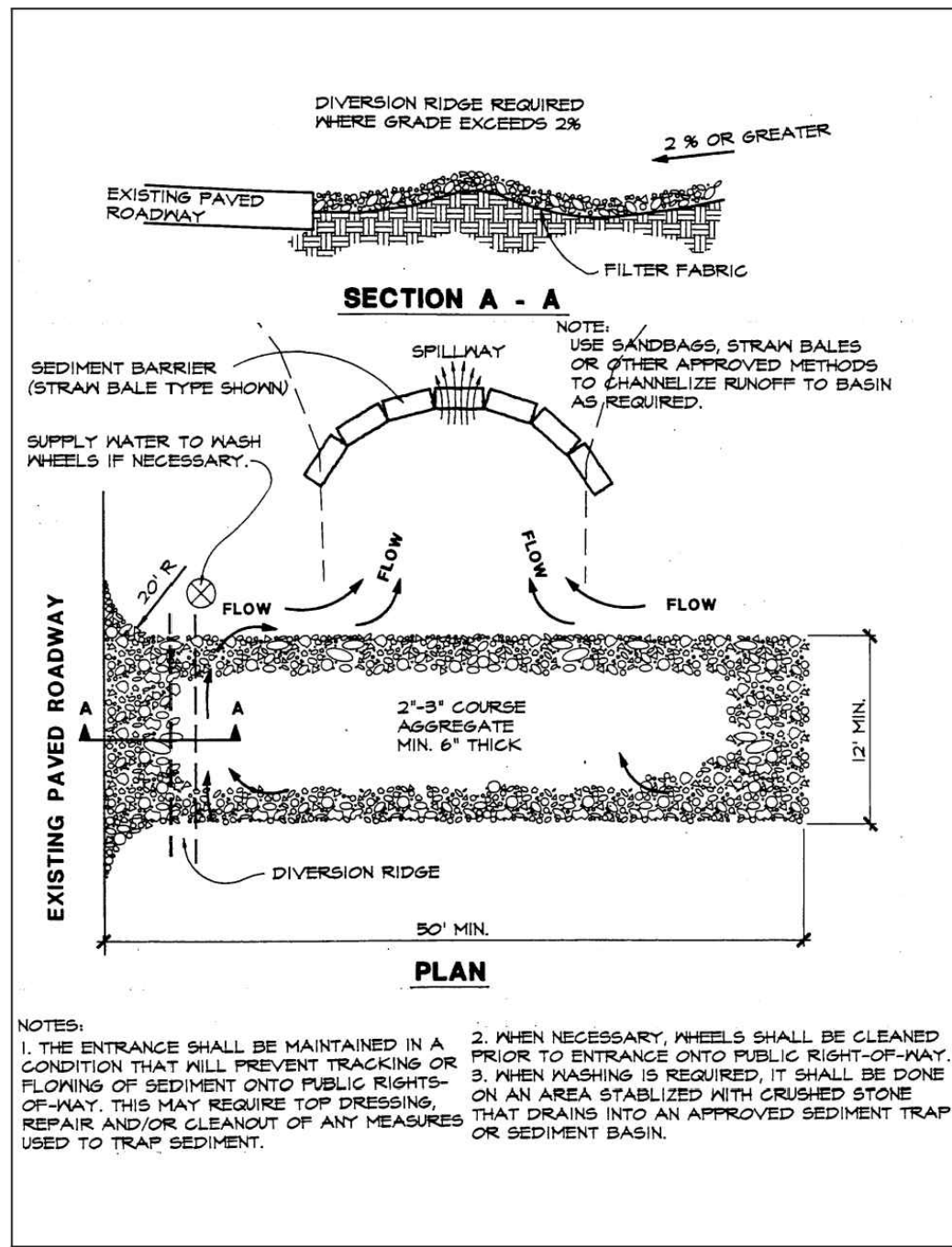


Plate 4.03a Temporary Gravel Construction Entrance  
Source: Erosion Draw

4-8

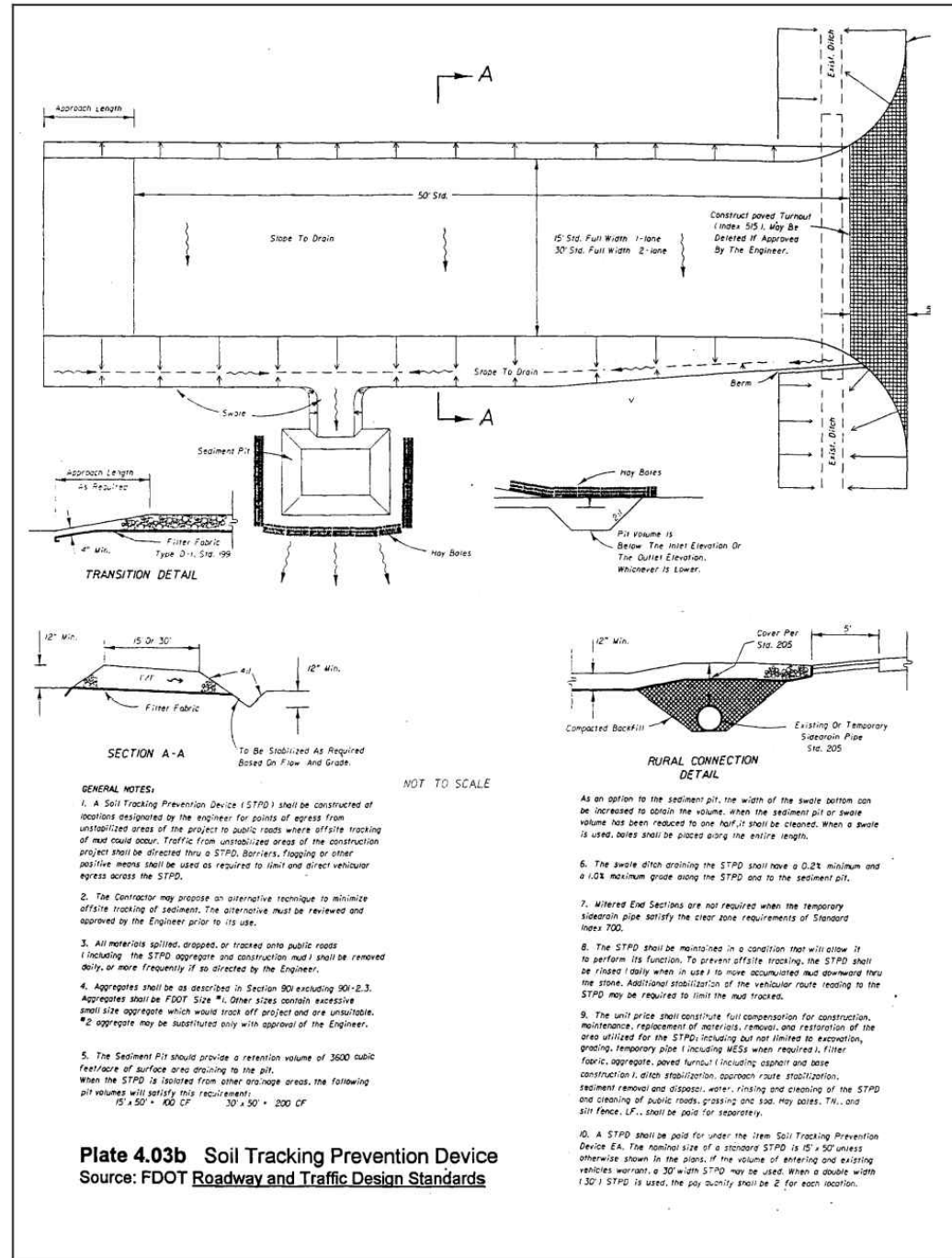


Plate 4.03b Soil Tracking Prevention Device  
Source: FDOT Roadway and Traffic Design Standards

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##### Washing

If conditions on the site are such that most of the mud is not removed by the vehicles traveling over the gravel, then the tires of the vehicles must be washed before entering a public road. Wash water must be carried away from the entrance to a settling area to remove sediment (See Plate 4.03b). A wash rack may also be used to make washing more convenient and effective (See Plate 4.03c).

##### Location

The entrance should be located to provide for maximum utility by all construction vehicles.

##### Construction Specifications

The area of the entrance should be cleared of all vegetation, roots, and other objectionable material. A geotextile should be laid down to improve stability and simplify maintenance. The gravel shall then be placed over the geotextile to the specified dimensions.

Any drainage facilities required because of washing should be constructed according to approved specifications. If wash racks are used, they should be installed according to manufacturer's specifications.

##### Maintenance

The entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 2-inch (5 cm) stone, as conditions demand, and repair and/or clean out of any structures used to trap sediments. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately. Look for signs of trucks and trailer equipment "cutting corners" where the gravel meets the roadway. Sweep the paved road daily for sediments and stones.

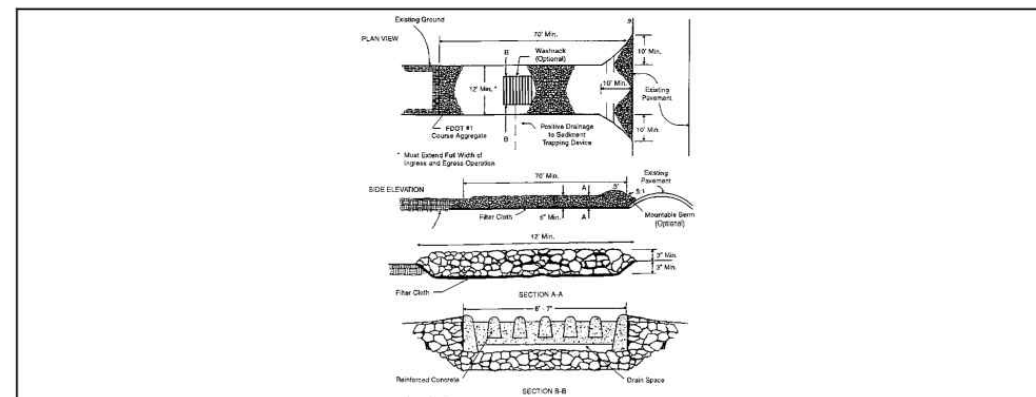


Plate 4.03c Construction Entrance with Wash Rack  
Source: 1983 Maryland Standards for Soil Erosion and Sediment Control

4-10

## CONSTRUCTION EXIT

NTS

#### 6.65 TEMPORARY SEEDING (ES BMP 1.65)

##### Definition

The establishment of a temporary vegetative cover on disturbed areas by seeding with appropriate rapidly growing annual plants.

##### Purposes

- To reduce erosion and sedimentation by stabilizing disturbed areas that will not be brought to final grade for a 30days or more.
- To reduce problems associated with mud and dust production from bare soil surfaces during construction.

##### Conditions Where Practice Applies

Where exposed soil surfaces are not to be fine graded for periods from 30 days or more. Such areas include denuded areas, soil stockpiles, dikes, dams, sides of sediment basins, temporary roadbanks, etc.

##### Specifications

Prior to seeding, install necessary erosion control practices such as dikes, waterways, and basins.

##### Plant Selection

Select plants appropriate to the season, region, and site conditions. Consult with your local Agricultural Extension agent, county, FDEP, WMD, or FDOT office, or Table 1.65a of The Florida Development Manual.

##### Seedbed Preparation

To control erosion on bare soil surfaces, plants must be able to germinate and grow. Seedbed preparation is essential. A soil test should be taken to determine liming and fertilization requirements. In the absence of a soil test the following guidelines should be followed:

- Liming:** Where soils are known to be highly acid (pH 6.0 and lower), lime should be applied at the rate of two tons of pulverized agricultural limestone per acre.
- Fertilizer:** Shall be applied as 450 lbs./acre of 10-20-20 (10 lbs./1,000 sq. ft.)(504 kg/ha) or equivalent. Lime and fertilizer shall be incorporated into the top 2 to 4 inches (5 to 10 cm) of the soil.
- Surface Roughening:** If the area has been recently loosened or disturbed, no

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further roughening is required. When the area is compacted, crusted, or hardened, the soil surface shall be loosened by discing, raking, harrowing, or other acceptable means. See SURFACE ROUGHENING - Section 6.60 (ES BMP 1.60).

- Tracking:** Tracking with bulldozer cleats is most effective on sandy soils. This practice often causes undue compaction of the soil surface, especially in clayey soils, and does not aid plant growth as effectively as other methods of surface roughening.

##### Seeding

Seed shall be evenly applied with a cyclone seeder, drill, cultipacker seeder or hydroseeder. Small grains shall be planted no more than one inch deep. Grasses and legumes shall be planted no more than 1/4 inch (6 mm) deep.

##### Mulching

- Mulching should usually be used to reduce damage from water runoff or wind erosion, and to improve moisture conditions for seedlings. Mulching without seeding should be considered for very short term protection. The use of mulch is a judgment decision based on time of seeding and conditions of individual sites. When used, mulch shall be applied according to MULCHING - Section 6.75 (ES BMP 1.75).
- Seedlings made on slopes in excess of 3:1, or on adverse soil conditions, or during excessively hot or dry weather, shall be mulched according to MULCHING - Section 6.75 (ES BMP 1.75).
- Seedlings made during optimum spring and summer seeding dates, with favorable soil and site conditions, may not require mulch.

##### Re-seeding

Areas which fail to establish vegetative cover adequate to prevent rill erosion will be filled in with proper topsoil and re-seeded as soon as such areas are identified.

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## TEMPORARY SEEDING

NTS



4.06 SILT FENCE  
(ES BMP 1.06)

Definition

A temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts and entrenched. There are two types. The silt fence is a temporary linear filter barrier constructed of synthetic filter fabric, posts, and, depending upon the strength of the fabric used, wire fence for support. The filter barrier is constructed of stakes and burlap or synthetic filter fabric.

Purposes

- To intercept and detain small amounts of sediment from disturbed areas during construction operations.
- To decrease the velocity of sheet flows and low-to-moderate level channel flows.

Conditions When Practice Applies

- Below disturbed areas where erosion would occur in the form of sheet and rill erosion.
- Where the size of the drainage area is no more than 1/4 acre per 100 feet (1.3 ha /100 m) of silt fence length; the maximum slope length behind the barrier is 100 feet (30 m); and the maximum gradient behind the barrier is 50 percent (2:1).
- In minor swales or ditch lines where the maximum contributing drainage area is no greater than 2 acres (0.8 ha).
- Under no circumstances should silt fences be constructed in live streams or in swales or ditch lines where flows are likely to exceed one cubic foot per second (cfs)(0.03 m<sup>3</sup> / sec.). See Design Criteria for further clarification.

Planning Considerations

Silt fences can trap a much higher percentage of suspended sediments than can straw bales and may be preferable to straw barriers in many cases. While the failure rate of silt fences is lower than that of straw barriers, this failure rate is still due mainly to improper installation. The most effective application is to install two parallel silt fences spaced a minimum of three feet apart. The installation and maintenance methods outlined here can improve performance.

Filter barriers are inexpensive structures composed of burlap or standard weight synthetic filter fabric stapled to wooden stakes. Flow rates through burlap filter barriers are slightly slower and filtering efficiency is significantly higher than for straw bale barriers.

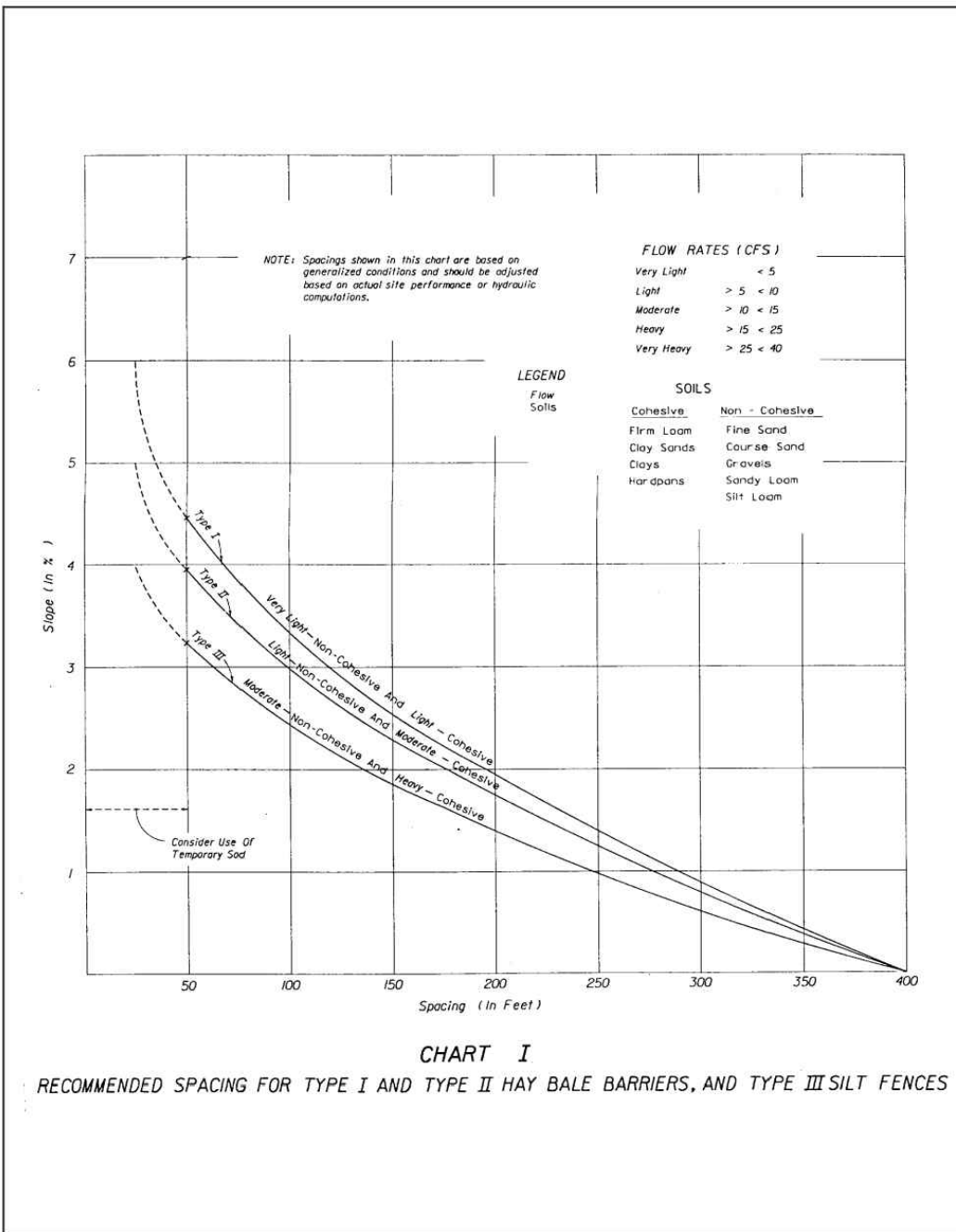


Plate 4.06a FDOT Standard Index 102, Chart 1  
Source: FDOT Roadway and Traffic Design Standards

Silt fences composed of a wire support fence and an attached synthetic filter fabric slow the flow rate significantly but have a higher filtering efficiency than burlap. Both woven and non-woven synthetic fabrics are commercially available. The woven fabrics generally display higher strength than the non-woven fabrics. When tested under acid and alkaline water conditions, most of the woven fabrics increase in strength. There are a variety of reactions among the non-woven fabrics. The same is true of testing under extensive ultraviolet radiation. Permeability rates vary regardless of fabric type. While all of the fabrics demonstrate very high filtering efficiencies for sandy sediments, there is considerable variation among both woven and non-woven fabrics when filtering the finer silt and clay particles.

Design Criteria

- No formal design is required for many small projects and for minor and incidental applications. For channel flow applications refer to FDOT Standard Index 102, Chart 1 (Plate 4.06a) for guidance on recommended spacing.
- Filter barriers shall have an expected usable life of 3 months. They are applicable in ditch lines, around drop inlets, and at temporary locations where continuous construction changes the earth contour and runoff characteristics and where low or moderate flows (not exceeding 1 cfs) (0.03 m<sup>3</sup> / sec.) are expected.
- Silt fences, because they have much lower permeability than burlap filter barriers, have their applicability limited to situations in which only sheet or overland flows are expected. They normally cannot filter the volumes of water generated by channel flows, and many fabrics do not have sufficient structural strength to support the weight of water ponded behind the fence line. Their expected usable life is 6 months.

Construction Specifications

Materials

- Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester, or polyethylene yarn. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0° F to 120° F (-17C to 49C).
- Burlap shall be 10 ounces per square yard (340 g/m<sup>2</sup>) fabric.
- Posts for silt fences shall be either 4 inch (10 cm) diameter wood, or 1.33 pounds per linear foot (2 kg/m) steel with a minimum length of 5 feet (1.5 m). Steel posts shall have projections for fastening wire to them.
- Stakes for filter barriers shall be 1" x 2" (2.5 x 5 cm) wood (preferred), or equivalent metal with a minimum length of 3 feet (90 cm).

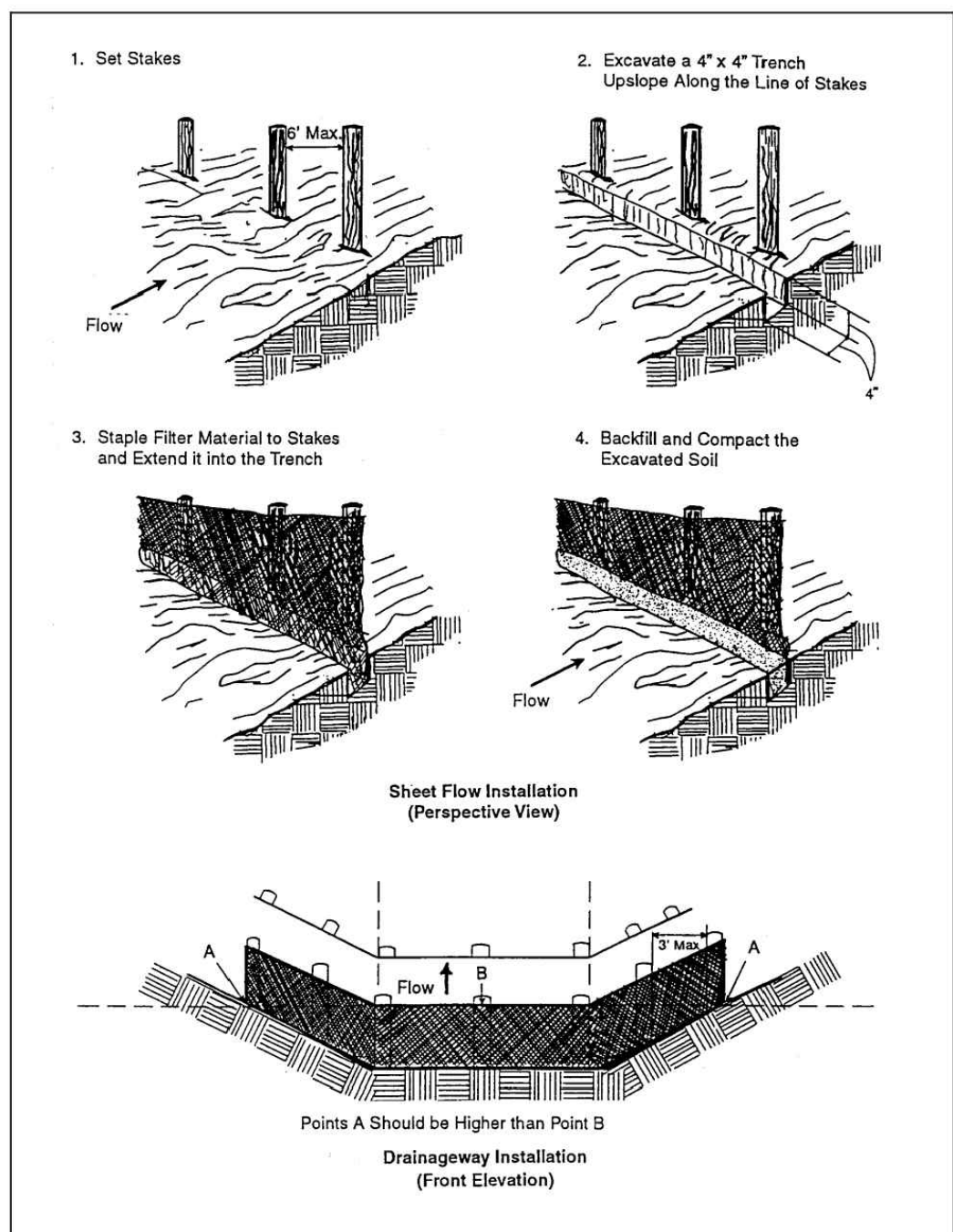


Plate 4.06b Construction of a Filter Barrier  
Source: NRCS

- Wire fence reinforcement for silt fences using standard strength filter cloth shall be a minimum of 36 inches (90 cm) in height, a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches (15 cm).

Sheet Flow Applications: Filter Barrier

This sediment barrier may be constructed using burlap or standard strength synthetic filter fabric. It is designed for low or moderate flows not exceeding 1 cfs. (0.03 m<sup>3</sup> / sec.). (See Plate 4.06b)

- The height of a filter barrier shall be a minimum of 15 inches (38 cm) and shall not exceed 18 inches (45 cm).
- Burlap or standard strength synthetic filter fabric shall be purchased in a continuous roll and cut to the length of the barrier to avoid the use of joints (and thus improve the strength and efficiency of the barrier).
- The stakes shall be spaced a maximum of 3 feet (90 cm) apart at the barrier location and driven securely into the ground a minimum of 8 inches (20 cm).
- A trench shall be excavated approximately 4 inches (10 cm) wide and 4 inches (10 cm) deep along the line of stakes and upslope from the barrier.
- The filter material shall be stapled to the wooden stakes, and 8 inches (20 cm) of the fabric shall be extended into the trench. Heavy duty wire staples at least 1/2 inch (13 mm) long, hog rings, or tie wire shall be used. Filter material shall not be stapled to existing trees.
- The trench shall be backfilled and the soil compacted over the filter material.
- Filter barriers shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

Sheet Flow Application: Silt Fence

This sediment barrier uses standard strength or extra strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected. (See Plate 4.06d)

- The height of a silt fence shall not exceed 36 inches (90 cm). Higher fences may impound volumes of water sufficient to cause failure of the structure.
- The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced as described in item No. 8 below.

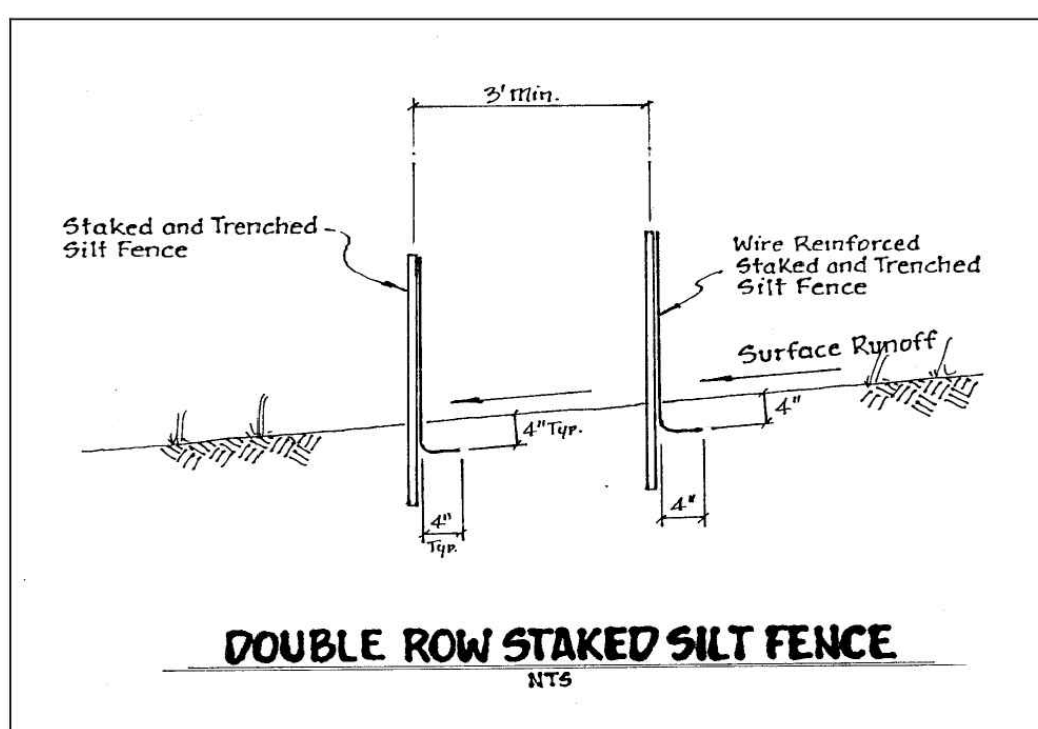


Plate 4.06c Double Row Staked Silt Fence  
Source: Reedy Creek Improvement District

- Posts shall be spaced a maximum of 10 feet (3 m) apart at the barrier location and driven securely into the ground a minimum of 12 inches (30 cm). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet (1.8 m).
- A trench shall be excavated approximately 4 inches (10 cm) wide and 4 inches (10 cm) deep along the line of posts and upslope from the barrier.
- When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch (25 mm) long, tie wires, or hog rings. The wire shall extend into the trench a minimum of 2 inches (5 cm) and shall not extend more than 36 inches (90 cm) above the original ground surface.
- The standard strength filter fabric shall be stapled or wired to the fence, and 8 inches (20 cm) of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches (90 cm) above the original ground surface.

- When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item No. 6 applying.
- When attaching two silt fences together, place the end post of the second fence inside the end post of the first fence. Rotate both posts at least 180 degrees on a clockwise direction to create a tight seal with the filter fabric. Drive both posts into the ground and bury the flap. (See Plate 4.06g)
- The trench shall be backfilled and the soil compacted over the filter fabric.
- The most effective application consists of a double row of silt fences spaced a minimum of three feet apart. The three foot separation is so that if the first row collapses it will not fall on the second row. Wire or synthetic mesh is may be used to reinforce the first row. (See Plate 4.06c)
- When used to control sediments from a steep slope, silt fences should be placed away from the toe of the slope for increased holding capacity. (See Plate 4.06f)
- Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

Channel Flow Applications

- If a filter barrier is to be constructed across a ditch line or swale, the barrier shall of sufficient length such that the bottom of the end sections of fence are higher in elevation than the top of the center section to eliminate and flow. The plan configuration shall resemble an arc or horseshoe with the ends oriented upslope. (See Plate 4.06b).
- Use FDOT Standard Index 102, Chart 1(Plate 4.06a) as a guide for spacing.
- The remaining steps for installing a filter barrier for sheet flow applications apply here.

Maintenance

- Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- Should the fabric on a silt fence or filter barrier decompose or become ineffective before the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.
- Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

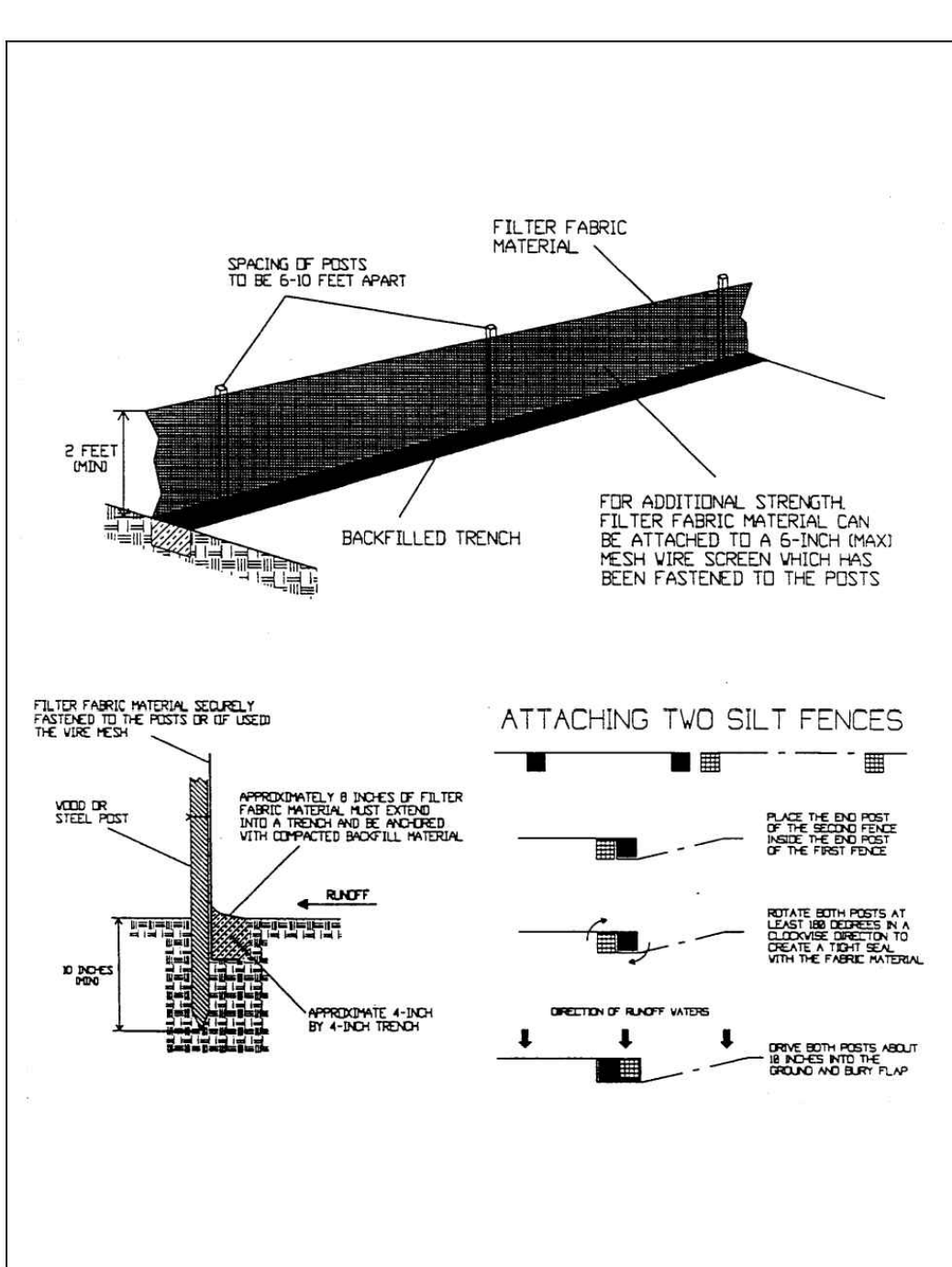


Plate 4.06d Installing a Filter Fabric Silt Fence  
Source: HydroDynamics, Inc.

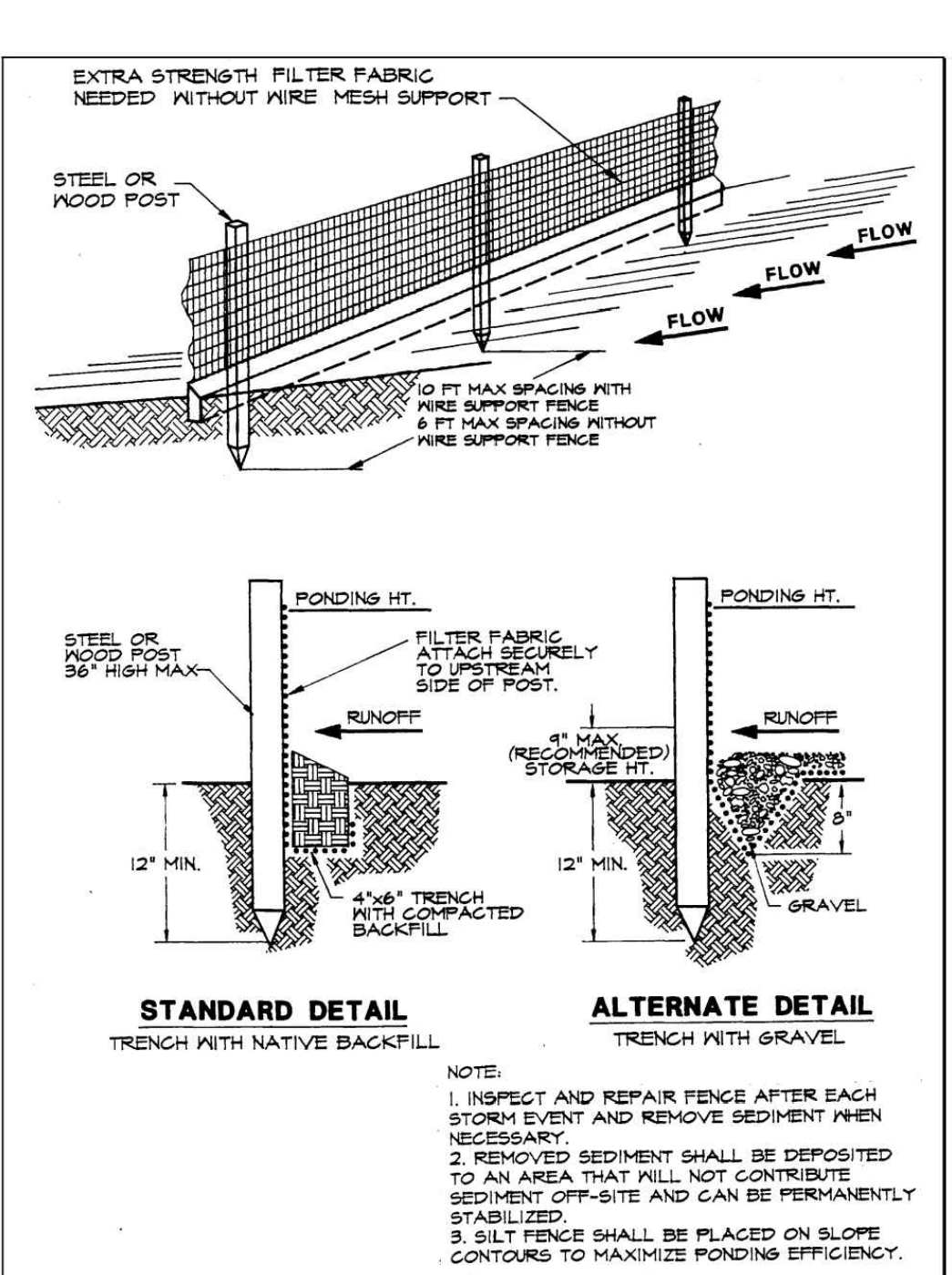


Plate 4.06e Silt Fence  
Source: Erosion Draw

- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared, and seeded.

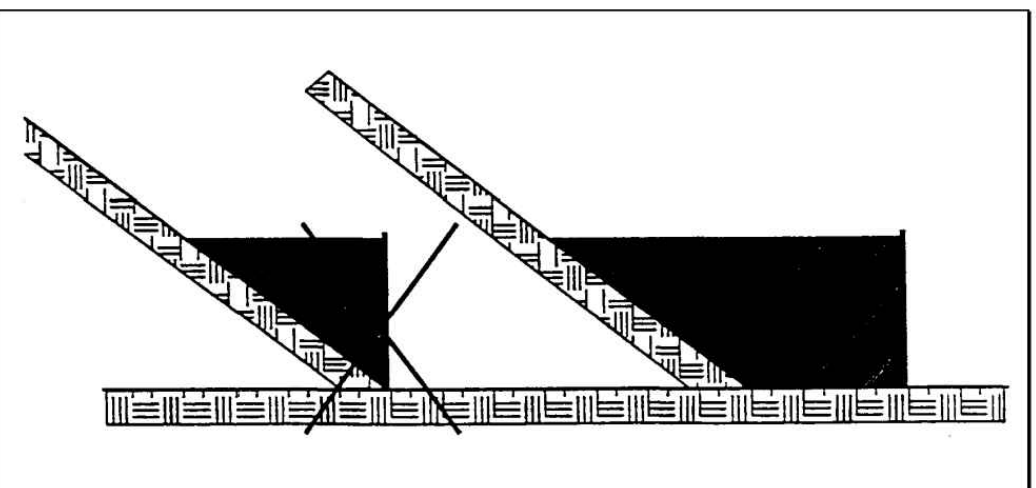


Plate 4.06f Proper Placement of a Silt Fence at the Toe of a Slope  
Source: HydroDynamics, Inc

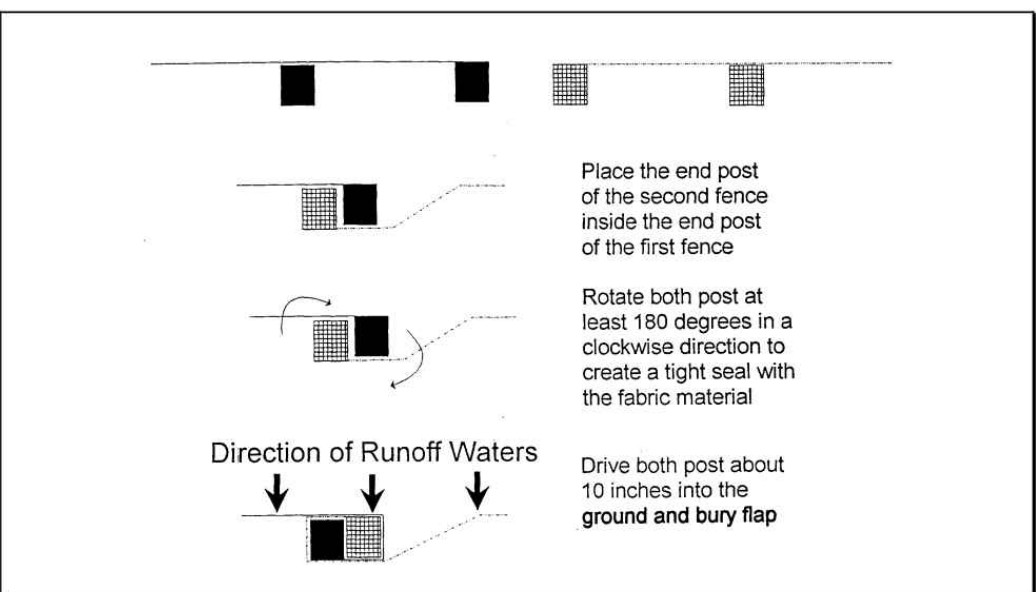


Plate 4.06g Attaching Two Silt Fences  
Source: HydroDynamics, Inc.



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PERMIT SET	04/04/23
PERMIT SET	08/16/23
CONSTRUCTION	XX-XX-XX

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PANDA PROJECT #: S8-24-D23223

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SHEET 28 OF 38

PANDA HOME R3



4.08 STORM DRAIN INLET PROTECTION  
(ES BMP 1.08)

Definition

A sediment filter or an excavated impounding area around a storm drain drop inlet or curb inlet.

Purpose

To prevent sediment from entering storm water conveyance systems prior to permanent stabilization of the disturbed area.

Condition Where Practice Applies

Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Different types of structures are applicable to different conditions (see Plates 4.08a through 4.08h).

Planning Considerations

Storm sewers which are made operational before their drainage area is stabilized can convey large amounts of sediment to receiving waters. In case of extreme sediment loading, the storm sewer itself may clog and lose most of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

This section contains several types of inlet filters and traps which have different applications dependent upon site conditions and type of inlet. Other innovative techniques for accomplishing the same purpose are encouraged, but only after specific plans and details are submitted to and approved by the stormwater permitting agency.

Note that these various inlet protection devices are for drainage areas of less than one acre (0.4 ha). Runoff from large disturbed areas should be routed through a TEMPORARY SEDIMENT TRAP - Section 4.25 (ES BMP 1.25).

Design Criteria

- The drainage area shall be no greater than 1 acre (0.4 ha).
- The inlet protection device shall be constructed to facilitate clean out and disposal of trapped sediment and to minimize interference with construction activities.
- The inlet protection devices shall be constructed so that any resultant ponding or stormwater will not cause excessive inconvenience or damage to adjacent areas or structures.
- Design criteria more specific to each particular inlet protection devices will be found on Plates 4.08a-h.

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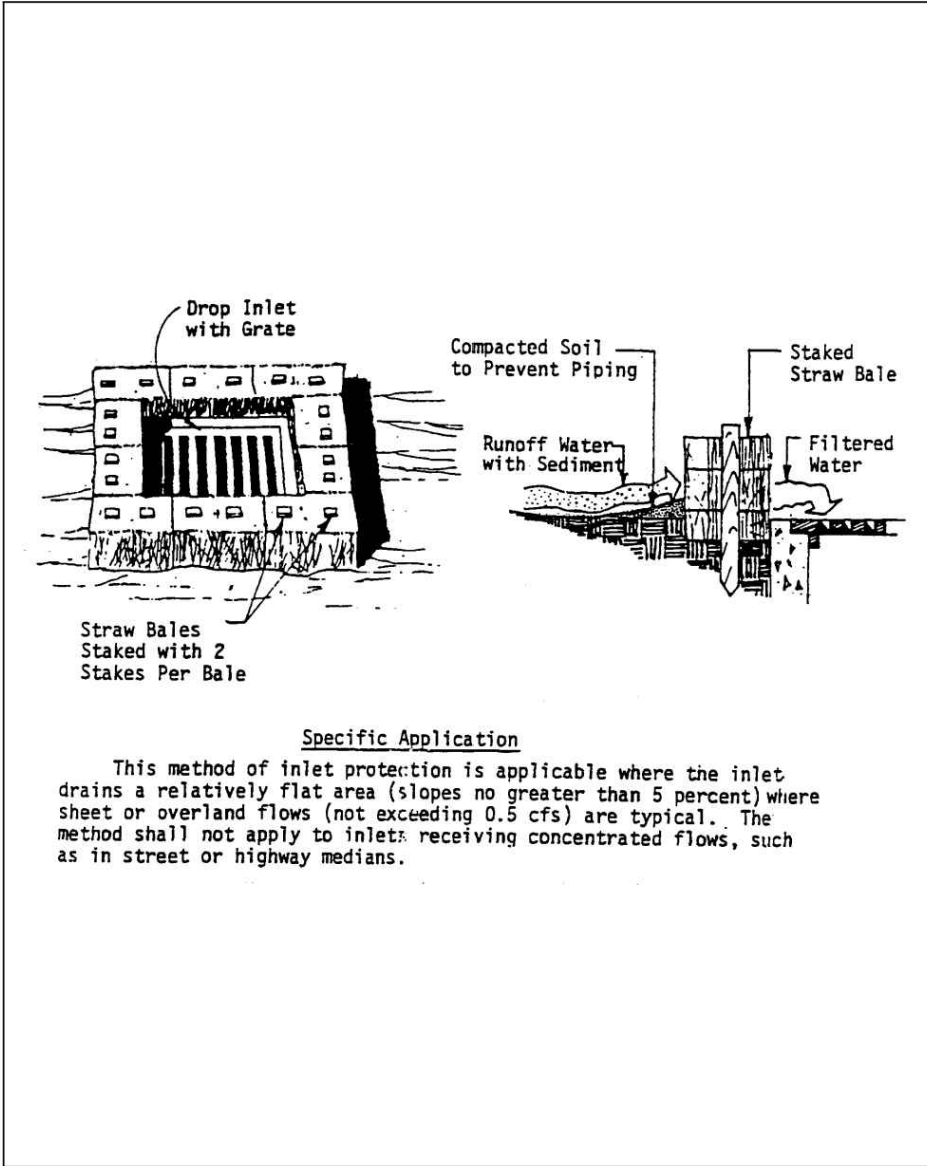


Plate 4.08a Straw Bale Drop Inlet Sediment Filter  
Source: Michigan Soil Erosion and Sedimentation Control Guidebook

4-34

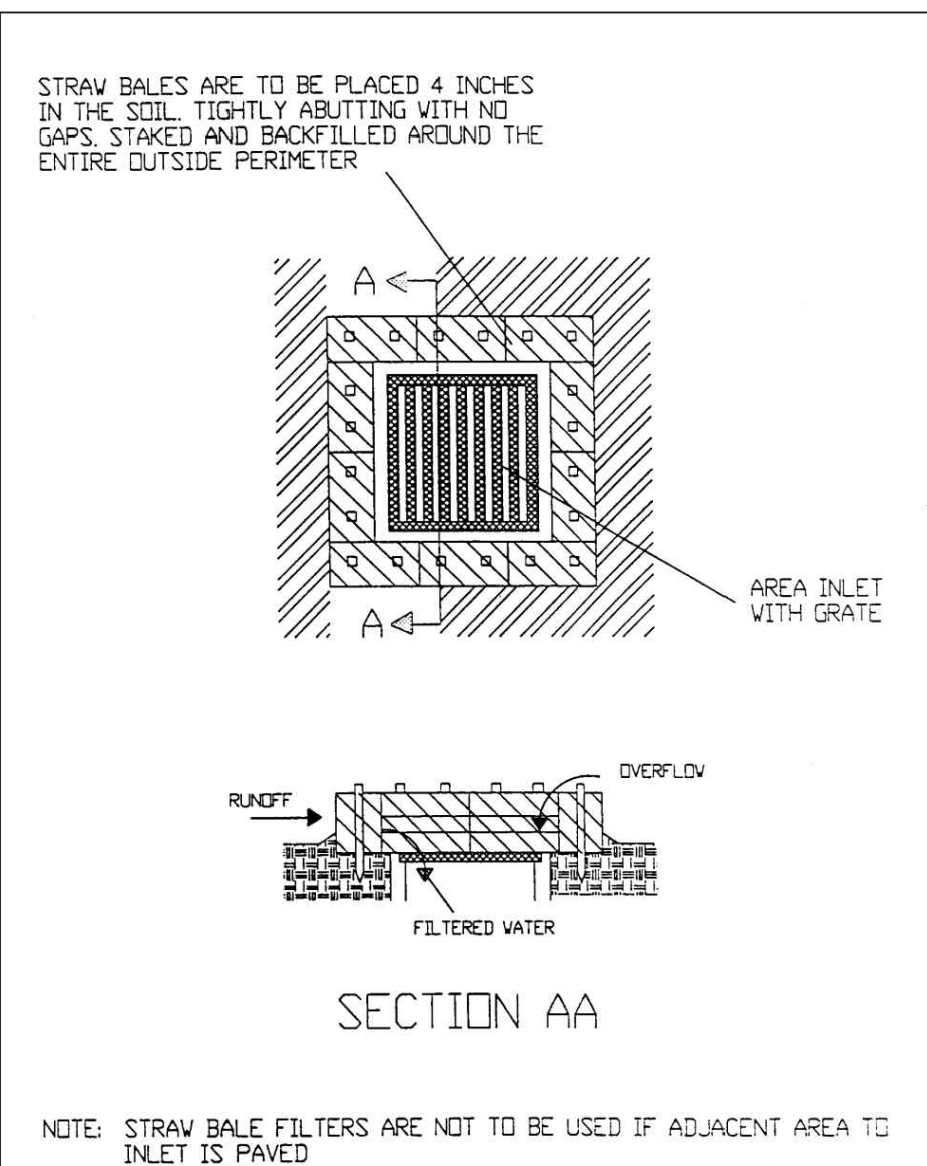


Plate 4.08b Straw Bale Filter for Area Inlet  
Source: HydroDynamics, Inc.

4-35

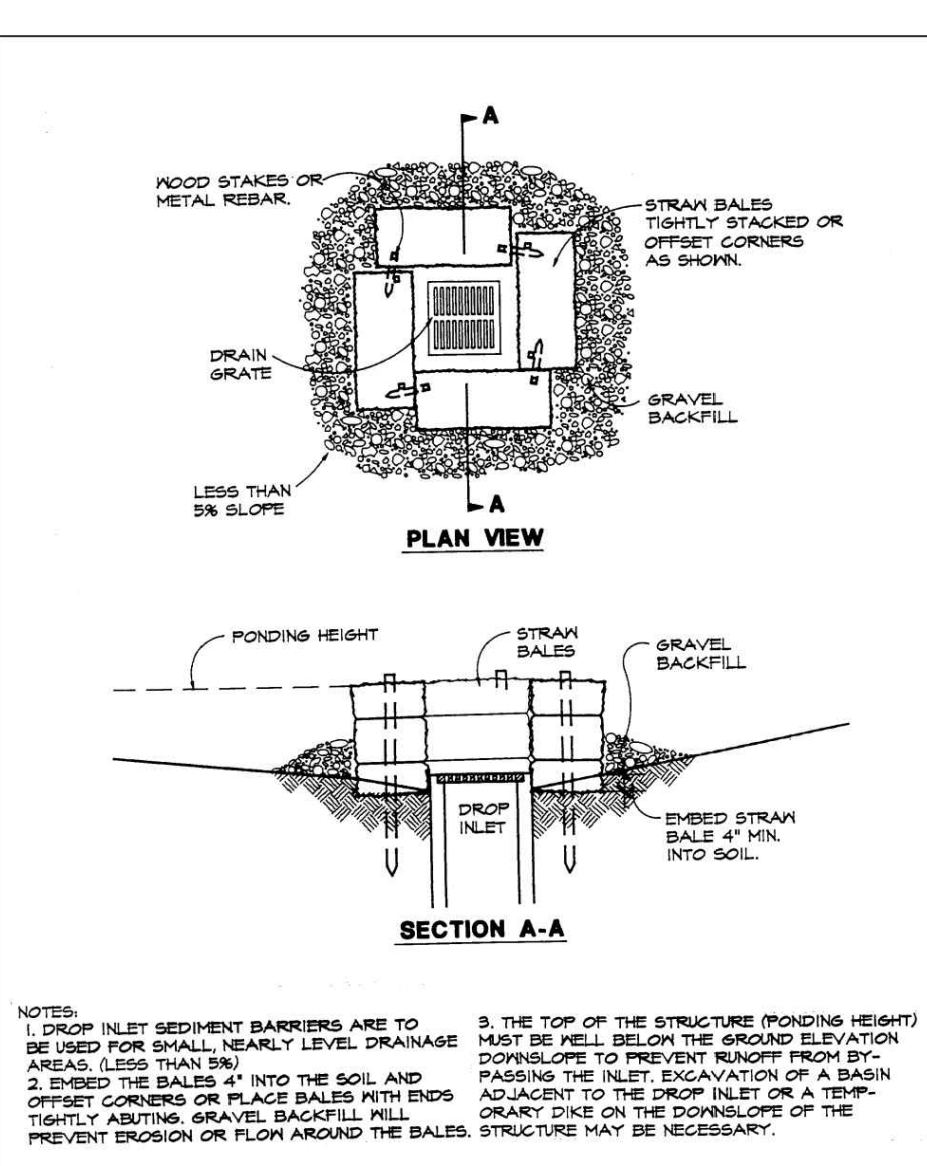


Plate 4.08c Straw Bale and Gravel Drop Inlet Sediment Barrier  
Source: Erosion Draw

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Construction Specifications

Straw bale drop inlet filter

- Bales shall be either wire-bound or string-tied with the bindings oriented around the sides rather than over and under the bales.
- Bales shall be placed lengthwise in a single row surrounding the inlet, with the ends of adjacent bales pressed together. (See Plate 4.08a)
- The filter barrier shall be entrenched and backfilled. A trench shall be excavated around the inlet the width of a bale to a minimum depth of 4 inches (10 cm). After the bales are staked, the excavated soil shall be backfilled and compacted against the filter barrier. (See Plate 4.08b)
- Each bale shall be securely anchored and held in place by at least two stakes or rebar (See p. 4-17) driven through the bale.
- Loose straw should be wedged between bales to prevent water from entering between bales.
- Gravel may be spread around the bales to improve stability. (See Plate 4.08c)

Fabric drop inlet sediment filter

- Fabric shall be cut from a continuous roll to avoid joints.
- Stakes shall be 2" x 4" (5 cm x 10 cm) wood (preferred) or equivalent metal with a minimum length of 3 feet (90 cm). (See Plate 4.08d)
- Staples shall be of heavy duty wire at least 1/2-inch (13 mm) long.
- Stakes shall be spaced around the perimeter of the inlet a maximum of 3 feet (90 cm) apart and securely driven into the ground minimum of 8 inches (20 cm). A frame of 2" x 4" (5 cm x 10 cm) wood shall be constructed around the top of the stakes for proper stability.
- A trench shall be excavated approximately 4 inches (10 cm) wide and 4 inches (10 cm) deep around the outside perimeter of the stakes. (See Plate 4.08e)
- The burlap shall be stapled to the wooden stakes, and 8 inches (20 cm) of the fabric shall be extended into the trench. The height of the filter barrier shall be a minimum of 15 inches (38 cm) and shall not exceed 18 inches (45 cm).
- The trench shall be backfilled and the soil compacted over the burlap.

4-37

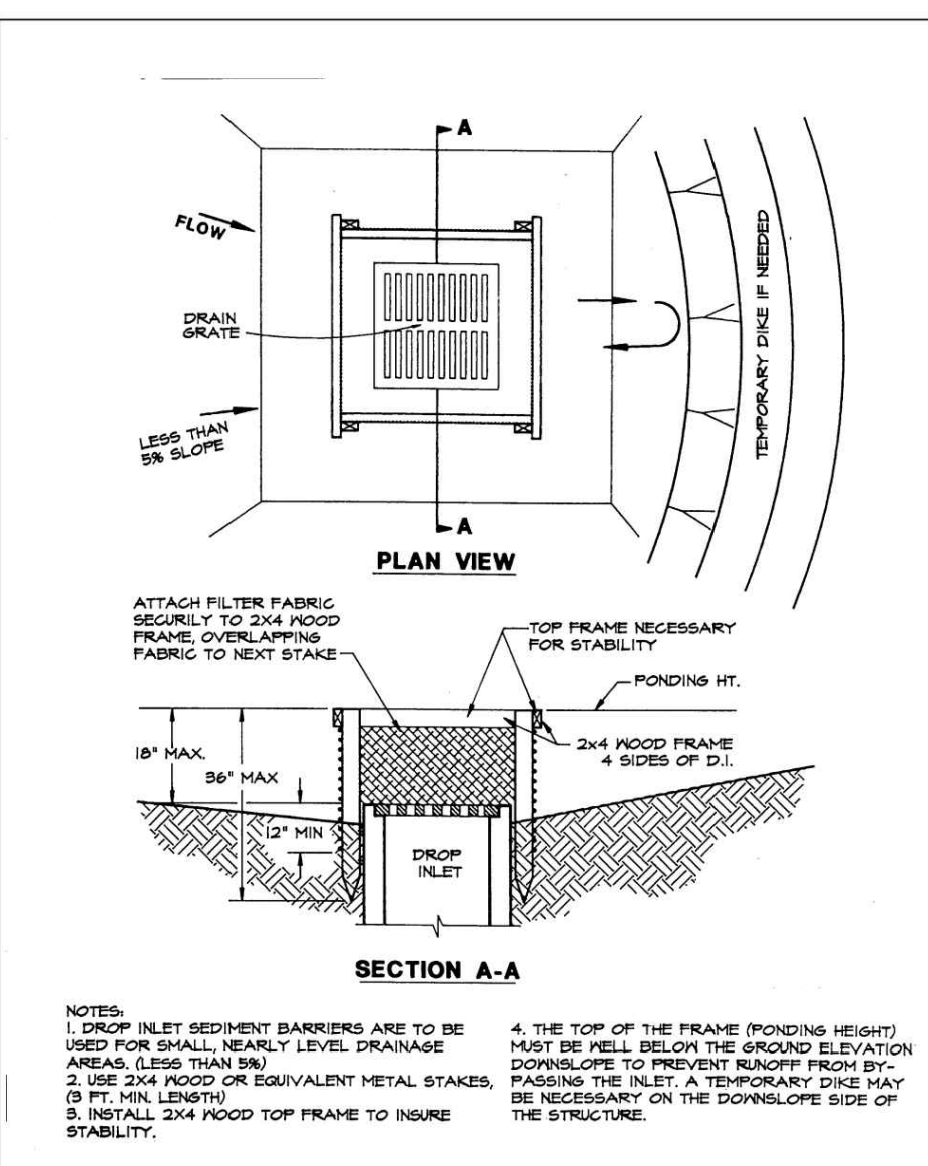


Plate 4.08d Silt Fence Drop Inlet Sediment Barrier  
Source: Erosion Draw

4-38

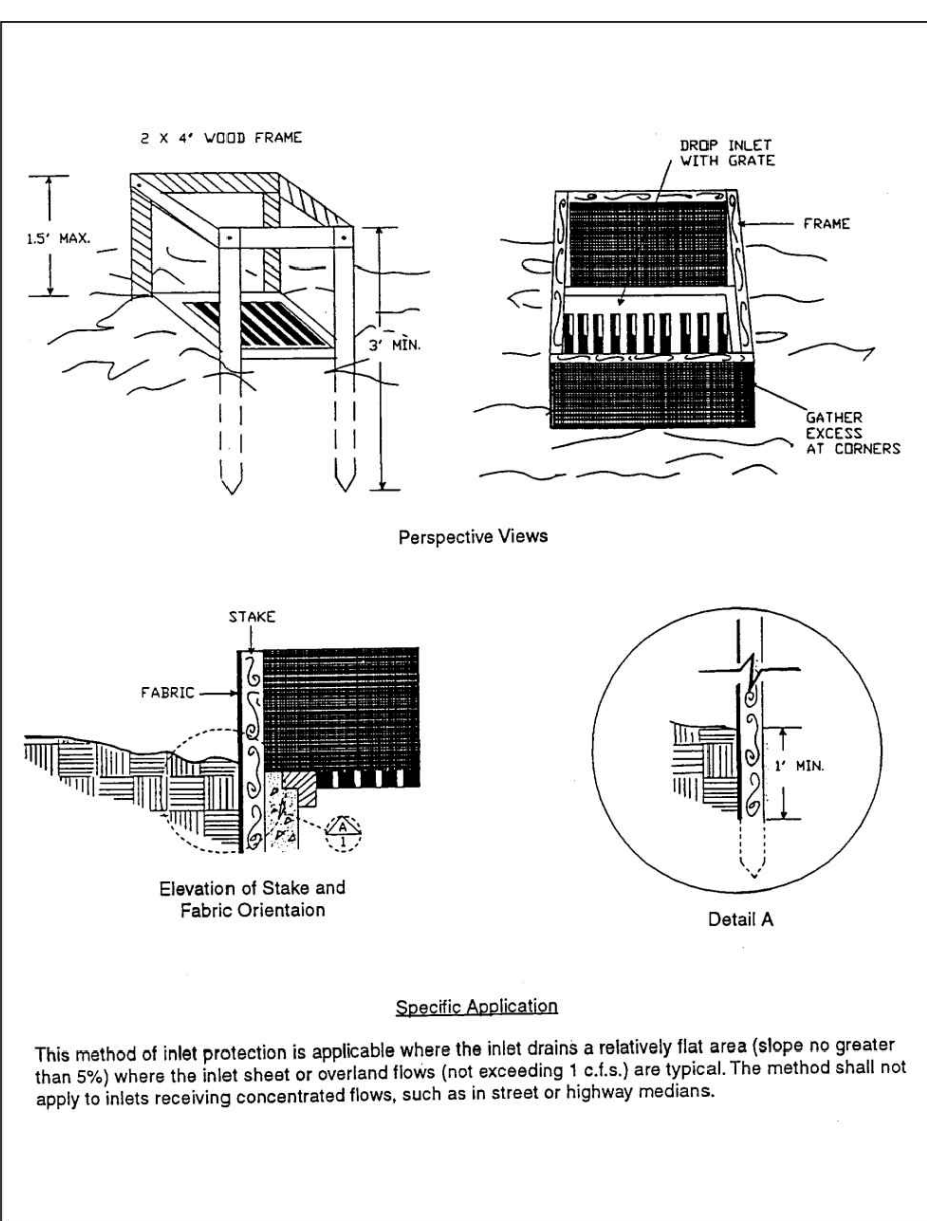


Plate 4.08e Filter Fabric Drop Inlet Sediment Filter  
Source: North Carolina Erosion and Sediment Control Manual

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Gravel and wire mesh drop inlet sediment filter

- Wire mesh shall be laid over the drop inlet so that the wire extends a minimum of one foot (30 cm) beyond each side of the inlet structure. Hardware cloth or comparable wire mesh with 1/2 inch (13 mm) openings shall be used. If more than one strip of mesh is necessary, the strips shall be overlapped at least 1 ft. (30 cm).
- FDOT No. 1 Coarse Aggregate (1.5" to 3.5" stone)(4 - 9 cm) shall be placed over the wire mesh as shown on Plate 4.08c. The depth of stone shall be at least 12 inches (30 cm) over the entire inlet opening. The stone shall extend beyond the inlet opening at least 18 inches (45 cm) on all sides. (See Plate 4.08f)
- If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and replaced.

NOTE: This filtering device has no overflow mechanism. Therefore, ponding is likely especially if sediment is not removed regularly. This type of device must never be used where overflow may endanger an exposed fill slope. Consideration should also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, adjacent property, etc.

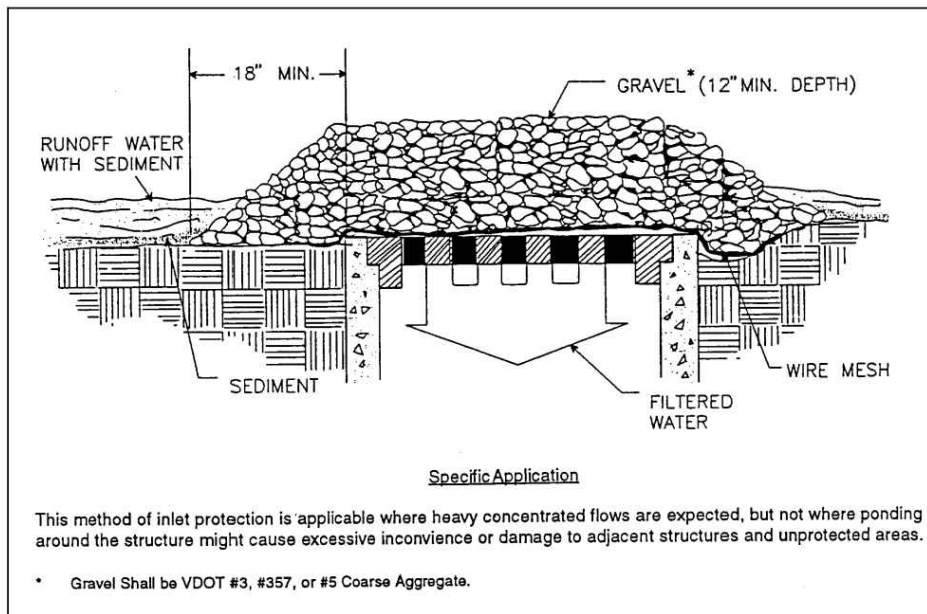


Plate 4.08f Gravel and Wire Mesh Drop Inlet Sediment Filter  
Source: Virginia DSWC

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Block and gravel drop inlet sediment filter

- Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, with the ends of adjacent blocks abutting. The height of the barrier can be varied, depending on design needs, by stacking combinations of 4 inch, 8 inch and 12 inch (10, 20, and 30 cm) wide blocks. The barrier of blocks shall be at least 12 inches (30 cm) high and no greater than 24 inches (60 cm) high.
- Wire mesh shall be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Hardware cloth or comparable wire mesh with 1/2 inch (13 mm) openings shall be used. (See Plate 4.08g)
- Stone shall be piled against the wire to the top of the block barrier. Suitable coarse aggregate shall be used. (See Plate 4.08h)
- If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and replaced.
- As a very temporary alternative, pervious burlap bags filled with gravel may be placed around the inlet provided that there are no gaps between the bags. (See Plate 4.08i)
- Either of these two practices may be installed on pavement or bare ground

Sod drop inlet sediment filter

- Soil shall be prepared and sod installed according to the specifications in SODDING - Section 6.67 (ES BMP 1.67).
- Sod shall be placed to form a turf mat covering the soil for a distance of 4 feet (1.2 m) from each side of the inlet structure. (See Plate 4.08j)

Prefabricated drop inlet internal filter bag (ACF Silt Sack)

- Remove the grate over the catch basin and insert the filter device, then replace grate to hold the device in position.
- When sediments have accumulated to within one foot (30 cm) of the grate the filter insert must be removed by a front-end loader or forklift. The filter may be discarded and replaced or it may be emptied, cleaned, and reused.

NOTE: This segment does not constitute a product endorsement.

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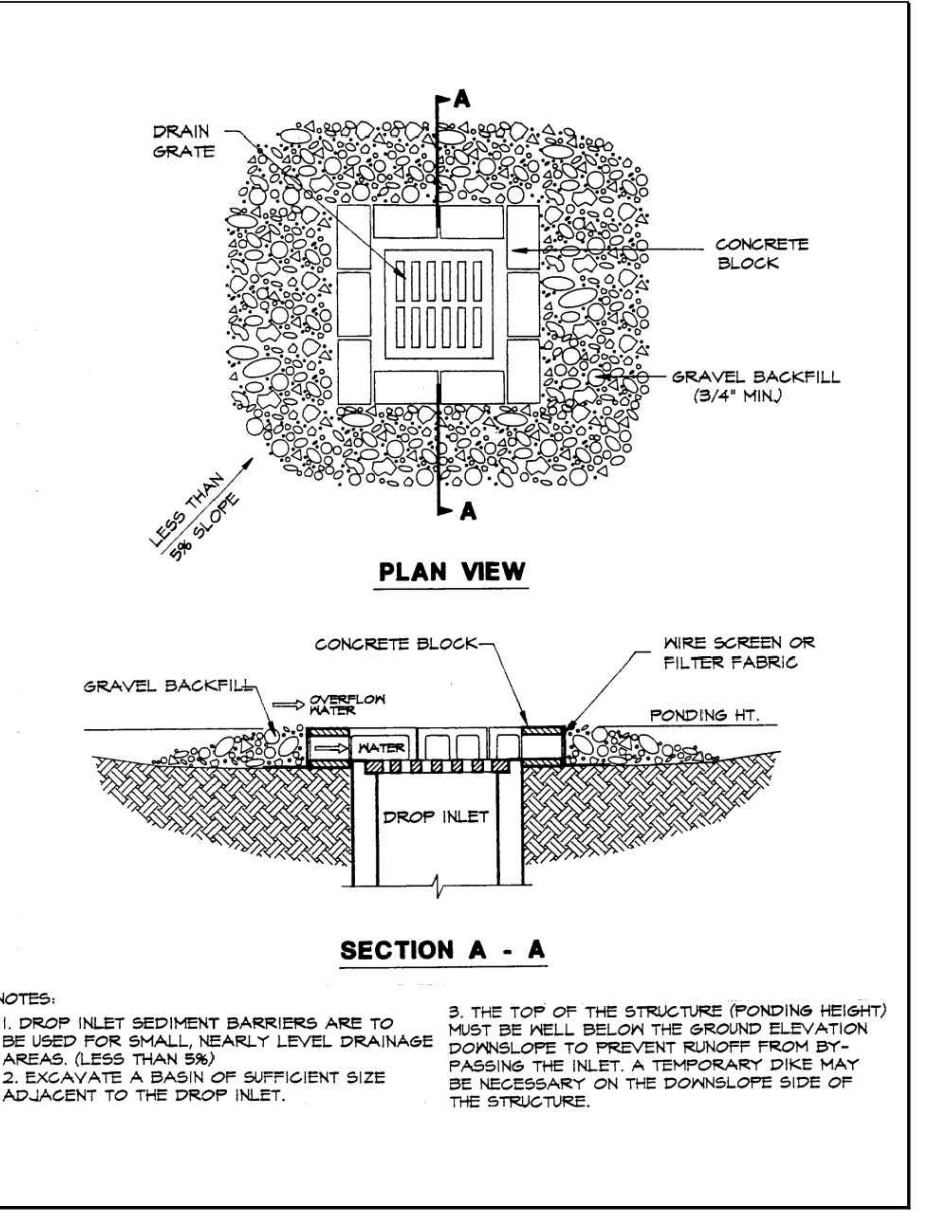


Plate 4.08g Block and Gravel Drop Inlet Sediment Filter  
Source: Erosion Draw

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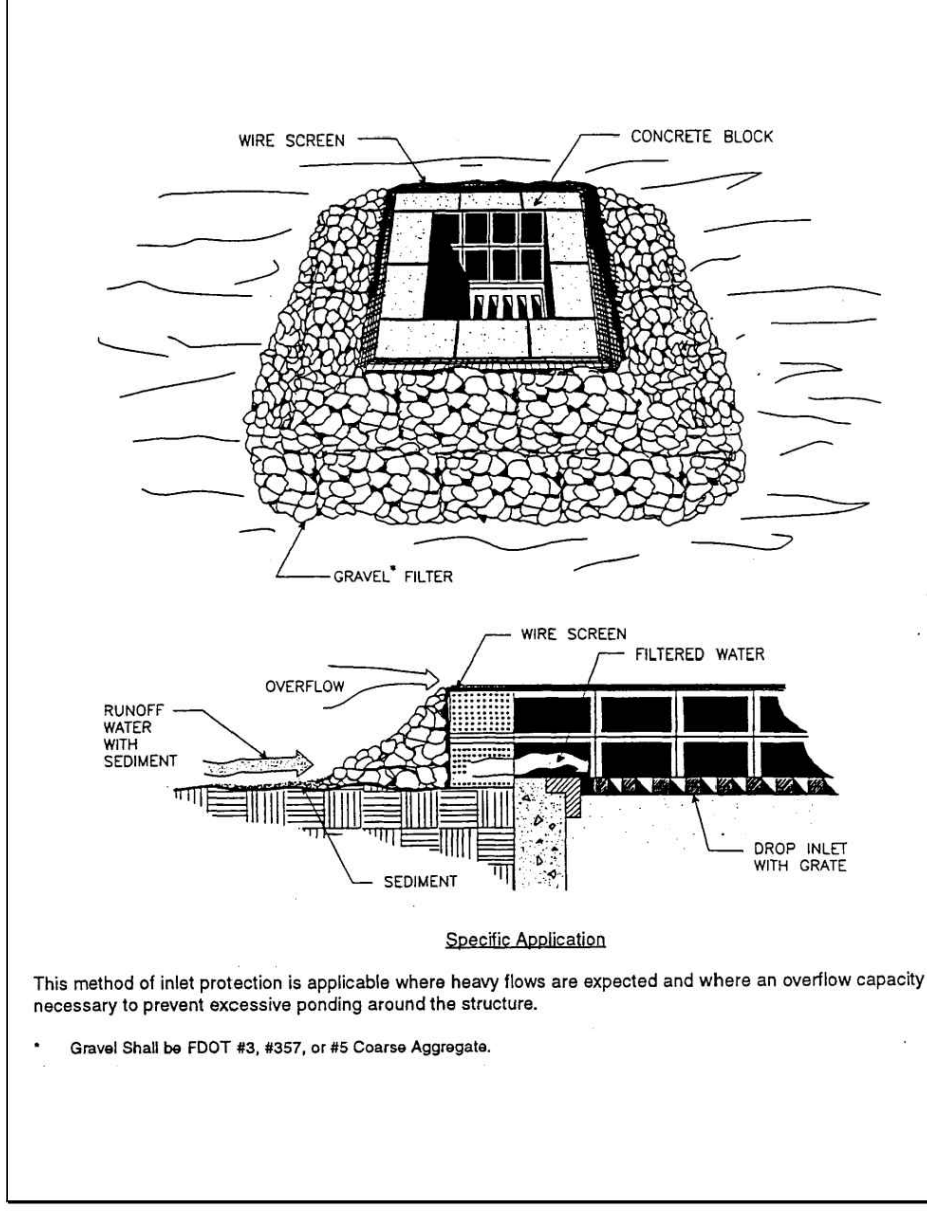


Plate 4.08h Block and Gravel Drop Inlet Sediment Filter  
Source: Michigan Soil Erosion and Sedimentation Control Guidebook

4-43

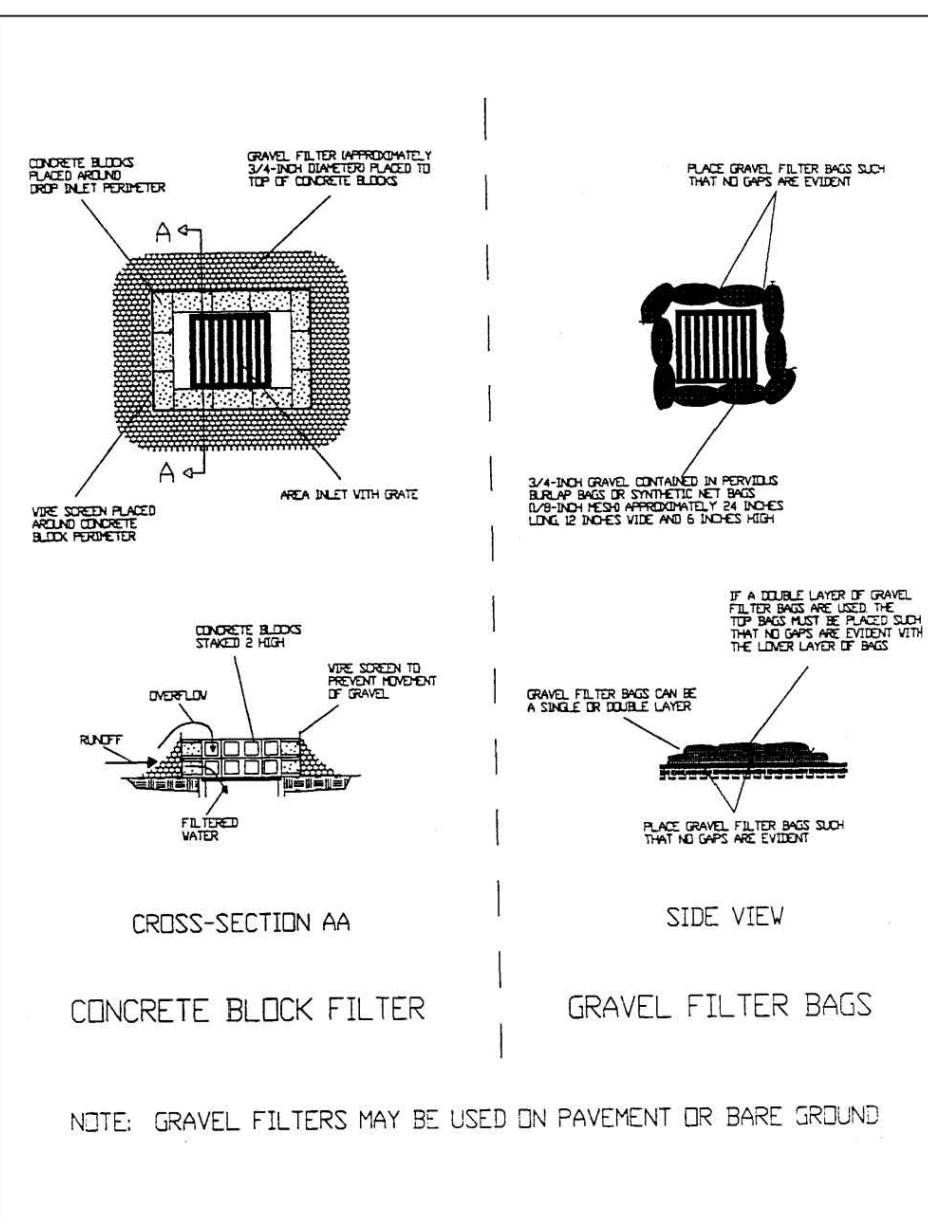


Plate 4.08i Gravel Filters for Area Inlets  
Source: HydroDynamics, Inc.

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DRAWN BY: JM

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



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C06.6

SHEET 29 OF 38

PANDA HOME R3



Chapter 4 - Best Management Practices for Erosion and Sediment Control

Prefabricated drop inlet external filter (Suntree Isles Grate Inlet Protector)

- Place the device over the inlet. If the inlet has a grate, the device shall be secured to the grate by means of a long toggle bolt. If the grate is not present, the device shall be bolted directly to the concrete.
- Sediments shall be removed when they have accumulated to within one foot (30 cm) of the top of the device. The filter fabric elements shall be cleaned or replaced at that time.

**NOTE:** This segment does not constitute a product endorsement.

Gravel curb inlet sediment filter

- Hardware cloth or comparable wire mesh with 1/2 inch (13 mm) openings shall be placed over the curb inlet opening so that at least 12 inches (30 cm) of wire extends across the top of the inlet cover and at least 12 inches (30 cm) of wire extends across the concrete gutter from the inlet opening. (See Plate 4.08k)
- Stone shall be piled against the wire so as to anchor it against the gutter and inlet cover and to cover the inlet opening completely. FDOT No. 1 Coarse Aggregate shall be used.
- An overflow weir can be constructed of 2" x 4" (5 x 10 cm) boards to lessen ponding from this practice. (See Plate 4.08L)
- If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the block, cleaned and replaced.

Block and gravel curb inlet sediment filter

- Two concrete blocks shall be placed on their sides abutting the curb at either side of the inlet opening.
- A 2" x 4" (5 x 10 cm) board shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
- Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks. (See Plate 4.08m)
- Wire mesh shall be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Hardware cloth with 1/2 inch (13 mm) openings shall be used.
- FDOT No. 1 Coarse Aggregate shall be piled against the wire to the top of the barrier.

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Florida Erosion and Sediment Control Inspector's Manual

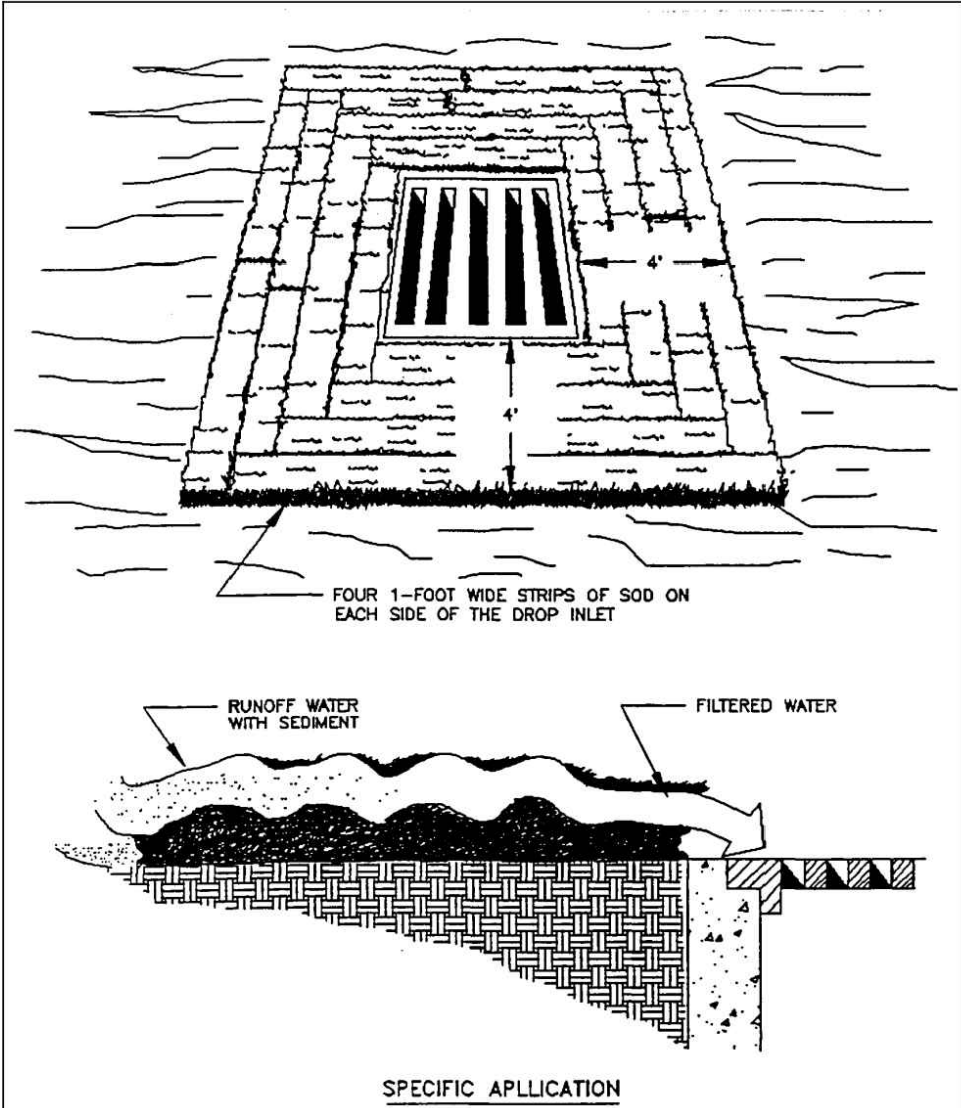


Plate 4.08j Sod Drop Inlet Sediment Filter  
Source: Virginia DSWC

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Chapter 4 - Best Management Practices for Erosion and Sediment Control

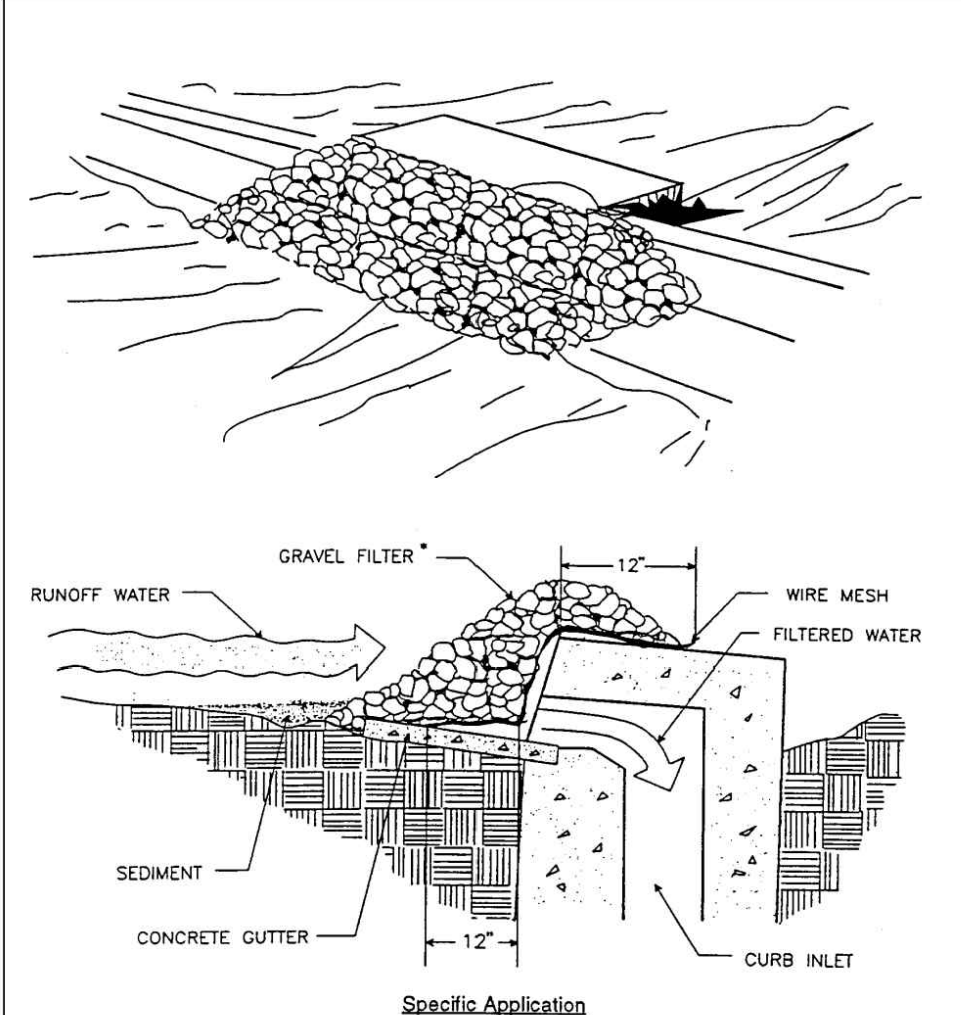


Plate 4.08k Gravel Curb Inlet Sediment Filter  
Source: Virginia DSWC

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Florida Erosion and Sediment Control Inspector's Manual

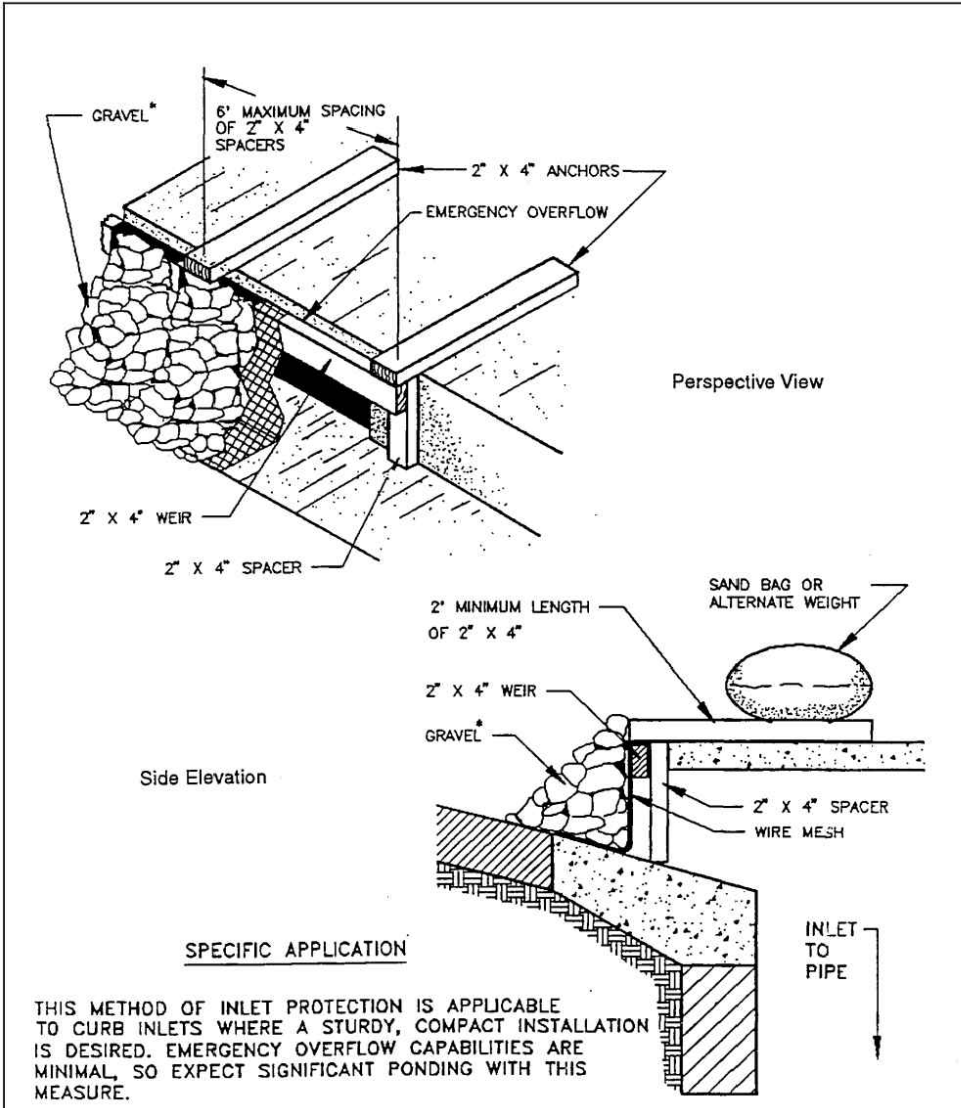


Plate 4.08L Gravel Curb Inlet Sediment Filter with Overflow Weir  
Source: Maryland Standards and Specifications for Soil Erosion and Sediment Control

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Chapter 4 - Best Management Practices for Erosion and Sediment Control

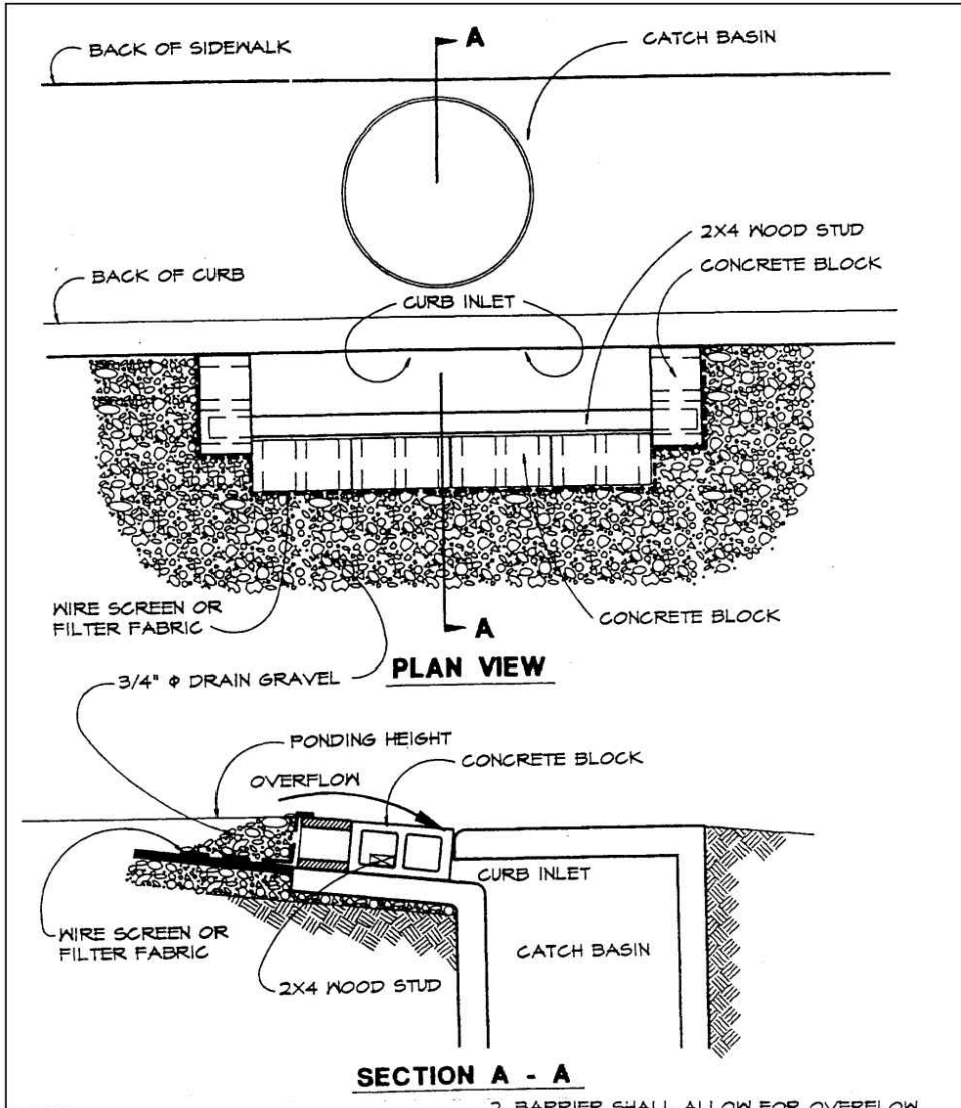


Plate 4.08m Block and Gravel Curb Inlet Sediment Barrier  
Source: Erosion Draw

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Florida Erosion and Sediment Control Inspector's Manual

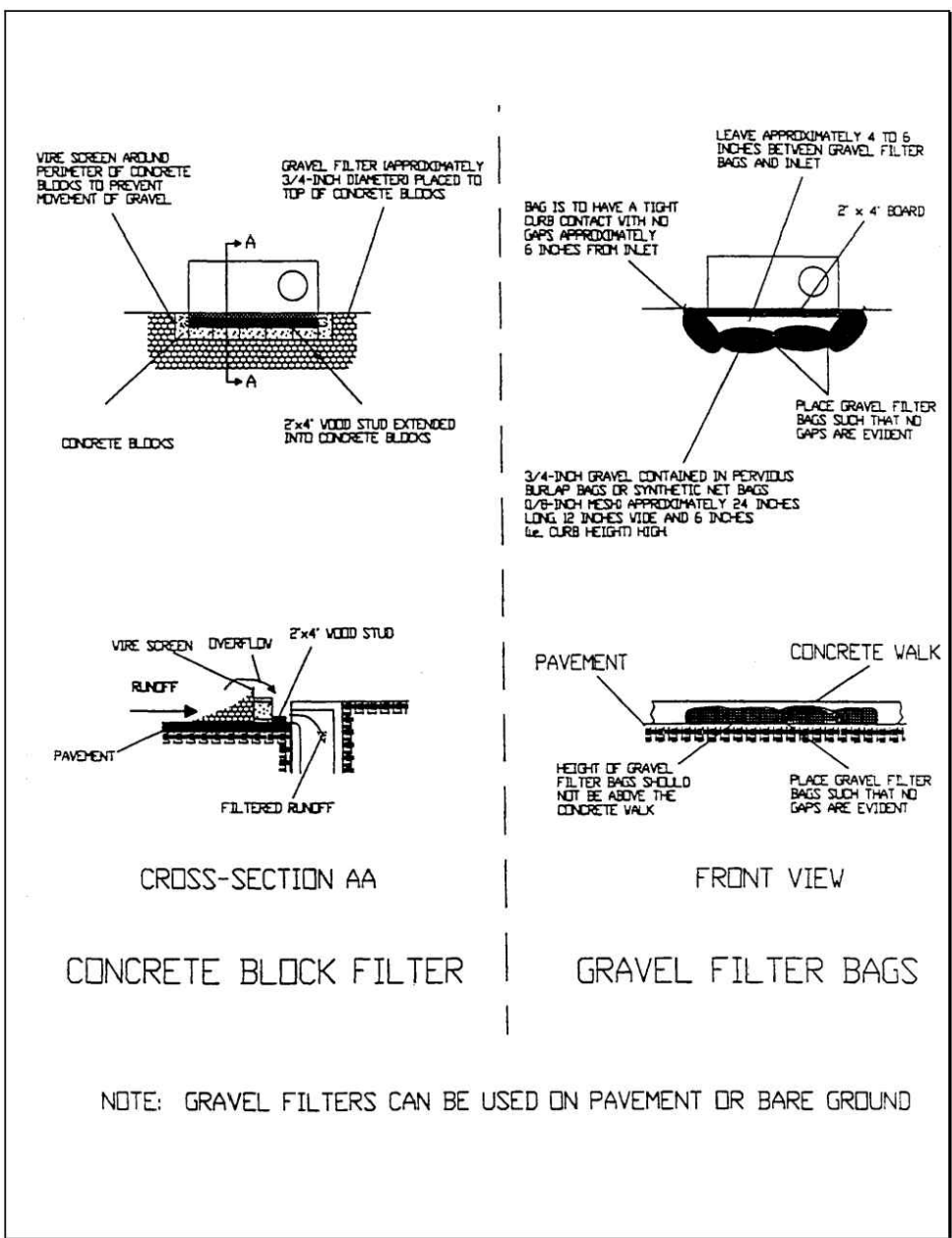


Plate 4.08n Curb Inlet Gravel Filters  
Source: HydroDynamics, Inc.

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Chapter 4 - Best Management Practices for Erosion and Sediment Control

- If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the block, cleaned and replaced.
- As an alternate, gravel filled burlap bags may be stacked tightly around the curb inlet. (See Plates 4.08n and 4.08o)

Curb and Gutter Sediment Barrier

- Place gravel filled burlap bags on gently sloping street segments according to the spacing chart. (See Plate 4.08p)
- Place two or more bags at each interval in a manner which provides maximum support.
- When stacking several bags high, leave a one bag gap to provide an overflow spillway. (See Plate 4.08q)
- Sediments must be removed after each rain event.

Maintenance

- The structure shall be inspected after each rain and repairs made as needed.
- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 of the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

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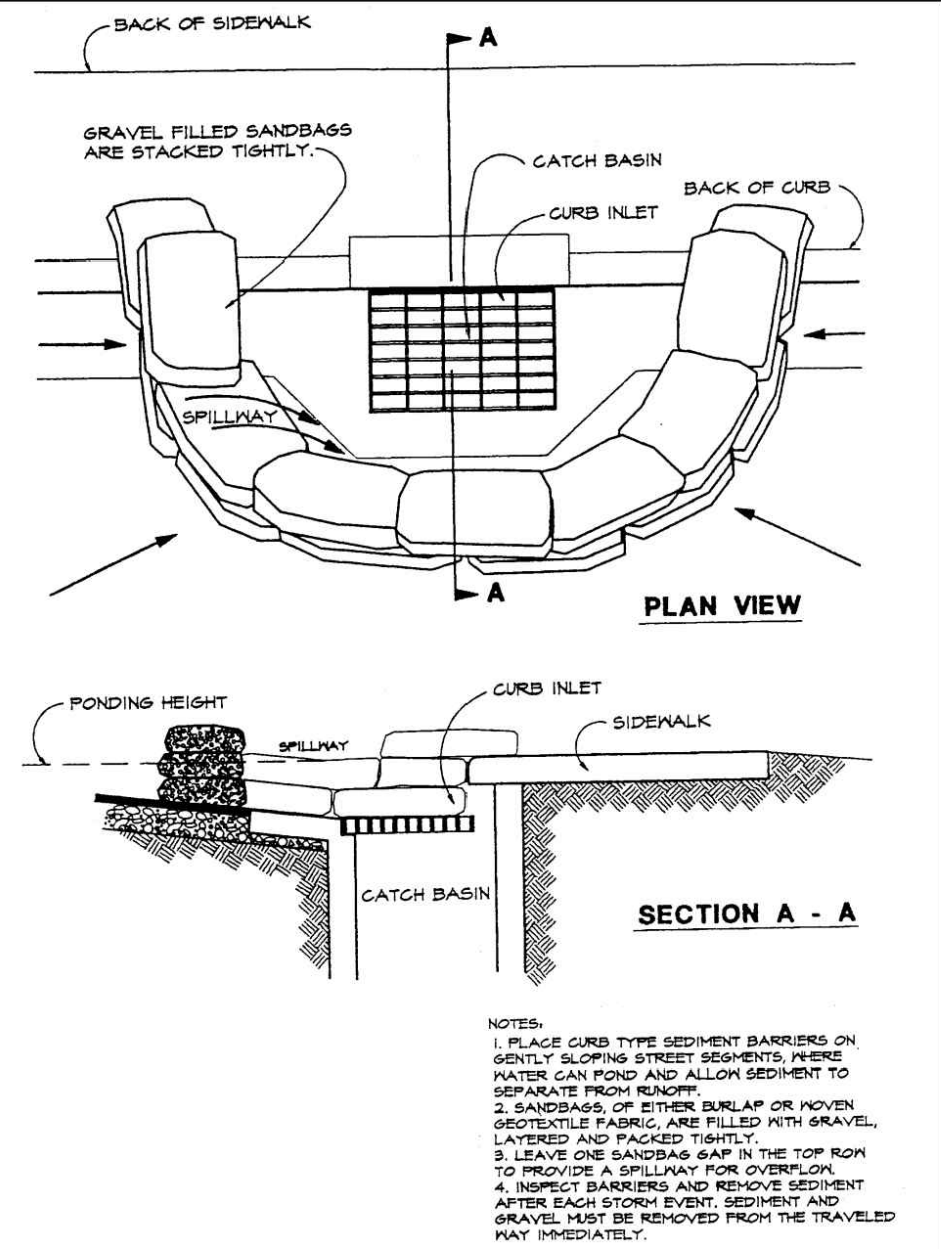


Plate 4.08o Curb Inlet Sediment Barrier  
Source: Erosion Draw

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Chapter 4 - Best Management Practices for Erosion and Sediment Control

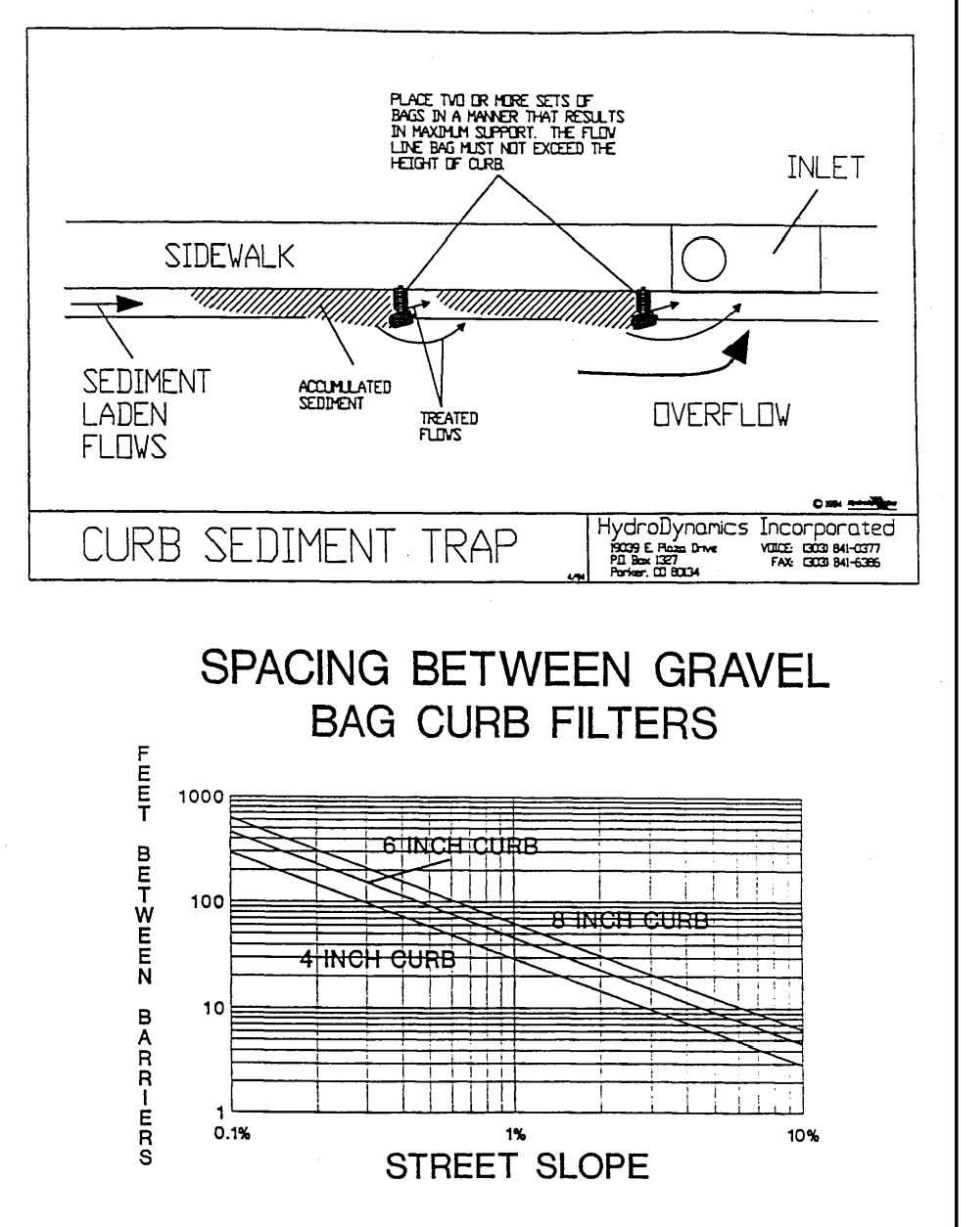


Plate 4.08p Gravel Bag Curb Sediment Filters  
Source: HydroDynamics, Inc.

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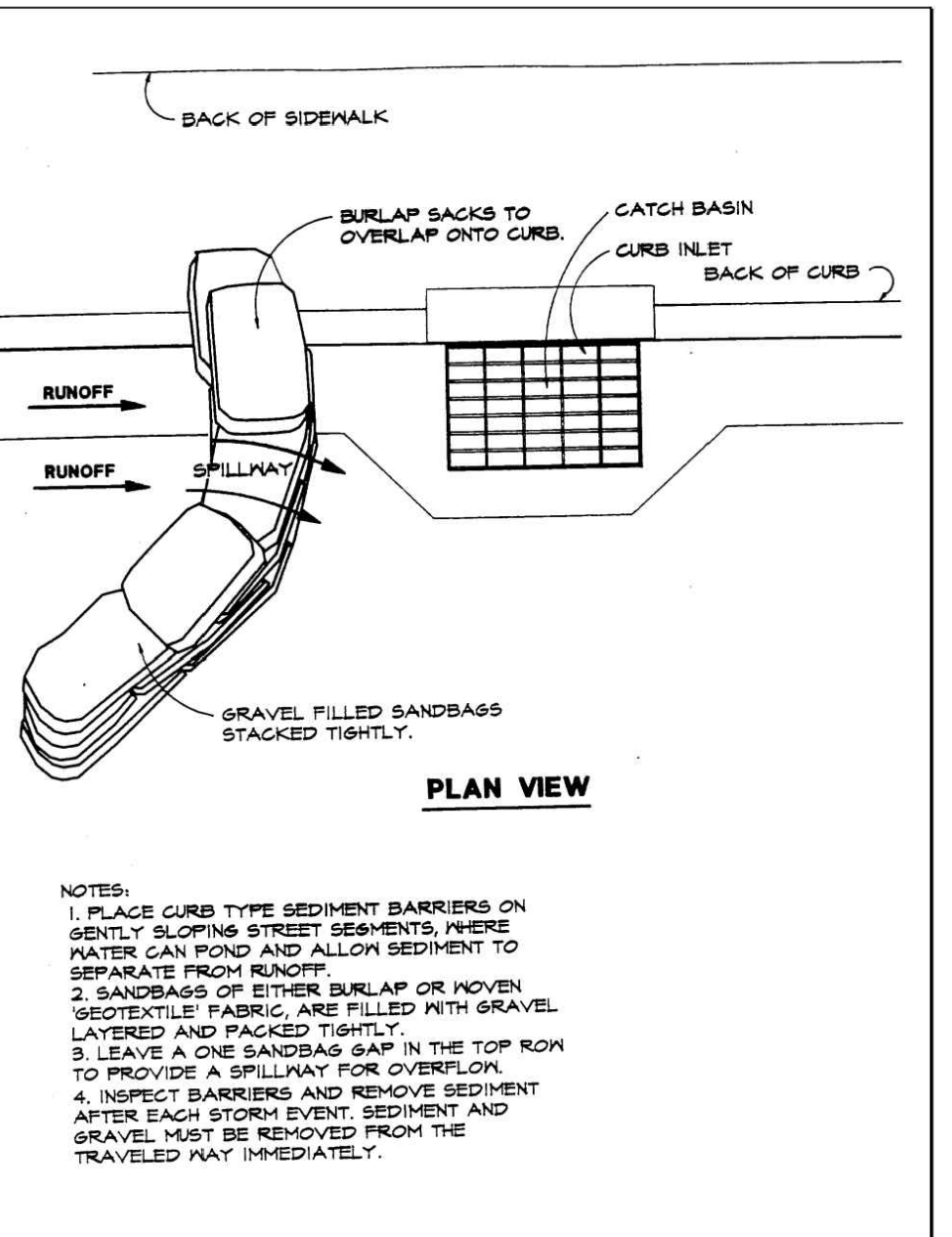


Plate 4.08q Curb and Gutter Sediment Barrier  
Source: Erosion Draw

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SHEET 30 OF 38

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SHEET 31 OF 38

PANDA HOME R3

## Chapter 6 - Best Management Practices - Vegetation for Erosion Control

### 6.66 PERMANENT SEEDING (ES BMP 1.66)

#### Definition

The establishment of perennial vegetative cover on disturbed areas by planting seed.

#### Purposes

- To reduce erosion and decrease sediment yield from disturbed areas.
- To permanently stabilize disturbed areas in a manner that is economical, adaptable to site conditions, and allows selection of the most appropriate plant materials.

#### Conditions Where Practice Applies

- Disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil.
- Rough-graded areas which will not be brought to final grade for a year or more.

#### Specifications

##### Selection of Plant Materials

- Selection of plant materials is based on climate, topography, soils, land use, and planting season. To determine which plant materials are best adapted to a specific site, use Tables 1.66b and 1.66c of The Florida Development Manual which describe plant characteristics and list recommended varieties.
- Appropriate seeding mixtures for various site conditions in Florida are given in Table 1.66a of The Florida Development Manual. These mixtures are designed for general use, and are known to perform well on the sites described. Adhere to these mixtures whenever feasible. Check Tables 1.66b and 1.66c for recommended varieties.

##### Seedbed Requirements

Vegetation should not be established on slopes that are unsuitable due to inappropriate soil texture, poor internal structure or internal drainage, volume of overland flow, or excessive steepness, until measures have been taken to correct these problems.

To maintain a good stand of vegetation, the soil must meet certain minimum requirements as a growth medium. The existing soil must have these criteria:

- Enough fine-grained material to maintain adequate moisture and nutrient supply.
- Sufficient pore space to permit root penetration. A bulk density of 1.2 to 1.5

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## Florida Erosion and Sediment Control Inspector's Manual

indicates that sufficient pore space is present. A fine granular or crumb-like structure is also favorable.

- Sufficient depth of soil to provide an adequate root zone. The depth to rock or impermeable layers such as hardpans shall be 12 inches (30 cm) or more, except on slopes steeper than 2:1 where the addition of soil is not feasible.
- A favorable pH range for plant growth. If the soil is so acid that a pH range of 6.0 - 7.0 cannot be attained by addition of pH-modifying materials, then the soil is considered an unsuitable environment for plant roots.
- Freedom from toxic amounts of materials harmful to plant growth.
- Freedom from excessive quantities of roots, branches, large stones, large clods of earth, or trash of any kind. Clods and stones may be left on slopes steeper than 3:1 if they are to be hydroseeded.

If any of the above criteria cannot be met, i.e., if the existing soil is too coarse, dense, shallow, acid, or contaminated to foster vegetation, then topsoil should be applied in accordance with TOPSOILING - Section 6.61 (ES BMP 1.61).

Necessary mechanical erosion and sediment control practices **will be installed prior to seeding**. Grading will be carried out according to the approved plan.

Surfaces will be roughened in accordance with SURFACE ROUGHENING - Section 6.60 (ES BMP 1.60).

##### Soil Conditioners

In order to modify the texture, structure, or drainage characteristics of a soil, the following materials may be added to the soil:

- Peat shall be sphagnum moss peat, hypnum moss peat, reed-sedge peat or peat humus, from fresh-water sources. Peat shall be shredded and conditioned in storage piles for at least six months after excavation.
- Sand shall be clean and free of toxic materials.
- Vermiculite shall be horizontal grade and free of toxic substances.
- Rotted manure shall be stable or cattle manure not containing undue amounts of straw or other bedding materials or toxic chemicals.
- Thoroughly rotted sawdust shall be 6 lbs. of nitrogen added to each cubic yard (3.5 kg/m<sup>3</sup>) and shall be free of stones, sticks, and toxic substances.
- Where local ordinances permit, treated sewage sludge may be used in accordance with local, state, and federal regulations.

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## Chapter 6 - Best Management Practices - Vegetation for Erosion Control

#### Lime and Fertilizer

Lime and fertilizer needs should be determined by soil tests. Soil tests may be performed by the Cooperative Extension Service Soil Testing Laboratory at the U.F., or by a reputable commercial laboratory. Information concerning the State Soil Testing Laboratory is available from county extension agents. Under unusual conditions where it is not possible to obtain a soil test, the following soil amendments will be applied:

**LIME:** 2 tons/acre finely ground agricultural or dolomitic limestone (90 lbs./1000 ft<sup>2</sup>)(4.48 t/ha)

**FERTILIZER:** Mixed grasses and legumes: 1000 lbs./acre 5-20-10 (25 lbs./1000 ft<sup>2</sup>)(1.12 t/ha)

Legume stands only: 1000 lbs./acre 5-20-10 (25 lbs./1000 ft<sup>2</sup>)(1.12 t/ha)

Grass stands only: 1000 lbs./acre 5-20-10 (1.12 t/ha) and 300 lbs. of 38-0-0 in spring (7 lbs./1000 ft<sup>2</sup>)(336 kg/ha)

1000 lbs./acre 10-20-10 (1.12 t/ha) and 300 lbs. of 38-0-0 in fall (7 lbs./1000 ft<sup>2</sup>)(336 kg/ha)

Other fertilizer formulations may be used, provided they can supply the same amounts and proportions of plant nutrients.

**Incorporation** - Lime and fertilizer shall be incorporated into the top 4 - 6 inches (10 - 15 cm) of the soil by discing or other means. When applying lime and fertilizer with a hydroseeder, apply to a rough, loose surface.

#### Seeding

- Certified seed should be used for all permanent seeding whenever possible.
- Legume seed - Legume seed should be inoculated with the inoculant appropriate to the species. Seed of lespedeza, crown vetch, and clovers should be scarified to promote uniform germination.
- Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder, or hydroseeder on a firm, friable seedbed. Maximum seeding depth should be 1/4 inch.
- Hydroseeding - To avoid seed damage, it is recommended that if a machinery breakdown of 30 minutes to 2 hours occurs, 50% more seed be added to the tank, based on the proportion of the slurry remaining in the tank. Beyond 2 hours, a full rate of new seed may be necessary.

Often hydroseeding contractors prefer not to apply lime in their rigs as it is abrasive. In inaccessible areas, lime may have to be applied in pelletized or liquid form.

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## Florida Erosion and Sediment Control Inspector's Manual

separately. Rates of wood fiber should be at least 2000 lbs. per acre (2.24 t/ha). Surface roughening is particularly important when hydroseeding, as a roughened slope will provide some natural coverage of lime, fertilizer, and seed.

- Legume inoculants should be used by the date indicated on the container. When dry seeding use four times the manufacturer's recommended rate and use ten times the recommended rate of inoculant when hydroseeding.

#### Mulching

All permanent seeding must be mulched immediately upon completion of seed application. Refer to MULCHING - Section 6.75 (ES BMP 1.75).

#### Maintenance of New Seedlings

**Irrigation:** New seedlings should be supplied with adequate moisture. Supply water as needed, especially late in the season, in abnormally hot or dry weather, or on adverse sites. Water application rates should be controlled to prevent runoff. Inadequate amounts of water may be more harmful than no water.

**Re-seeding:** Inspect seeded areas for failure and make necessary repairs and reseedings within the same season, if possible.

- If vegetative cover is inadequate to prevent rill erosion, overseed and fertilize in accordance with soil test results.
- If a stand has less than 40% cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand following seedbed preparation and seeding recommendations, omitting lime and fertilizer in the absence of soil test results. NOTE: If vegetation has failed to grow, soil must be tested to determine if acidity or nutrient imbalances are responsible.

**Fertilization:** Seedlings should be fertilized one year after planting to insure proper stand density.

- To established all-grass stands, apply 500 lbs./acre of 10-20-10 (12 lbs./1000 ft<sup>2</sup>)(560 kg/ha) between August 15 and November 15. (The first fall following seeding.)
- To legume-and-grass stands or pure legume stands, apply 500 lbs./acre of 0-20-20 (12 lbs./1000 ft<sup>2</sup>)(560 kg/ha) in early May or between August 15-October 15.

**GENERALLY, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL SOIL COVER HAS BEEN MAINTAINED FOR ONE FULL YEAR FROM PLANTING. DISTURBED AREAS WHICH ARE TO BE STABILIZED WITH PERMANENT VEGETATION MUST BE SEEDED OR PLANTED WITHIN 15 DAYS AFTER FINAL GRADE IS REACHED UNLESS TEMPORARY STABILIZATION IS APPLIED.**

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## PS PERMANENT SEEDING NTS

## Chapter 6 - Best Management Practices - Vegetation for Erosion Control

### 6.67 SODDING (ES BMP 1.67)

#### Definition

Stabilizing fine-graded disturbed areas by establishing permanent grass stands with sod.

#### Purposes

- To establish permanent turf immediately.
- To prevent erosion and damage from sediment and runoff by stabilizing the soil surface.
- To reduce the production of dust and mud associated with bare soil surfaces.
- To stabilize drainageways where concentrated overland flow will occur.

#### Conditions Where Practice Applies

- Disturbed areas which require immediate vegetative covers, or where sodding is preferred to other means of grass establishment.
- Locations particularly suited to stabilization with sod are:
  - slopes and buffer strips.
  - waterways and swales, especially around drop inlets.
  - residential or commercial lawns where quick use or aesthetics are factors.

#### Specifications

##### Soil Preparation

- Prior to soil preparation, areas to be sodded shall be brought to final grade in accordance with the approval plan. These operations should leave as much topsoil as possible or replace the topsoil to a depth of four inches (10 cm).
- Soil tests should be made to determine the exact requirements for lime and fertilizer. Soil tests may be conducted by the State Laboratory at the University of Florida or a reputable commercial laboratory. Information on state soil tests is available from county agricultural extension agents.

When a soil test is not made the following soil amendments should be made:

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## Florida Erosion and Sediment Control Inspector's Manual

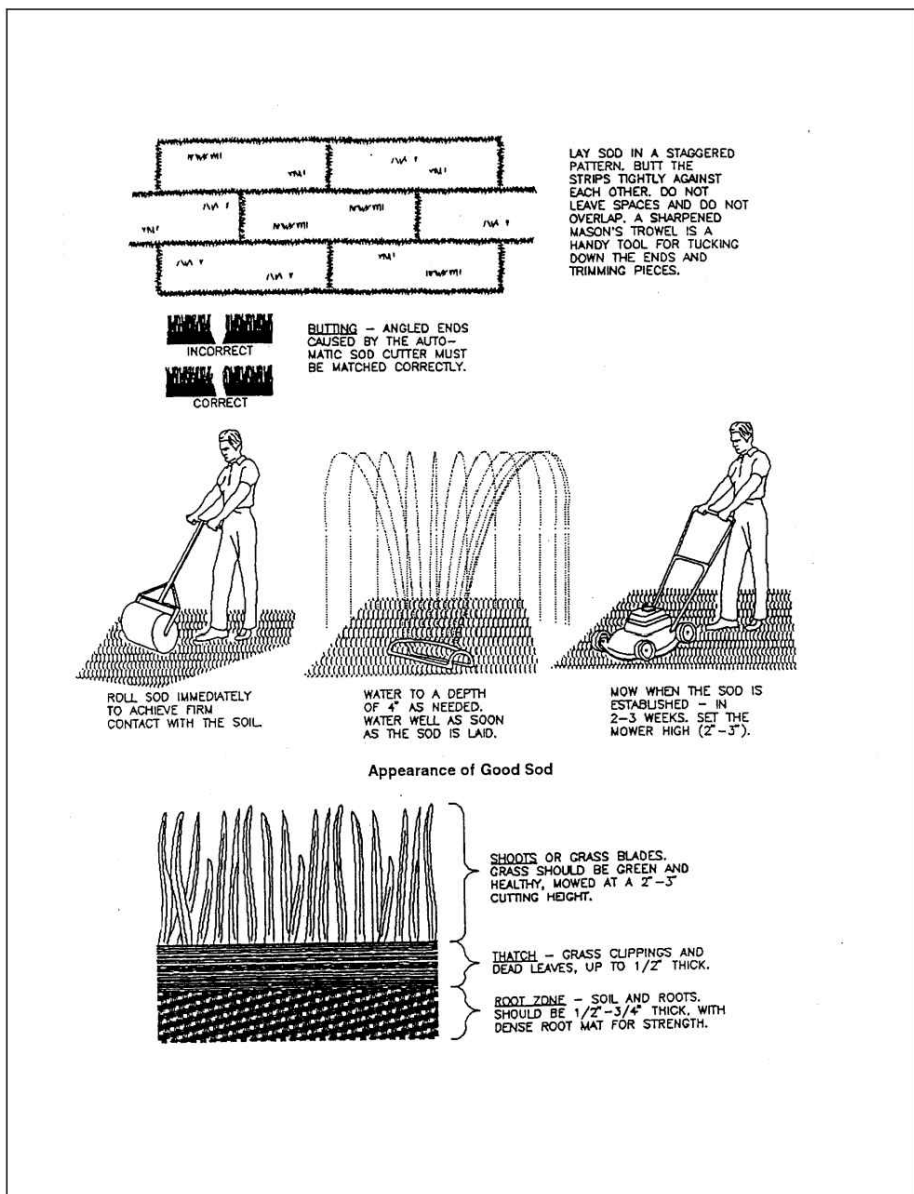


Plate 6.67a Sodding

Source: Virginia DSWC

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## Chapter 6 - Best Management Practices - Vegetation for Erosion Control

Pulverized agricultural limestone at 100 lbs./1000 ft<sup>2</sup> (2 tons/acre)(4.48 t/ha)

Fertilizer at 25 lbs./1000 ft<sup>2</sup> (1000 lbs./acre)(1.12 t/ha) of 10-10-10 in fall or 25lbs./1000 ft<sup>2</sup> of 5-10-10 in spring. **NOTE:** Equivalent nutrients may be applied with other fertilizer formulations.

These amendments shall be spread evenly over the area to be sodded, and incorporated into the top 3 - 6 inches (8 - 15 cm) of the soil by discing, harrowing or other acceptable means.

- Prior to laying sod, the soil surface shall be clear of trash, debris, roots, branches, stones and clods in excess of 2 inches (5 cm) in length or diameter. Sod shall not be applied to gravel or other non-soil surfaces.
- Any irregularities in the soil surface resulting from topsoil or other operations shall be filled or leveled in order to prevent the formation of depressions or water pockets.
- Areas to be topsoiled and topsoil used shall fulfill the requirements of TOPSOILING - Section 6.61 (ES BMP 1.61). No sod shall be spread on soil which has been treated with soil sterilants until enough time has elapsed to permit dissipation of toxic materials.

#### Sod Quality

- Sod should be free of weeds and undesirable coarse weedy grasses. If possible, **Certified** or **Approved** turfgrass sod should be used.
- Sod shall be machine cut at a uniform soil thickness of 3/4 inch (20 mm), plus or minus 1/4 inch (6 mm), at the time of cutting. This thickness shall exclude shoot growth and thatch.
- Pieces of sod shall be cut to the supplier's standard width and length, with a maximum allowable deviation in any dimension of 5%. Torn or uneven pads will not be acceptable.
- Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended from a firm grasp on one end of the section.
- Sod shall be not cut or laid in excessively wet or dry weather.
- Sod shall be harvested, delivered, and installed within a period of 36 hours

#### Sod Installation

##### A. Solid Sodding (Plate 6.67a)

- Irrigate areas to be sodded with a minimum of 1/2-inch (13 mm) of water unless

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## Florida Erosion and Sediment Control Inspector's Manual

recent rains have provided equivalent moisture.

- The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and butting tightly against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to insure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause drying of the roots.

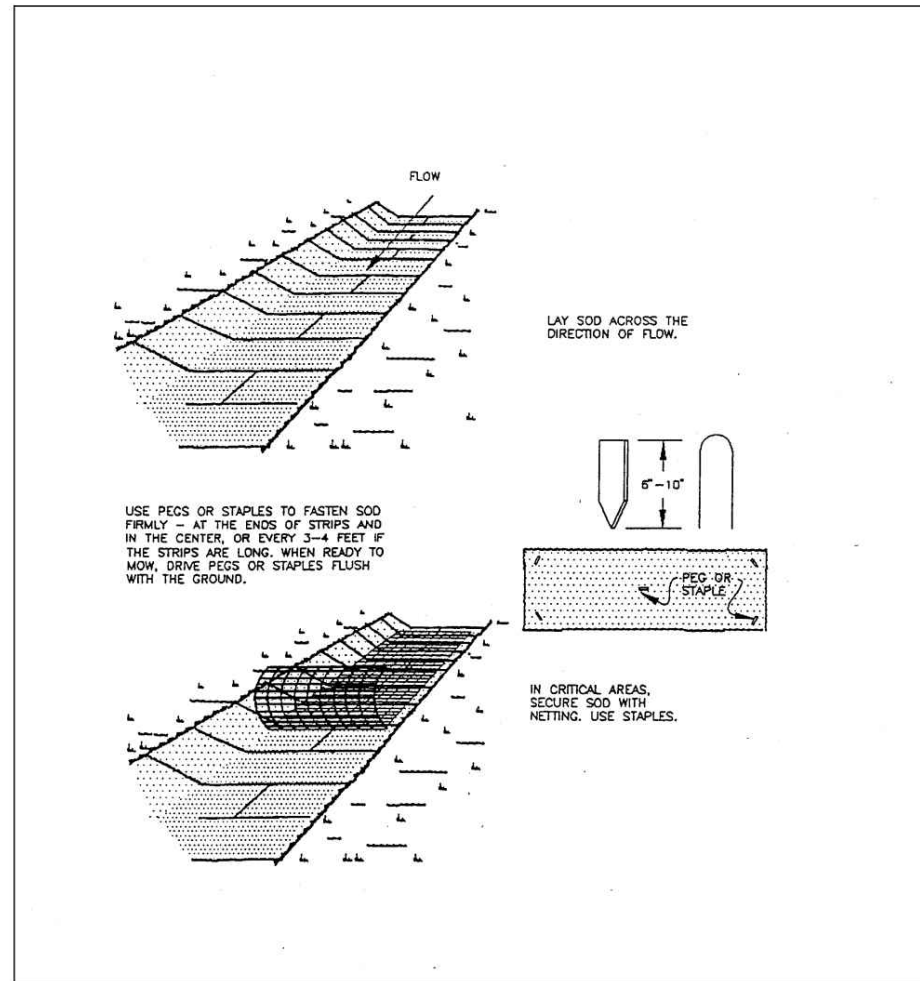


Plate 6.67b Sodding Swales and Waterways

Source: Virginia DSWC

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## Chapter 6 - Best Management Practices - Vegetation for Erosion Control

- On slopes 3:1 or greater, or wherever erosion may be a problem, sod shall be laid with staggered joints and secured by pegging or other approved methods. Sod shall be installed with the length perpendicular to the slope (on the contour). Begin laying sod at the bottom of the slope and work uphill. On very steep slopes, the use of ladders will facilitate the work and prevent damage to the sod.

- Surface water cannot always be diverted from flowing over the face of the slope, but a capping strip of heavy jute or erosion netting, properly secured, along the crown of the slope will provide extra protection against lifting and undercutting of sod. This same technique can be used to fortify sod in water-carrying channels and other critical areas. Use wire staples to anchor heavy jute or erosion netting in channels.

- As sodding of clearly defined areas is completed, sod shall be rolled or tamped to provide firm contact between roots and soil.

- After rolling, sod shall be irrigated to a depth sufficient that the underside of the sod pad and the soil 4 inches (10 cm) below the sod is thoroughly wet.

- During the first week, in the absence of adequate rainfall, watering shall be performed as often as necessary to maintain moist soil to a depth of at least 4 inches (10 cm).

- The first mowing shall not be attempted until the sod is firmly rooted, usually after 2 - 3 weeks. Not more than 1/3 of the grass leaf should be removed at any one cutting.

#### B. Spot Sodding

- Spot sodding is the planting of plugs or blocks, a minimum of 4 inches (10 cm) in diameter or square, of sod at measured intervals. The plugs or blocks should be placed one foot (30 cm) apart.
- Sod spots within a row should be placed alternately and not directly opposite sod spots in adjacent rows.
- Fit the plugs or blocks tightly into prepared holes and tamp them firmly into place.
- Irrigate to a depth sufficient that the underside of the sod spot and the soil 4 inches (10 cm) below the sod is thoroughly wet.

#### C. Strip Sodding

- Areas to be strip sodded should be fertilized, limed, prepared and smoothed as in solid sodding.
- Lay the strips end to end in rows that are from 1 to 1-1/2 feet (30 to 45 cm) apart with the strips a minimum of 2 to 4 inches (5 to 10 cm) wide.

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## Florida Erosion and Sediment Control Inspector's Manual

- Roll or tamp the strips thoroughly to provide firm contact between roots and soil.
- Irrigate to a depth sufficient that the underside of the strips and the soil 4 inches (10 cm) below the strips are wet.

#### D. Sodded Swales and Waterways (Plate 6.67b)

- Care should be taken to prepare the soil adequately in accordance with this specification. The sod type shall consist of plant materials able to withstand the designed velocity. (See STORMWATER CONVEYANCE CHANNELS - Section 6.35 (ES BMP 1.35).
- Sod strips in swales and waterways shall be laid perpendicular to the direction of flow. Care should be taken to butt ends of strips lightly.
- After rolling or tamping, sod shall be pegged or stapled to resist washout during the establishment period. Chicken wire, jute or other netting may be pegged over the sod for extra protection in critical areas.
- All other specifications for this practice shall be adhered to when sodding a swale or waterway.

#### Maintenance of Established Sod

- After the first week, sod shall be watered as necessary to maintain adequate moisture in the root zone and prevent dormancy.
- Apply lime and fertilizer under a regular program based on soil tests and on the use and general appearance of the vegetative cover. In the absence of a soil test apply 1 - 2 tons/acre (45 - 90 lbs./1000 ft<sup>2</sup>)(2.24 to 4.48 t/ha) of finely ground agricultural limestone every three years. Apply 400 - 500 lbs./acre (9 - 19 lbs./1000 ft<sup>2</sup>)(450 - 560 kg/ha) of 10-10-10 fertilizer. To obtain better vegetative cover, topdress with 150 - 300 lbs./acre (6 - 12 lbs./1000 ft<sup>2</sup>)(170 - 340 kg/ha) of 16-4-4 fertilizer during the growing season, but at least six weeks before the end of the growing season. If Centipede or St. Augustine grass is used, do not apply more than 1 pound of actual nitrogen per 1000 ft<sup>2</sup> (20 - 40 lbs./acre)(22 - 44 kg/ha).
- Mow to control weeds, improve the appearance of the vegetative cover, and to reduce fire hazard, as necessary. In general, the coarser the leaf texture of the grass, the higher it should be cut. Continuous close mowing will result in loss of vigor and reduced stand. No more than 1/3 of the grass leaf should be removed in any mowing.

6-22

## SO SODDING NTS



1. A ROW AGREEMENT WITH BRU IS REQUIRED IF THIS SYSTEM IS NOT CONNECTED TO A MASTER METERED IRRIGATION SYSTEM PROVIDED BY THE OWNER/DEVELOPER. CONTACT BRU AT SMR HQ FOR AGREEMENT DETAILS.
2. ALL IRRIGATION SHALL USE THE LOWEST QUALITY WATER AVAILABLE WHICH ADEQUATELY AND SAFELY MEETS THE NEEDS OF THE SYSTEM. STORM WATER REUSE, RECLAIMED WATER USE, GREY WATER IRRIGATION SYSTEMS AND/OR SHALLOW WELLS SHALL BE USED. THE USE OF POTABLE WATER FOR IRRIGATION WILL NOT BE ALLOWED.
  - a. THERE SHALL BE 3' MINIMUM CLEARANCE FROM LANDSCAPE PLANTS AND THE EDGE OF THE METER SLAB FOR METERS LESS THAN 3" AND 6' FOR METERS LARGER THAN 3", AND FOR FIRE LINE BACKFLOW PREVENTION ASSEMBLIES.
  - b. THERE SHALL BE 10' MINIMUM CLEARANCE BETWEEN TREES AND METER ASSEMBLIES, METER ASSEMBLY SLABS, AND FIRE LINE BACKFLOW PREVENTION ASSEMBLIES.
  - c. THERE MUST BE A CLEARANCE OF 7.5' MINIMUM FROM THE FRONT AND BOTH SIDES, AND 4' TO THE REAR OF ALL FIRE HYDRANTS AND ABOVE GRADE OBSTRUCTIONS INCLUDING POSTS, FENCES, TREES, ETC.
  - d. STREET SIDE OF METER ASSEMBLIES AND FIRE LINE BACKFLOW PREVENTION ASSEMBLIES SHALL REMAIN OPEN AND FREE OF LANDSCAPING.
  - e. TREES SHALL NOT BE PLANTED OR LOCATED WITHIN 10 FEET OF ANY POTABLE WATER MAIN, RECLAIMED WATER MAIN, SANITARY FORCE MAIN, GRAVITY SANITARY SEWER MAIN, SANITARY CLEANOUTS, OR POTABLE/RECLAIMED/FORCE MAIN APPURTENANCES SUCH AS METERS, HYDRANTS, BACKFLOW PREVENTION ASSEMBLIES, ETC. THAT ARE OWNED AND MAINTAINED BY MANATEE COUNTY. AN APPROVED ROW BARRIER SHALL BE USED WHERE TREES ARE PLANTED CLOSER THAN 10 FEET.

1. re: planting where OHPL are located. Vegetation within the roadway buffer shall be installed in accordance with Florida Power and Light's "Guide to Trees and Power Lines", if applicable.
2. re: removal of exotic/invasive veg. Please provide a note on the site plan indicating the LDC requirement for the continued removal of nuisance, exotic plant species that become reestablished within common, and open spaces, for the life of the project (LDC Section 701.8.E).

32 EXTERIOR IMPROVEMENTS			
<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>DETAIL</u>
32-01	ALUMINUM BED EDGING	971 LF	8/LO1.2

1. All irrigation shall use the lowest quality water available which adequately and safely meets the needs of the system. Storm water reuse, reclaimed water use, grey water irrigation systems and/or shallow wells shall be used. The use of potable water for irrigation will not be allowed.
  - a. Trees shall be 3' minimum from any irrigation pipe plants and the edge of the meter slab for meters less than 3" and 6" for meters larger than 3", and for fire line backflow prevention assemblies.
  - b. There shall be 10' minimum clearance between trees and meter assemblies, meter assembly slabs, and fire line backflow prevention assemblies.
  - c. There must be a clearance of 7.5' minimum from the front and both sides, and 4' to the rear of all fire hydrants and above grade obstructions including posts, fences, trees, etc.
  - d. Street side of meter assemblies and fire line backflow prevention assemblies shall remain open and free of landscaping.
  - e. Trees shall not be planted or located within 10 feet of any potable water main, reclaimed water main, sanitary force main, gravity sanitary sewer main, sanitary cleanouts, or potable/reclaimed/force main appurtenances such as meters, hydrants, backflow prevention assemblies, etc. that are owned and maintained by Manatee County. An approved root barrier shall be used where trees are planted closer than 10 feet.

1. PROVIDE 18" CONCRETE ADJACENT TO ALL PARKING, VERIFY WITH OWNER PRIOR TO INSTALLATION.
2. PROVIDE RIVER ROCK MULCH AROUND BASE OF TREES PLACED IN LAWN AREAS AND ALL LANDSCAPE BEDS UNLESS SPECIFICALLY PROHIBITED BY THE JURISDICTION. IF SPECIFICALLY PROHIBITED, UNACCEPTABLE TO THE EIGHTH, PROVIDE GUYING, STAKING AND MULCHING SECTION OF THE GENERAL NOTES ON SHEET L01.2 SHALL NOT BE USED.
3. CONTRACTOR SHALL PROVIDE LARGER MULCH STONE AROUND ALL DRAIN INLETS WITHIN LANDSCAPE BEDS TO PREVENT ANY MULCH FROM FALLING INTO DRAIN INLET.
4. CONTRACTOR SHALL PROVIDE MULCH MATERIAL SAMPLE TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
5. MULCH IS THE INTEREST OF THE OWNERS CHOICE COVERING THE GROUND TO SUPPRESS WEEDS AND ANY UNDESIRABLE PLANTS FROM GROWING.
6. CONTRACTOR SHALL EDGE ALL LANDSCAPE BEDS AND TREE MULCH RINGS WITH ALUMINUM BED EDGING PER PLANT BED EDGING DETAILS. IF ORGANIC MULCH IS REQUIRED, CONTRACTOR SHALL PLACE ALUMINUM BED EDGING WHERE THERE IS CHANGE IN MULCH TYPE. EDGING SHALL BE ALUMINUM AND BLACK IN COLOR. PERMALOC ALUMINUM ALLOY BLACK ANODIZED EDGING OR EQUIVALENT.
7. SOD TYPE SHALL MATCH THAT OF THE SURROUNDING DEVELOPMENT. VERIFY TYPE OF SOD WITH OWNER PRIOR TO INSTALLATION.
8. IRRIGATION PLAN AND SPECIFICATIONS TO BE SUBMITTED WITH CONSTRUCTION DRAWINGS PER CODE REQUIREMENTS. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY AND PRIOR TO PLANT INSTALLATION.
9. ALL EXISTING TURF GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW SOD OF SAME SPECIES OR EXISTING TURF.
10. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS FOR TREE REMOVAL AND PLANTING RENOVATIONS PRIOR TO STARTING WORK.
11. INSTALL AUTOMATIC IRRIGATION SYSTEM AS REQUIRED TO ACHIEVE 100% HEAD TO HEAD COVERAGE.
12. ALL PLANT MATERIALS TO BE INSTALLED SHALL BE NURSERY GROWN AND ROOT PRUNED STOCK FREE OF DISEASE, DISCOLORATION AND DEFECTS. PLANTS SHALL MEET THE REQUIREMENTS OF FLORIDA GRADE NO. 1 QUALITY OR BETTER AS DEFINED IN THE MOST CURRENT EDITION OF GRADES AND STANDARDS FOR NURSERY PLANTS, FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
13. ANY AREAS NOTED ON THE PLANS AS "SEED" OR "MULCH" WHERE THERE IS AN EXISTING LAWN AREA, MULCH AREA OR NATURAL AREA THAT IS DEEMED TO BE IN GOOD CONDITION, SHALL BE MAINTAINED AS EXISTING. AREAS VOID OF VEGETATION OR GROUND COVER OR THAT EXHIBIT EVIDENCE OF EROSION, SHALL BE IMPROVED AS NECESSARY.

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

**24-HOUR CONTACT:  
JOE CELENTO  
912-272-4811**



REVISION NARRATIVE:  
PLANTINGS IN ISLANDS MODIFIED DUE TO  
SITE PLAN CHANGES, SHRUB SPECIES  
ALONG SOUTH AND EAST BUFFER CHANGED  
TO MEET 42" HEIGHT REQUIREMENT

1	PLANTING PLAN UPDATED, SEE REV. NARRATIVE ABOVE
---	--

	DEVELOPER REVIEW	01/20/23
	PERMIT SET	02/13/23
	BID	XX-XX-XX
	CONSTRUCTION	XX-XX-XX

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109



Registration – FL LA6666896

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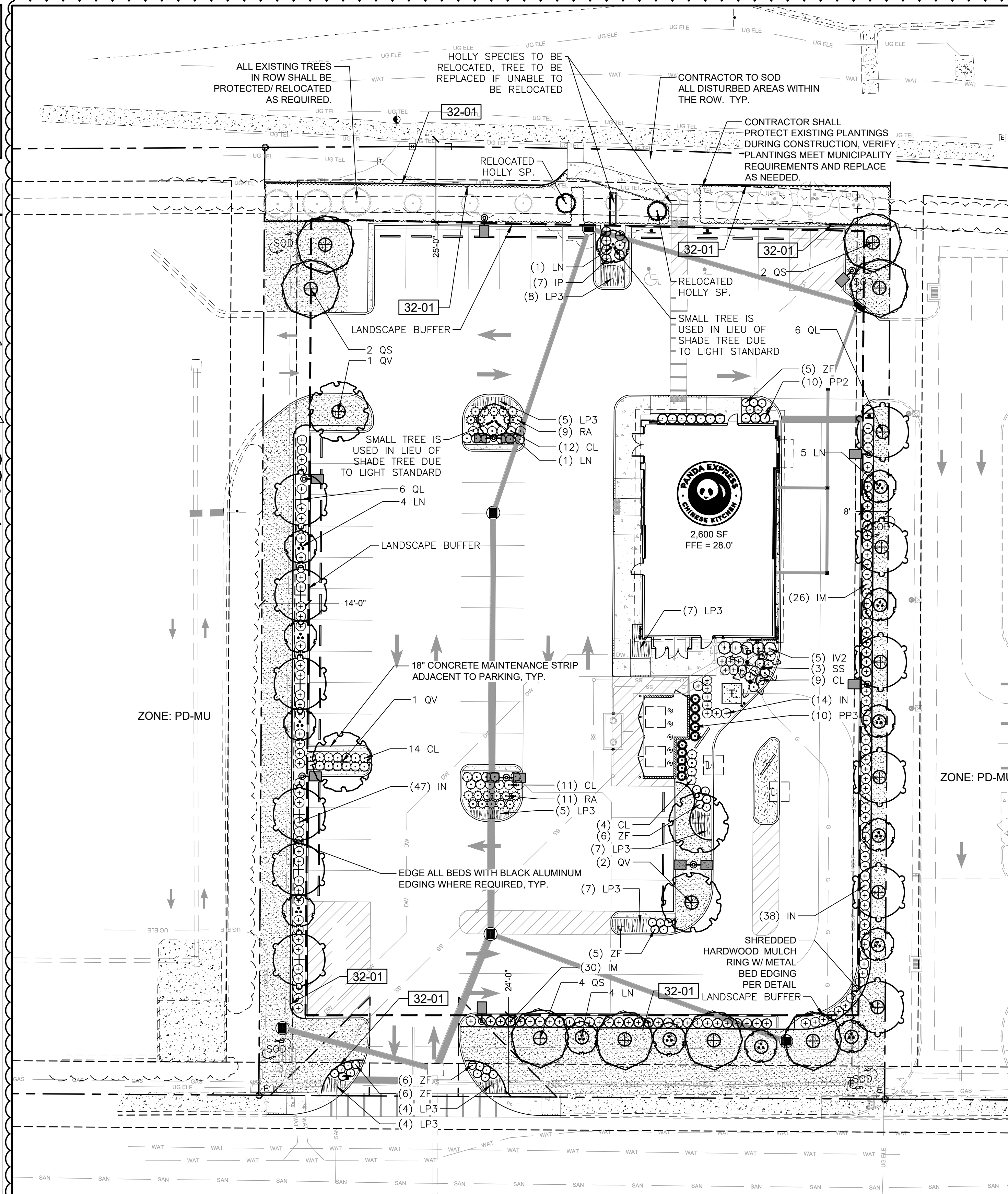


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Watkins  
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LANDSCAPE  
PLAN

L01.0



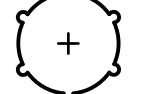














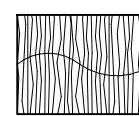

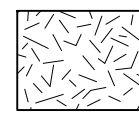

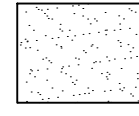

TRIP INFORMATION & WEBSITE COMMENTS

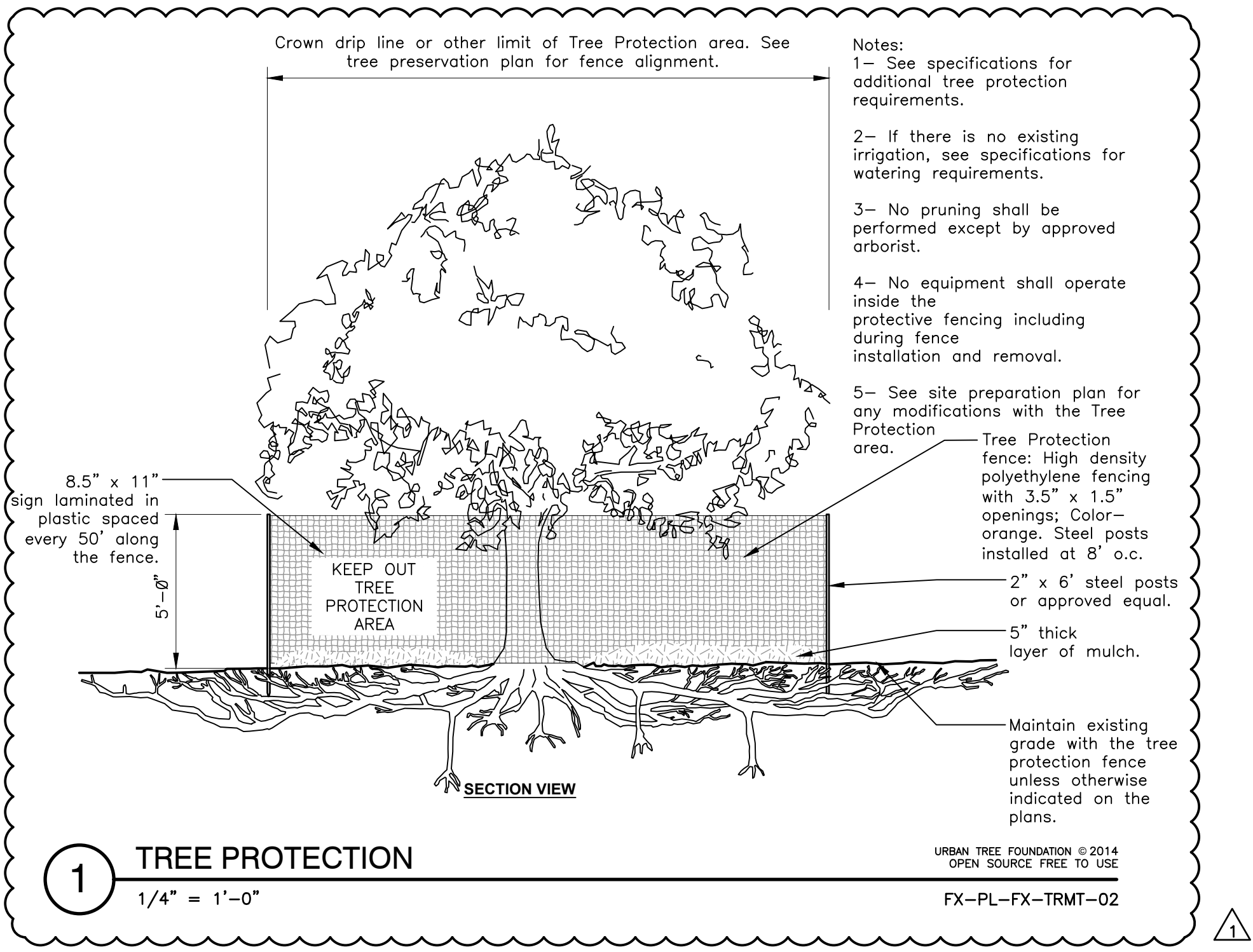


## 1 PLANTING PLAN



PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HT	REMARKS	
	LN	15 	LAGERSTROEMIA INDICA 'NATCHEZ'	'NATCHEZ' GRAPE MYRTLE	30 GAL. OR B&B	1" CAL	6'	MINIMUM 3 TRUNKS: ALL TRUNKS SHALL BE A MINIMUM OF 1" CAL, FULL HEAD	
	QL	12	QUERCUS LAURIFOLIA	LAUREL-LEAVED OAK	30 GAL. OR B&B	2" CAL	8-10' H	SINGLE STRAIGHT TRUNK, SPECIMAN QUALITY AND FULL FORM	
	QS	8	QUERCUS SHUMARDII	SHUMARD RED OAK	30 GAL. OR B&B	2" CAL	8-10' H	SINGLE STRAIGHT TRUNK, SPECIMAN QUALITY AND FULL FORM	
	QV	4 	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	30 GAL. OR B&B	2" CAL	8-10' H	SINGLE STRAIGHT TRUNK, SPECIMAN QUALITY AND FULL FORM	
PALM TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	HT	REMARKS	
	SS	3	SABAL PALMETTO	CABBAGE PALM	FG		10' CT	HEALTHY SPECIMAN	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	HT	W	SPACING	REMARKS
	RA	20	ABELIA X GRANDIFLORA 'ROSE CREEK'	ROSE CREEK ABELIA	3 GAL			36" o.c.	FULL FORM
	CL	51	CALLISTEMON CITRINUS 'LITTLE JOHN'	LITTLE JOHN DWARF BOTTLEBRUSH	3 GAL	18"		36" o.c.	FULL FORM
	IN	99	ILEX VOMITORIA 'NANA'	DWARF YAUPON HOLLY	3 GAL	18"		36" o.c.	FULL FORM
	IV2	5	ILICIMUM VERUM	STAR ANISE	7 GAL	24" MIN.		48" o.c.	NATIVE, FULL FORM
	IP	7	IXORA COCCINEA 'PETITE RED'	DWARF RED IXORA	3 GAL	18"		36" o.c.	FULL FORM
	IM	56	IXORA X 'MAUI'	MAUI IXORA	7 GAL			36" o.c.	FULL FORM
	PP2	10	PODOCARPUS MACROPHYLLUS 'PRINGLES'	PRINGLES DWARF PODOCARPUS	3 GAL	18"		36" o.c.	FULL FORM
	PP3	10 	PODOCARPUS MACROPHYLLUS MAKI	SHRUBBY YEW PODOCARPUS	15 GAL	48"		36" o.c.	
	ZF	28	ZAMIA FLORIDANA	COONTIE PALM	3 GAL			30" o.c.	FULL FORM
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	HT	SPACING		
	LP3	47 	LANTANA MONTEVIDENSIS	PURPLE TRAILING LANTANA	1 GAL		30" o.c.		
MULCH	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	HT	SPACING		
	HW	457 SF 	MULCH	SHREDED HARDWOOD MULCH	MULCH			QTY. SHOWN ACCOUNTS FOR ISLAND STRIPS ONLY. QTY. FOR PLANT BEDS TBD BY CONTRACTOR. COLOR TBD BY OWNER	
SOD/SEED	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	HT	SPACING		
	ZB	7,376 SF 	ZOYSIA JAPONICA 'EMPIRE'	EMPIRE ZOYSIA	SOD			HEALTHY WEED FREE AND CERTIFIED SOD	




QUANTITY TAKEOFF DISCLAIMER:  
QUANTITIES NOTED ON PLANS ARE OFFERED AS A CONVENIENCE TO THE CONTRACTOR FOR BID PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.



PANDA EXPRESS, INC.  
1683 WALNUT GROVE AVE.  
ROSEMead, CALIFORNIA 91770  
TELEPHONE: 626.799.9898  
FACSIMILE: 626.372.8268

REVISIONS:

	PLANTING SCHEDULE
	UPDATED, TREE PROTECTION FENCE ADDED

ISSUE DATE:

	DEVELOPER REVIEW	01/20/23
	PERMIT SET	02/13/23
	BID	XX-XX-XX
	CONSTRUCTION	XX-XX-XX

DRAWN BY: JCS

PANDA PROJECT #: S8-24-D23223  
PANDA STORE #:  
IE PROJECT #: 220109

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Digitally signed by Lester C Watkins  
Date: 2023.08.11 14:21:50-05'00'

LANDSCAPE  
DETAILS

L01.1





### Pro 5 Weed Barrier

DeWitt Pro 5 Weed Barrier is a woven, needle-punched polypropylene fabric for commercial grade weed control. Specified by leading architects, the fabric is designed to allow air, water, and nutrients through. The fabric will not rot or mildew, and is formulated to resist uv degradation.

Property	Test Method	Unit	Minimum Average Roll Value
Woven Material			Polypropylene
Fiber Backing			Polyester
Color			Black with Gold Stripe every 12"
Construction Weave			15 x 10 or 10 x 15
Weight	ASTM D 5261	OZ/SY	5.0
Grab Tensile Strength	ASTM D 4632	LBS	Scrim 2.8
Grab Elongation	ASTM D 4632	%	Cap 2.2
Trapezoid Tear	ASTM D 4533	LBS	Warp 80
Puncture	ASTM D 6241	LBS	Weft 65
Water Permeability	ASTM D 4491	GAL/MIN/SF	Warp 15
Ultraviolet Exposure	ASTM D 4355	% Strength Retained	Weft 15
			Warp 35
			Weft 30
			300
			10
			>70% after 2500 Hrs
			Carbon Arc Exposure

Date: 12/13/16. This data sheet supersedes all previously issued data. The above properties are typical averages.

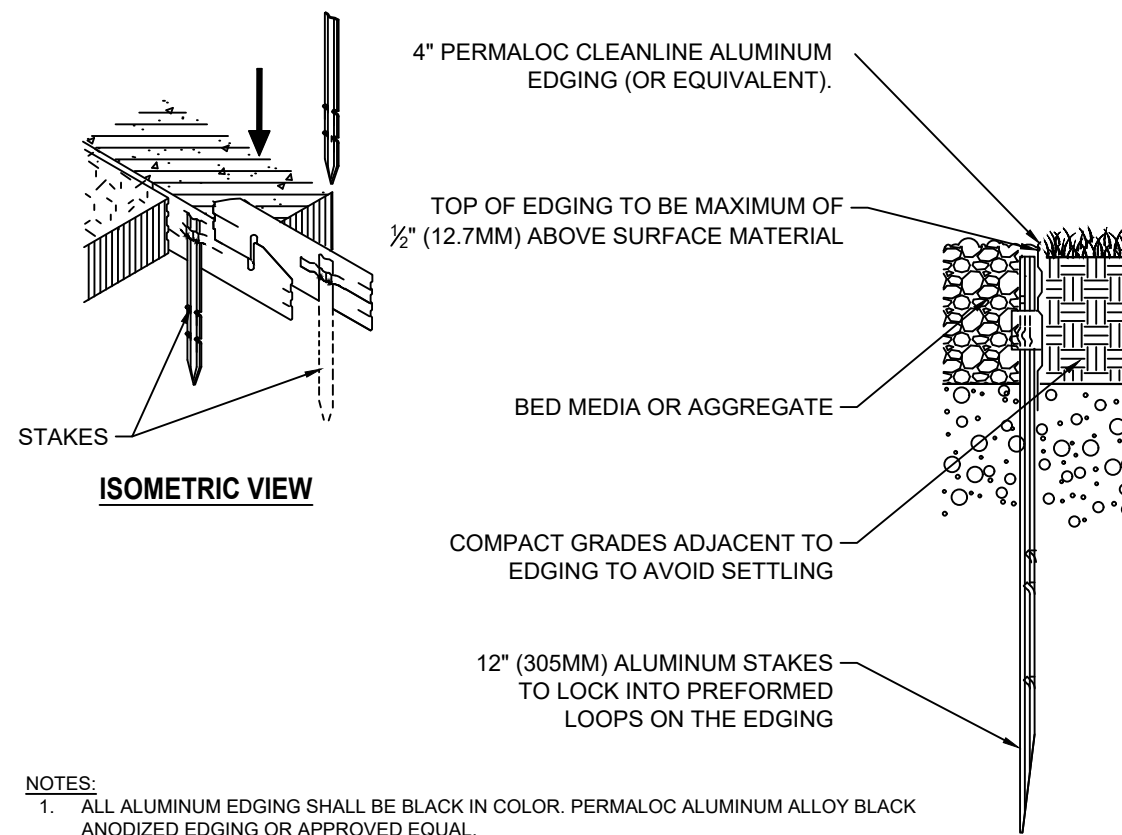
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[www.dewittcompany.com](http://www.dewittcompany.com)

573.472.0048 phone / 800.888.9669 / 573.471.6715 fax

THE ABOVE IS THE MINIMUM STANDARD. OTHER BRANDS MAY BE SUBSTITUTED AS LONG AS THE SPECIFICATIONS ARE MET OR EXCEEDED. HOWEVER, ANY SUBSTITUTION MUST BE SUBMITTED BY THE CONTRACTOR FOR PANDA PM APPROVAL, PRIOR TO INSTALLATION.

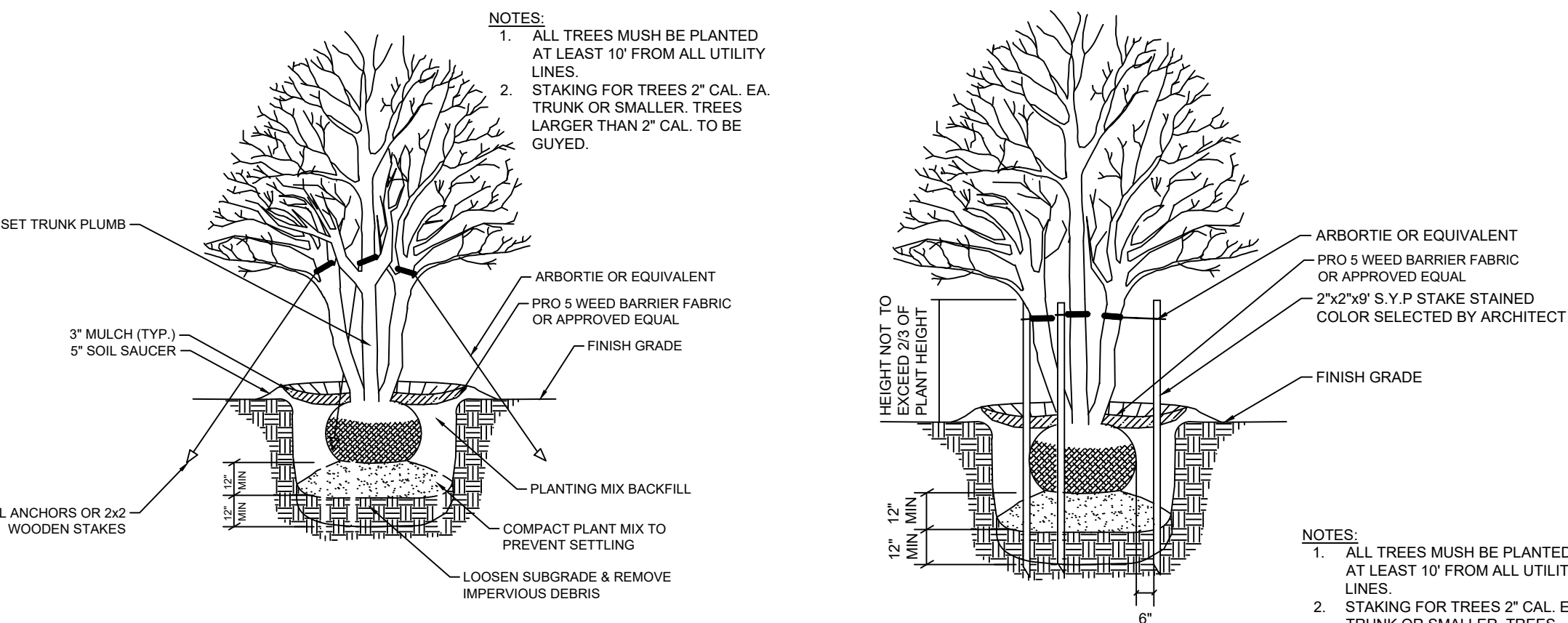
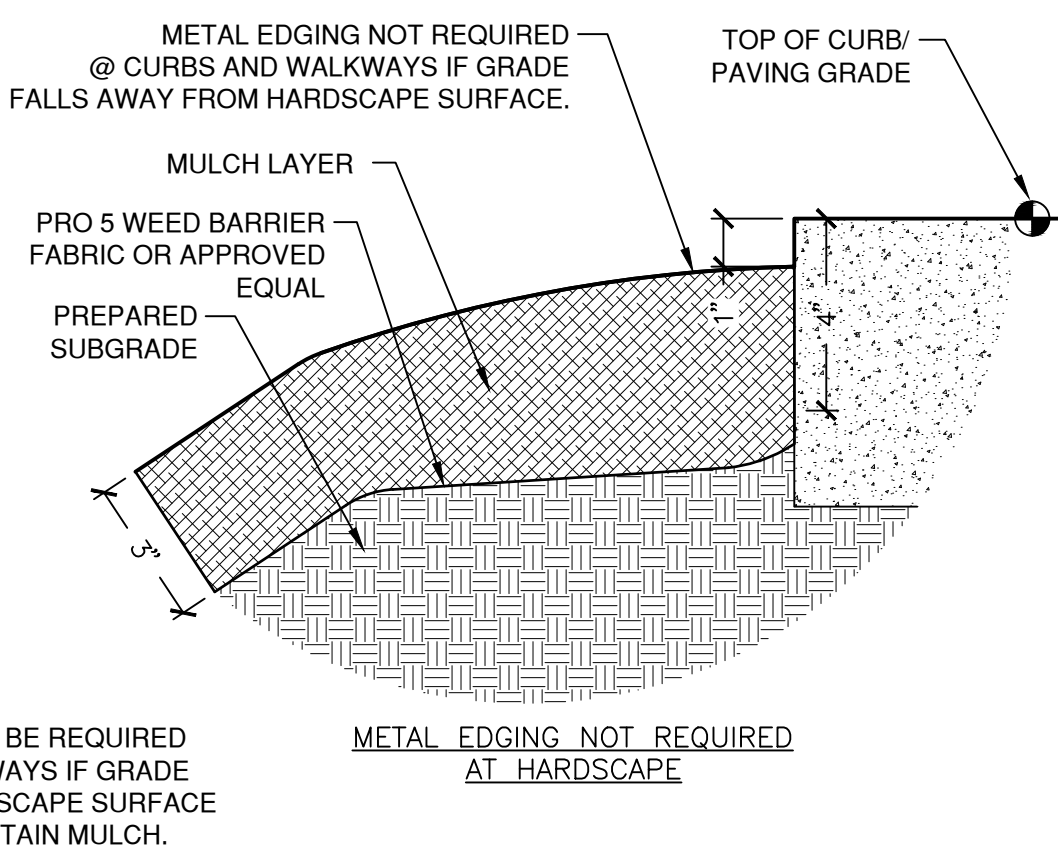


- NOTES:
1. ALL ALUMINUM EDGING SHALL BE BLACK IN COLOR. PERMALOC ALUMINUM ALLOY BLACK ANODIZED EDGING OR APPROVED EQUAL.
  2. INSTALL EDGING SO THAT STAKES WILL BE ON INSIDE OF PLANTING BED.
  3. TOP OF MULCH MATERIAL SHALL BE 2" LOWER THAN TOP OF EDGING.

### METAL EDGING STAKING

3" = 1'-0"

P-CO-PXP-08



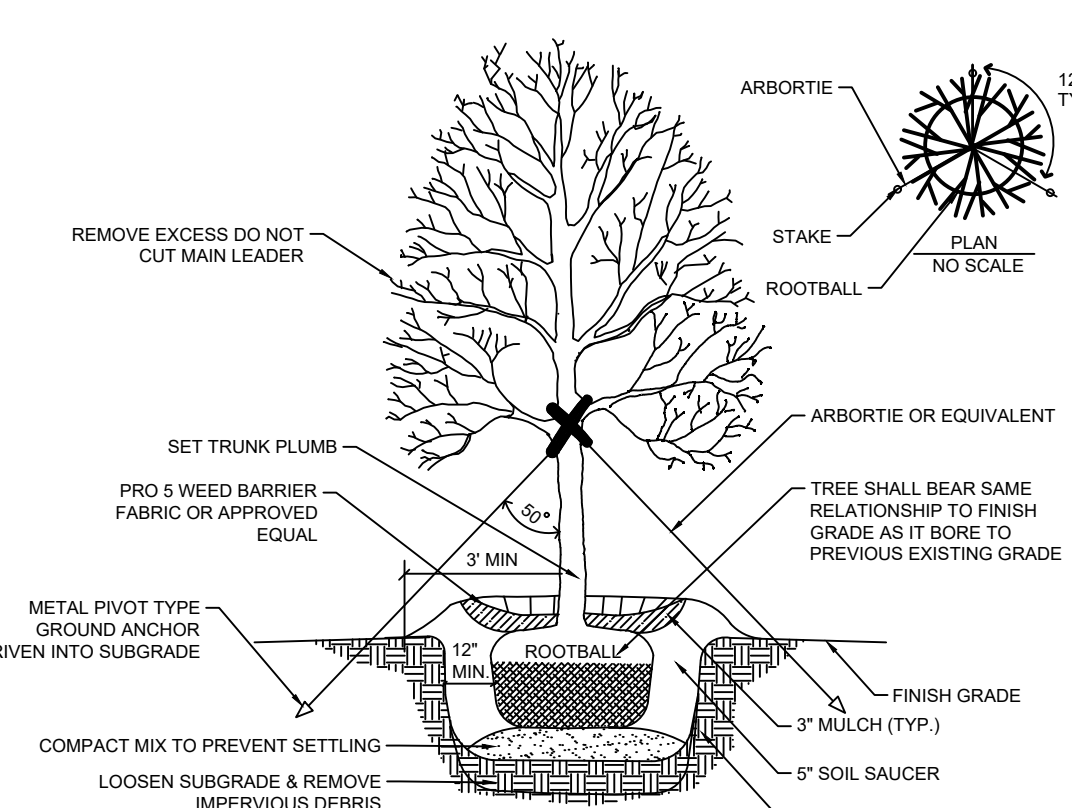
- NOTES:
1. ALL TREES MUST BE PLANTED AT LEAST 10' FROM ALL UTILITY LINES.
  2. STAKING FOR TREES 2" CAL. EA. TRUNK OR SMALLER. TREES LARGER THAN 2" CAL. TO BE GUYED.

- NOTES:
1. ALL TREES MUST BE PLANTED AT LEAST 10' FROM ALL UTILITY LINES.
  2. STAKING FOR TREES 2" CAL. EA. TRUNK OR SMALLER. TREES LARGER THAN 2" CAL. TO BE GUYED.

### MULTI-TRUNK TREE STAKING

1/4" = 1'-0"

P-CO-PXP-01

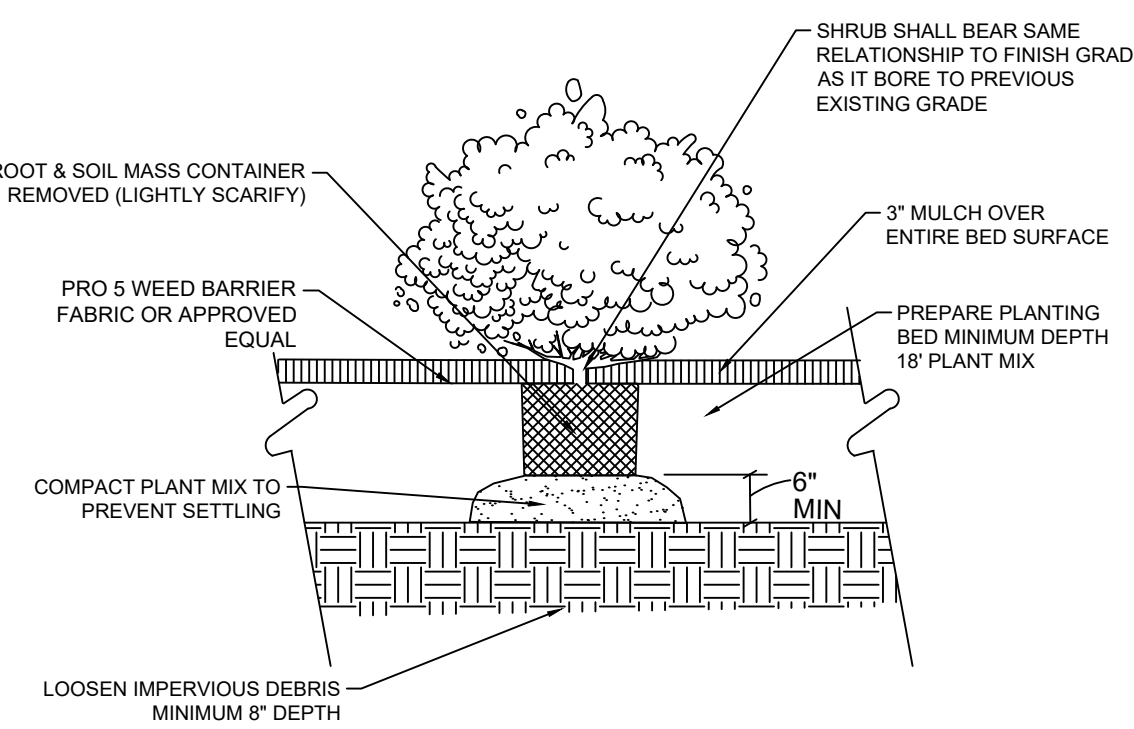


- NOTES:
1. EVERGREEN TREES 2" CAL. OR SMALLER TO BE STAKED.
  2. PROVIDE WATER CRYSTALS PER MANUFACTURER'S RECOMMENDATIONS FOR PINE TREES.
  3. ALL TREES MUST BE PLANTED AT LEAST 10' FROM ALL UTILITY LINES.

### EVERGREEN TREE PLANTING

1/4" = 1'-0"

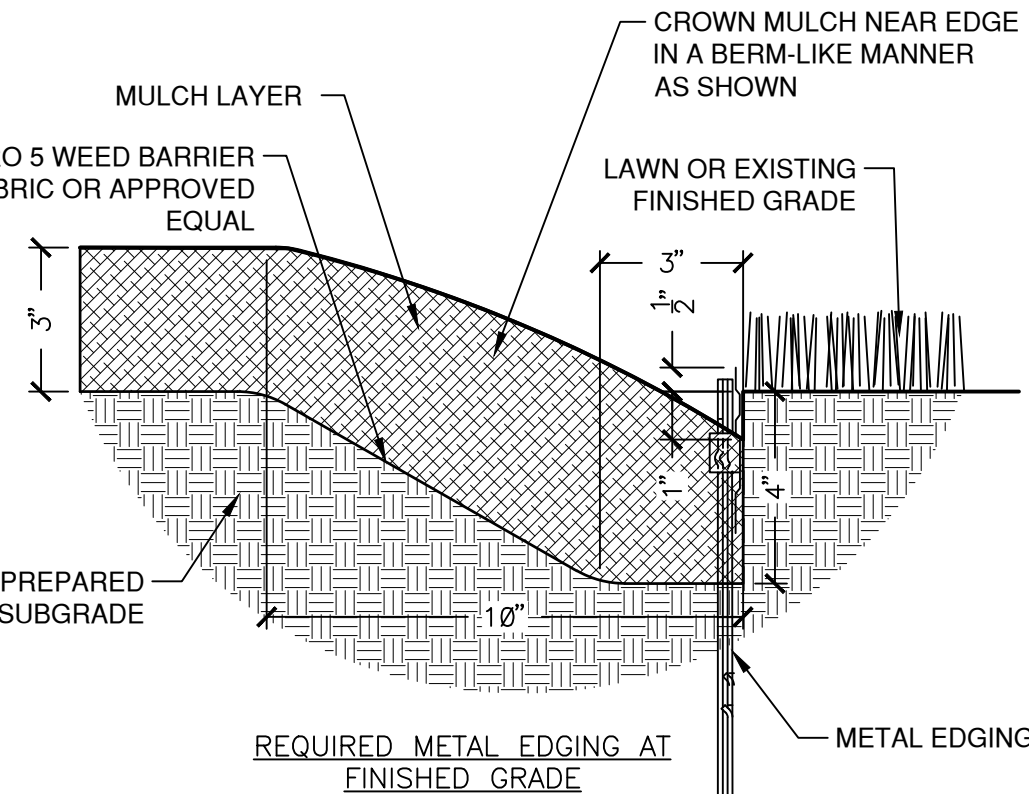
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### PLANTS SPACED LESS THAN 36" O.C.

1/2" = 1'-0"

P-CO-PXP-05



### PLANT BED EDGING

1/4" = 1'-0"

P-CO-PXP-10



### GENERAL NOTES

#### DELIVERY, STORAGE AND HANDLING:

- A. DELIVER MATERIALS IN SUCH A MANNER AS TO NOT DAMAGE OR DECREASE THE HEALTH AND VIGOR OF THE PLANT MATERIALS.
- B. STORE MATERIALS AWAY FROM DETRIMENTAL ELEMENTS. COORDINATE WITH GENERAL CONTRACTOR TO SECURE A SAFE STAGING AREA.
- C. HANDLE, LOAD, UNLOAD, AND TRANSPORT MATERIALS CAREFULLY TO AVOID DAMAGE.
- D. MAINTAIN AND PROTECT PLANT MATERIALS AS NECESSARY TO INSURE HEALTH AND VIGOR.

#### GUARANTEE:

- A. GUARANTEE PLANT MATERIALS AND LAWN AREAS FOR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. CONTRACTOR SHALL REPLACE PLANTS AND LAWNS, THAT FAIL TO GROW PROPERLY WITH PLANTS AS ORIGINALLY SPECIFIED AT THE EARLIEST PRACTICAL DATE FOLLOWING PLANT FAILURE, WITHOUT ADDITIONAL CHARGES TO THE OWNER. REPLACEMENT MATERIALS WILL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF REPLACEMENT. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR REPLACING PLANTS WHICH ARE DAMAGED BY ABUSE OR IMPROPER MAINTENANCE BY OWNER, OR BY ACTS OF GOD OCCURRING AFTER ACCEPTANCE.

#### MATERIAL FOR STAKING:

- A. STAKES FOR SUPPORTING TREES SHALL BE SOUND TIMBER, STRAIGHT, SIZED AS SHOWN IN PLANTING DETAILS AND OF SUFFICIENT LENGTH TO ADEQUATELY SUPPORT THE PLANT.
- B. DEADMEN OR STAKES FOR ANCHORING STRAPS IN THE GROUND SHALL BE OF SIZE MATERIAL, AND STRENGTH ADEQUATE TO HOLD STRAPS TIGHT AND MAINTAIN TREE FIRMLY IN AN UPRIGHT POSITION.

#### GUYING, STAKING AND MULCHING:

- A. USE ARBORTIE OR EQUIVALENT FOR ANY NEEDED STAKING TO ELIMINATE USE OF WIRE AND HOSE. STRAPS SHALL BE WIDE, SOFT, FLEXIBLE MATERIAL MANUFACTURED FOR THE PURPOSE OF TREE ANCHORING SUCH AS WOVEN POLYPROPYLENE WEBBING. ANY STAKING MATERIAL IS TO BE REMOVED AFTER THE FIRST GROWING SEASON.

- B. STAKE TREES TWO-INCH CALIPER AND OVER. SPACE THREE STRAPS EQUALLY ABOUT EACH TREE. ATTACHED AT APPROXIMATELY TWO-FIFTHS UP THE TRUNK. STRAPS SHOULD BE AT A 45-DEGREE ANGLE AND ANCHORED IN THE GROUND WITH STAKES. THESE STRAPS SHALL BE EQUALLY TIGHT.

- C. STAKE TREES LESS THAN TWO INCHES CALIPER WITH TWO OR THREE WOOD STAKES DRIVEN TWO FEET INTO THE GROUND WITH THE PORTION EXTENDING ABOVE THE GROUND APPROXIMATELY ONE-HALF OF THE TRUNK HEIGHT. STAKE ONE FOOT FROM TRUNK, FASTENED AT APPROXIMATELY TWO-FIFTHS OF TRUNK HEIGHT.

- D. PRIOR TO INSTALLING MULCH MATERIAL, ALL PLANTING BEDS SHALL BE COVERED WITH LANDSCAPE FABRIC IN AN EFFORT TO REMOVE WEEDS. LANDSCAPE FABRIC SHALL BE DEWITT 5 OZ GEOTEXTILE OR APPROVED EQUAL. TWO TO THREE INCHES OF MULCH MATERIAL SHALL BE PLACED ON TOP OF THE LANDSCAPE FABRIC.

- E. MULCH ALL PLANTING BEDS AND OTHER AREAS DESIGNATED TO BE MULCHED (WITH THE EXCEPTION OF ANY ANNUAL, SEASONAL COLOR OR PERENNIAL BEDS) WITH TWO TO THREE INCHES OF RIVER ROCKS. ROCKS SHALL BE BETWEEN 1" AND 3" IN SIZE. OWNER TO APPROVE MULCH TYPE FOR SEASONAL COLOR OR PERENNIAL BEDS PRIOR TO INSTALLATION. CONTRACTOR TO PROVIDE A MULCH MATERIAL SAMPLE TO OWNER PRIOR TO INSTALLATION FOR COLOR, TYPE AND SIZE APPROVAL. ALL RIVER ROCKS SHALL BE RINSED CLEAN ON SITE PRIOR TO INSTALLATION IN PLANTING BEDS. IF JURISDICTION DOES NOT ALLOW ROCK-MULCH, CONTRACTOR SHALL NOT USE UNACCEPTABLE MULCHES. CONTRACTOR TO ENSURE MULCH IS PROPERLY INSTALLED AND NO MULCH WASHES ONTO ANY PAVED SURFACES POST CONSTRUCTION. THIS MAY REQUIRE THE INSTALLATION OF ADDITIONAL EDGING NOT SHOWN ON THE LANDSCAPE PLAN.

#### UNACCEPTABLE MULCHES:

- PINE STRAW MULCH
- PINE BARK MULCH

#### EXCAVATION FOR PLANTING TREES AND SHRUBS:

- A. CIRCULAR PLANT PITS WITH VERTICAL SIDES SHALL BE DUG BY HAND OR MACHINE METHODS FOR PLANTING OF TREES AND SHRUBS.
- B. TREE PIT DIAMETERS SHALL BE A MINIMUM OF TWO FEET GREATER THAN THE SPREAD OF THE ROOT MASS.
- C. SHRUB PIT DIAMETER SHALL BE A MINIMUM OF ONE FOOT GREATER THAN THE SPREAD OF THE ROOT MASS.
- D. CONTRACTOR SHALL TEST EXCAVATED PLANT PITS TO SATISFY THAT SUFFICIENT DRAINAGE IS PRESENT FOR PROPER PLANT SURVIVAL.
- E. IF THE INDIVIDUAL PITS ARE ARRANGED IN A GROUP, THE AREA BETWEEN PITS SHALL BE FILLED TO THE REQUIRED GRADE WITH EXISTING SOIL AND MULCHED WITH MULCH MATERIAL THREE INCHES DEEP. PLANT BEDS SHALL BE NEATLY EDGED AND KEPT FREE OF WEEDS UNTIL THE WORK IS ACCEPTED.

#### TOPSOIL:

TOPSOIL SHALL BE FERTILE, FRIABLE, SANDY LOAM, AND SHALL BE NATURAL SURFACE SOIL OBTAINED FROM WELL DRAINED AREAS. TOPSOIL SHALL BE CHARACTERISTIC OF REPRESENTATIVE SOILS IN THE PROJECT VICINITY THAT PRODUCE HEAVY GROWTHS OF CROPS, GRASS OR OTHER VEGETATION. TOPSOIL SHALL BE FREE OF SUBSOIL, BRUSH, ORGANIC LITTER, OBJECTIONABLE WEEDS, CLAY, CLOTS, STUMPS, ROOTS OR OTHER MATERIAL HARMFUL TO PLANT GROWTH OR HINDRANCE TO PLANTING OR MAINTENANCE OPERATIONS. SHOULD REGENERATIVE MATERIALS BE PRESENT IN THE SOIL, CONTRACTOR SHALL ERADICATE AND REMOVE SUCH GROWTH, BOTH SURFACE AND ROOT, WHICH MAY APPEAR IN THE IMPRINTED MATERIAL WITHIN ONE YEAR FOLLOWING ACCEPTANCE OF THE WORK. TOPSOIL SHALL NOT BE HANDLED IN A FROZEN OR MUDDY CONDITION. THE ACIDITY RANGE SHALL BE BETWEEN 5.0 AND 7.0 INCLUSIVE.

#### PLANTS

GENERAL: FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVARS, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT SCHEDULE OR PLANT LEGEND SHOWN ON DRAWINGS AND COMPLYING WITH ANSI Z60.1; AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT. ALL PLANT MATERIAL TO MEET THE STANDARD SET FORTH IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1)

#### FERTILIZER:

- A. FERTILIZER FOR ALL TREES, SHRUBS AND GROUNDCOVERS SHALL BE STA GREEN NUTRIENT OR EQUIVALENT AND DELIVERED TO THE SITE IN UNOPENED CONTAINERS.
- B. FERTILIZER FOR GRASS SHALL BE STA-GREEN FERTILIZER OR EQUIVALENT CONTAINING THE FOLLOWING PERCENTAGES BY WEIGHT:
  - 10% NITROGEN
  - 24% PHOSPHOROUS
  - 10% POTASH
- C. FERTILIZER SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING, AND SHALL LIST THE MANUFACTURER'S GUARANTEED ANALYSIS. FERTILIZER SHALL NOT HAVE BEEN EXPOSED TO WEATHER PRIOR TO DELIVERY TO THE SITE. AFTER DELIVERY UNTIL USED, IT SHALL BE COMPLETELY PROTECTED AT ALL TIMES. IT SHALL NOT BE STORED IN CONTACT WITH THE THE GROUND.

#### LANDSCAPE BED EDGING:

CONTRACTOR SHALL EDGE ALL LANDSCAPE BEDS AND TREE MULCH RINGS WITH ALUMINUM BED EDGING PER PLANT BED EDGING DETAILS. IF ORGANIC MULCH IS REQUIRED, CONTRACTOR SHALL PLACE ALUMINUM BED EDGING WHERE ANY CHANGE IN MULCH TYPES OCCUR. EDGING SHALL BE ALUMINUM AND BLACK IN COLOR. PERMALOC ALUMINUM ALLOY BLACK ANODIZED EDGING OR EQUIVALENT.

#### DRAINAGE TEST

- A. REPRESENTATIVE TREE AND SHRUB PITS FROM EACH PLANTING AREA SHALL BE FILLED WITH WATER. IF PERCOLATION IS LESS THAN 100 TWELVE-INCH AUGER TO A DEPTH OF FOUR FEET BELOW THE BOTTOM OF THE TREE PIT, RETEST THE PIT. IN CASE DRAINAGE IS STILL UNSATISFACTORY NOTIFY THE LANDSCAPE ARCHITECT, IN WRITING OF THE CONDITION BEFORE PLANTING TREES IN THE QUESTIONABLE AREAS. CONTRACTOR IS FULLY RESPONSIBLE FOR THE WARRANTY OF PLANTINGS.
- B. GROUNDCOVER BEDS SHALL ALSO BE SPOT TESTED FOR DRAINAGE.
- C. DISPOSE OF SUBSOIL REMOVED FROM LANDSCAPE EXCAVATIONS. DO NOT MIX WITH THE PLANTING SOIL. DO NOT USE AS BACKFILL OR USE TO CONSTRUCT SAUCERS AROUND PITS.

#### SETTING TREES, SHRUBS AND GROUNDCOVERS:

THE CONTRACTOR SHALL BE RESPONSIBLE NOT ONLY FOR THE SAFE TRANSPORTATION OF THE PLANTS TO THE SITE BUT ALSO THEIR CONDITION UPON ARRIVAL. TREES WITH ABRASIONS OF THE BARK, SUNSCALDS, FRESH CUTS OR BREAKS OF LIMBS WHICH HAVE NOT COMPLETELY CALLOUSED WILL BE REJECTED. TREES WHICH HAVE BEEN DAMAGED DURING TRANSIT WILL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST. ALL PLANT UNIT COSTS WILL REFLECT ALL THE ABOVE LISTED SPECIFICATIONS.

- B. GENTLY LOOSEN OUTER ROOTS OF CONTAINER GROWN PLANTS TO ENCOURAGE OUTWARD GROWTH.
- C. FERTILIZER SHALL BE THOROUGHLY MIXED AND SOAKED INTO THE TOP TWO INCHES OF SOIL FOR ALL PLANT PITS.

#### TREE TRANSPORTATION:

THE CONTRACTOR SHALL BE RESPONSIBLE NOT ONLY FOR THE SAFE TRANSPORTATION OF THE PLANTS TO THE SITE BUT ALSO THEIR CONDITION UPON ARRIVAL. TREES WITH ABRASIONS OF THE BARK, SUNSCALDS, FRESH CUTS OR BREAKS OF LIMBS WHICH HAVE NOT COMPLETELY CALLOUSED WILL BE REJECTED. TREES WHICH HAVE BEEN DAMAGED DURING TRANSIT WILL BE REPLACED BY CONTRACTOR AT NO ADDITIONAL COST. ALL PLANT UNIT COSTS WILL REFLECT ALL THE ABOVE LISTED SPECIFICATIONS.

#### PRUNING:

ALL DEADWOOD TREES AND SHRUBS SHALL HAVE DEAD, BROKEN AND CROWDED WOOD PRUNED TO COMPENSATE FOR THE LOSS OF ROOTS IN TRANSPLANTING. REQUESTED AND REQUIRED ADDITIONAL PRUNING MAY BE NECESSARY AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.

- B. EVERGREEN TREES AND SHRUBS SHALL BE PRUNED ONLY TO THINK OUT HEAVY GROWTH.

- C. CUTS OVER 3/4 INCH IN DIAMETER SHALL BE PAINTED WITH TREE DRESSING PAINT. NO PAINT CONTAINING LEAD SHALL BE PERMITTED.

#### PREPARATION OF GRASS AREAS:

- A. FINE GRADE ALL GRASS AREAS TO FINISH GRADE. ALL AREAS SHALL HAVE SMOOTH AND CONTINUAL GRADE BETWEEN THE EXISTING AND FIXED CONTROLS SUCH AS WALKS AND CURBS. ROLL, SCARIFY, RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE, EVEN AND FIRM LAWN SURFACES. ALL FINISHED GRADES SHALL MEET APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE GRASSING OPERATIONS BEGIN.
- B. AREAS TO RECEIVE GRASS
  - I. TYPE OF TURF TO BE APPROVED BY OWNER.
  - II. CONTRACTOR TO BE RESPONSIBLE FOR FIELD VERIFICATION OF SOD AREAS TO CONFIRM SQUARE FOOTAGES.
  - III. GRADE WILL BE BROUGHT TO THE LEVEL OF +/- 1" OF THE FINISHED GRADE BY THE GENERAL CONTRACTOR. THE LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR THE TOP +/- 1" OF SOIL WORK. THIS IS TO INCLUDE ALL TOPSOIL HAULING AND PLACEMENT; SPREADING; DEBRIS REMOVAL AND ANY GRADING REQUIRED TO BRING THE FINISHED TOPSOIL GRADE TO THE PROPER LEVEL FOR GRASS.
  - IV. THOROUGHLY TILL EXISTING SOIL TO A MINIMUM DEPTH OF FOUR INCHES BY RUNNING TILLING DEVICE TWO DIRECTIONS AT RIGHT ANGLES OVER THE ENTIRE SURFACE TO BE GRASSED. FINE GRADE TO ACHIEVE UNIFORMITY AND DRAINAGE.
  - V. SPREAD SPECIFIED FERTILIZER AS PER MANUFACTURER'S RECOMMENDATIONS.
  - VI. WORK SOIL TO A UNIFORM GRADE SO THAT ALL AREAS HAVE POSITIVE DRAINAGE AWAY FROM DRIVES, BUILDINGS AND LANDSCAPED AREAS.
  - VII. CONTRACTOR TO COORDINATE WITH OWNER FOR TURF SELECTION PRIOR TO INSTALLATION.
  - VIII. ALL TURFGRASS SOD TO BE CERTIFIED, COMPLYING WITH "SPECIFICATIONS FOR TURFGRASS SOD MATERIALS" IN TPIS "GUIDELINE SPECIFICATIONS TO TURFGRASS SODDING" FURNISH VIABLE SOD OF UNIFORM DENSITY, COLOR, AND TEXTURE THAT IS STRONGLY ROOTED AND CAPABLE OF VIGOROUS GROWTH AND DEVELOPMENT WHEN PLANTED.

#### CLEANUP & PROTECTION:

- A. DURING PLANTING OPERATIONS KEEP PROJECT SITE CLEAN AND ORDERLY.
- B. UPON COMPLETION OF WORK, CLEAR GROUNDS OF DEBRIS, SUPERFLUOUS MATERIALS AND ALL EQUIPMENT. REMOVE FROM SITE TO SATISFACTION OF THE LANDSCAPE ARCHITECT AND OWNER.
- C. PROTECT ALL WORK AND MATERIALS FROM DAMAGE DUE TO IRRIGATION OPERATIONS AND OPERATIONS BY OTHER CONTRACTORS, TRADES, AND TRESPASSERS. MAINTAIN PROTECTION UNTIL DATE OF SUBSTANTIAL COMPLETION.
- D. CONTRACTOR IS RESPONSIBLE FOR THEFT OF EQUIPMENT AND MATERIAL AT THE JOB SITE BEFORE, DURING AND AFTER INSTALLATION, UNTIL DATE OF SUBSTANTIAL COMPLETION OF THE WORK IN TOTAL.



PANDA EXPRESS, INC.

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#### REVISIONS:


#### ISSUE DATE:

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CONSTRUCTION	XX-XX-XX

DRAWN BY: JCS

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



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LANDSCAPE SPECIFICATIONS

L01.2



## IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD 1806-PRS 15 STRIP SERIES TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	13	30
	RAIN BIRD 1806-PRS 8 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	6	30
	RAIN BIRD 1806-PRS 10 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	25	30
	RAIN BIRD 1806-PRS 12 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	1	30
	RAIN BIRD 1806-PRS 15 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	7	30
	RAIN BIRD 1806-PRS ADJ TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	29	30
	RAIN BIRD 1806-PRS ADJ TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. PRESSURE REGULATING.	3	30
	RAIN BIRD 1812-SAM-PRS 15 STRIP SERIES SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	38	30
	RAIN BIRD 1812-SAM-PRS 5 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	7	30
	RAIN BIRD 1812-SAM-PRS 8 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	2	30
	RAIN BIRD 1812-SAM-PRS 15 STRIP SERIES SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	2	30
	RAIN BIRD 1812-SAM-PRS 12 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	8	30
	RAIN BIRD 1812-SAM-PRS ADJ SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	8	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
	RAIN BIRD 5006-R-PC-FC-MPR 25 TURF ROTATOR, 6.0" POP-UP, PLASTIC RISER, MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. PRESSURE REGULATING.	6	25		23'

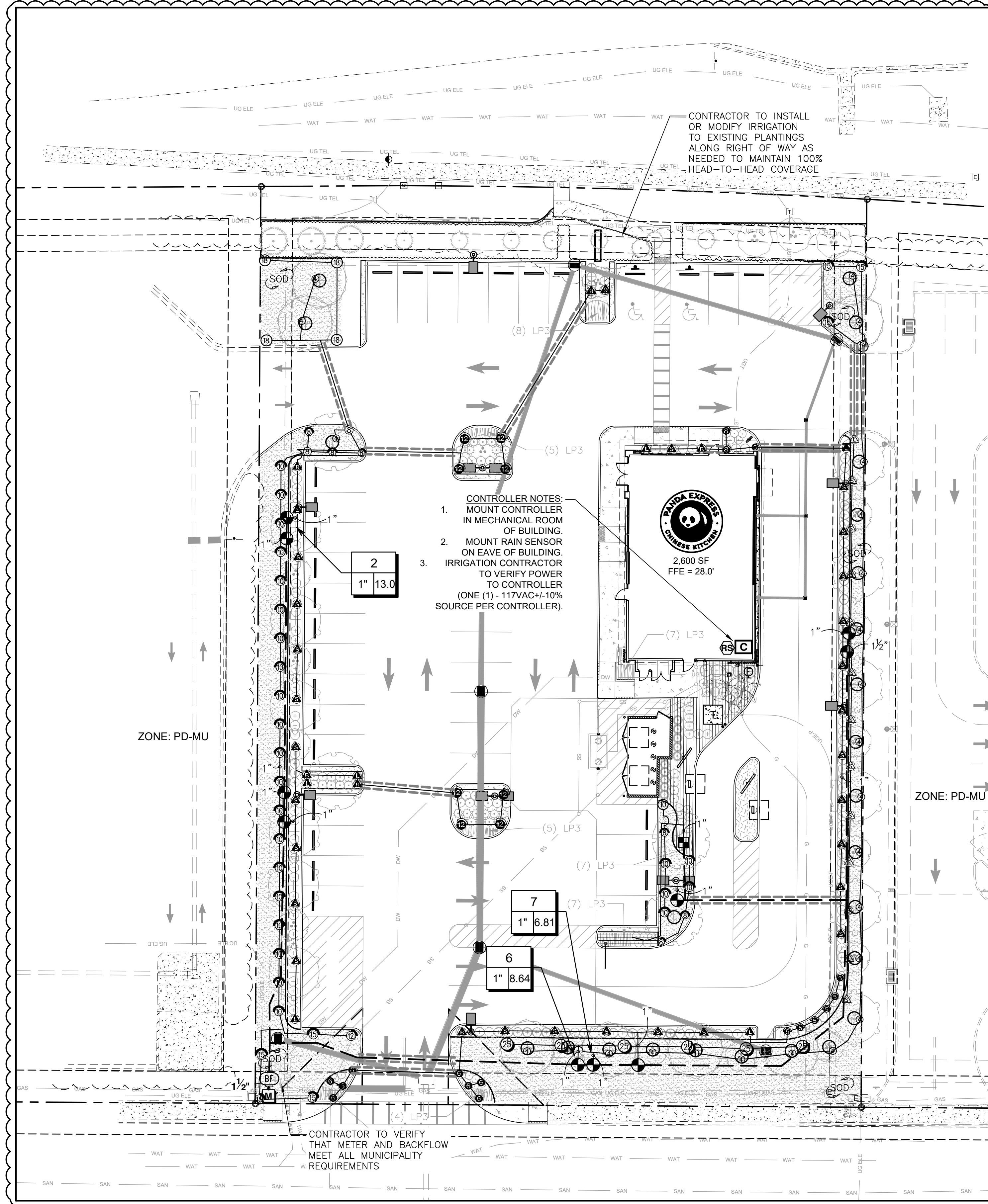
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD XCZPGA-100-PRF 1" MEDIUM FLOW, 3-15 GPM, WITH 1" PGA VALVE AND 1" PRESSURE REGULATING RBY FILTER AND 40PSI PRESSURE REGULATOR. IT IS 2 WIRE COMPATIBLE RESIDENTIAL CONTROL ZONE KIT.	1
	RAIN BIRD MDCFCAP DRIPLINE FLUSH VALVE CAP IN COMPRESSION FITTING COUPLER.	1

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-04-12 XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.4 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	798.1 L.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD PGA-PRS-D GLOBE 1-1/2" 1IN., 1-1/2IN., 2IN. ELECTRIC REMOTE CONTROL VALVE, GLOBE. WITH PRESSURE REGULATOR MODULE.	1
	RAIN BIRD PGA-PRS-D GLOBE 1" 1IN., 1-1/2IN., 2IN. ELECTRIC REMOTE CONTROL VALVE, GLOBE. WITH PRESSURE REGULATOR MODULE.	9
	WATTS 007 1" MAX. FLOW RATE IS 7.5 FT/S.	1
	RAIN BIRD ESP4ME WITH (1) ESP-SM3 (2) ESP-SM6 19 STATION, HYBRID MODULAR OUTDOOR CONTROLLER, FOR RESIDENTIAL OR LIGHT COMMERCIAL APPLICATIONS.	1
	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1
	WATER METER 1" BASIS OF DESIGN 37.5 GPM @ 45.0 PSI, CONTRACTOR TO VERIFY PRIOR TO INSTALLATION	1
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1" ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	17.5 L.F.
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1 1/2" ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	2,145 L.F.
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1 1/2" ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	1.3 L.F.
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 1 1/2"	559.9 L.F.

## IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	PIPE SLEEVE: PVC SCHEDULE 40	328.1 L.F.	
	Valve Callout		
	Valve Number		
	Valve Flow		
	Valve Size		



1 IRRIGATION PLAN

QUANTITY TAKEOFF DISCLAIMER:  
QUANTITIES NOTED ON PLANS ARE OFFERED AS A  
CONVENIENCE TO THE CONTRACTOR FOR BID PURPOSES ONLY.  
CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY  
DISCREPANCIES TO THE LANDSCAPE ARCHITECT.

NOTE:  
MAINLINE AND VALVES SHOWN OUTSIDE OF TRENCH  
FOR GRAPHIC CLARITY. ALL EQUIPMENT AND PIPE  
SHALL BE WITHIN PROPERTY BOUNDARIES UNLESS  
OTHERWISE NOTED. SLEEVE SIZES TO BE  
DETERMINED BY CONTRACTOR.

## IRRIGATION NOTES:

1. LOCATE ALL UTILITIES BEFORE DIGGING. PROTECT ALL UTILITIES FROM DAMAGE DURING CONSTRUCTION.
2. IRRIGATION SYSTEM WILL USE RECLAIMED WATER WHEN IT IS AVAILABLE. PROVIDE IRRIGATION COMPONENTS WITH NON-POTABLE MARKINGS.
3. PIPE ROUTING IS DIAGRAMMATIC. PLACE IRRIGATION LINES WITHIN PLANTING AND TURF AREAS UNLESS SLEEVING IS INDICATED. ROUTE PIPING TO AVOID TREE LOCATIONS. LOCATE MAINLINE AND VALVE BOXES WITHIN PROPERTY LINES.
4. OBTAIN ALL NECESSARY PERMITS TO COMPLETE INSTALLATION OF IRRIGATION SYSTEM PER STATE AND LOCAL CODES.
5. JET OR BORE FOR SLEEVING WHERE NECESSARY TO ACCOMMODATE LATERAL LINES, MAIN LINES, OR CONTROL WIRE.
6. PROVIDE A MINIMUM 12 INCH COVER OVER LATERAL LINES AND A MINIMUM OF 18 INCH COVER OVER MAINLINES.
7. INSTALL ALL ELECTRICAL SERVICE TO MEET LOCAL CODES.
8. PROVIDE POP-UP SPRINKLERS ONLY. MOUNT SPRINKLERS ON POLY PIPE WITH BARBED FASTENERS UNLESS OTHERWISE SPECIFIED IN PROVIDED DETAILS.
9. MOUNT HEADS FLUSH WITH FINISHED GRADE. INSTALL HEADS 6 INCH OFF ALL SIDEWALKS AND 1 FOOT FROM BUILDING WALLS.
10. INSTALL VALVES IN 15 INCH BOXES WITH TAMPER RESISTANT LIDS.
11. ALL IRRIGATION CONTROL WIRE TO BE 14-GAUGE WIRE. PROVIDE WHITE FOR COMMON, RED FOR HOT, AND SPARE BLUE WIRE PARALLEL TO COMMON THROUGH OUT THE ENTIRE SYSTEM.
12. MAKE ALL WIRE SPICES WITH WATERPROOF SPICE KITS RATED FOR DIRECT BURIAL, NEATLY COIL 30 INCHES OF SLACK WIRE IN VALVE BOX.
13. ADJUST HEADS TO MAXIMIZE COVERAGE AND MINIMIZE OVER SPRAY.
14. THE IRRIGATION SYSTEM IS TO BE 100% AUTOMATIC. SERVE 100% OF THE LANDSCAPED AREAS ON SITE, USE THE LOWEST QUALITY WATER AVAILABLE TO THE SITE, AND SHALL NOT USE POTABLE WATER.
15. THE LOWEST WATER QUALITY SOURCE AVAILABLE SHALL BE UTILIZED FOR IRRIGATION ON COMMON AREAS AND INDIVIDUAL RESIDENTIAL LOTS. STORMWATER REUSE, RECLAIMED WATER USE, AND GREY WATER IRRIGATION SYSTEMS SHALL BE USED WHERE FEASIBLE. SHALLOW WELLS AND WET RETENTION/DETENTION PONDS SHALL ALSO BE USED AS AN ALTERNATIVE TO POTABLE WATER.
16. POTABLE WATER SHALL NOT BE USED FOR LANDSCAPE IRRIGATION (PW UTILITY STANDARDS MANUAL 1.1.3.B).

CONTRACTOR RESPONSIBLE FOR  
MAINTENANCE OF LANDSCAPE FOR 90  
DAYS FOLLOWING INSTALLATION.

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:  
JOE CELENTO  
912-272-4811



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REVISION NARRATIVE:  
IRRIGATION PLAN UPDATED BASED ON SITE  
CHANGES. NOTES WERE ADDED TO THE  
IRRIGATION NOTES.

## REVISIONS:

IRRIGATION PLAN UPDATED.  
SEE REV. NARRATIVE ABOVE

## ISSUE DATE:

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PANDA STORE #:  
IE PROJECT #: 220109

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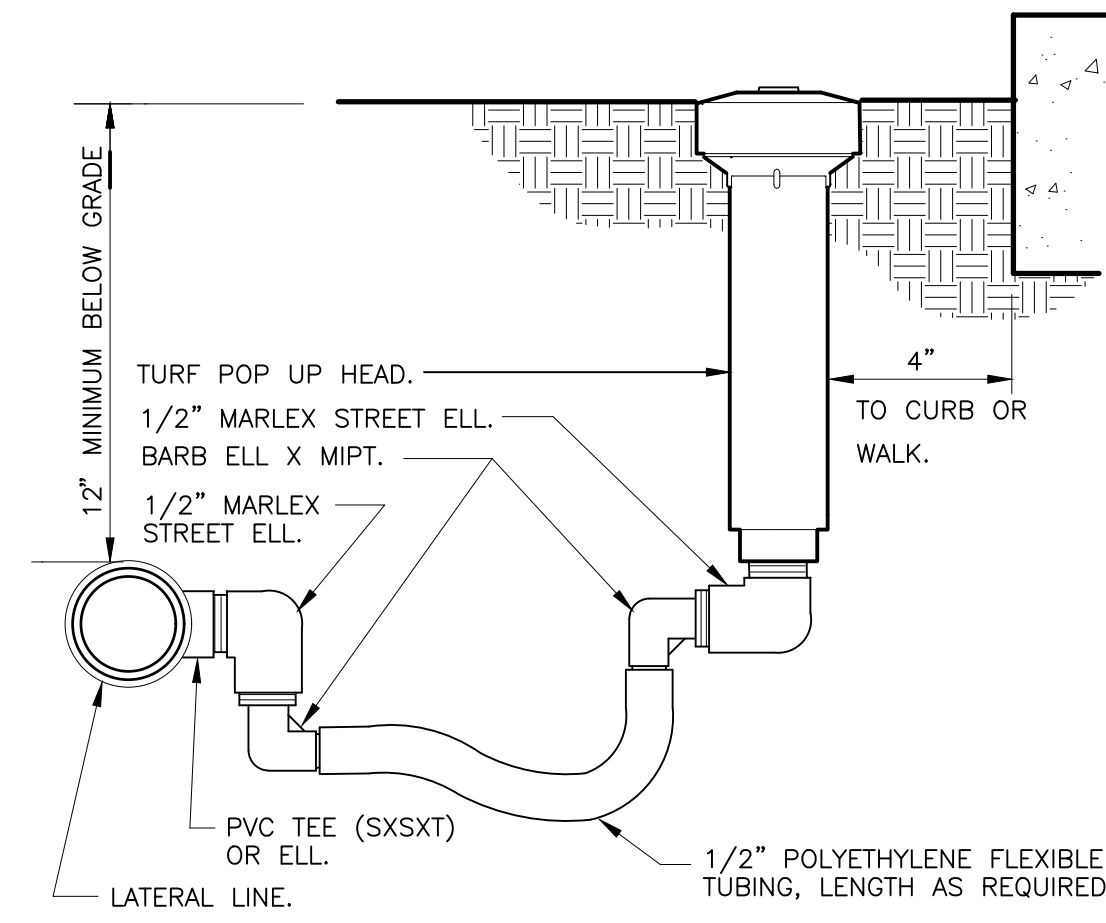
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Lester C  
Watkins  
Date:  
2023.08.11  
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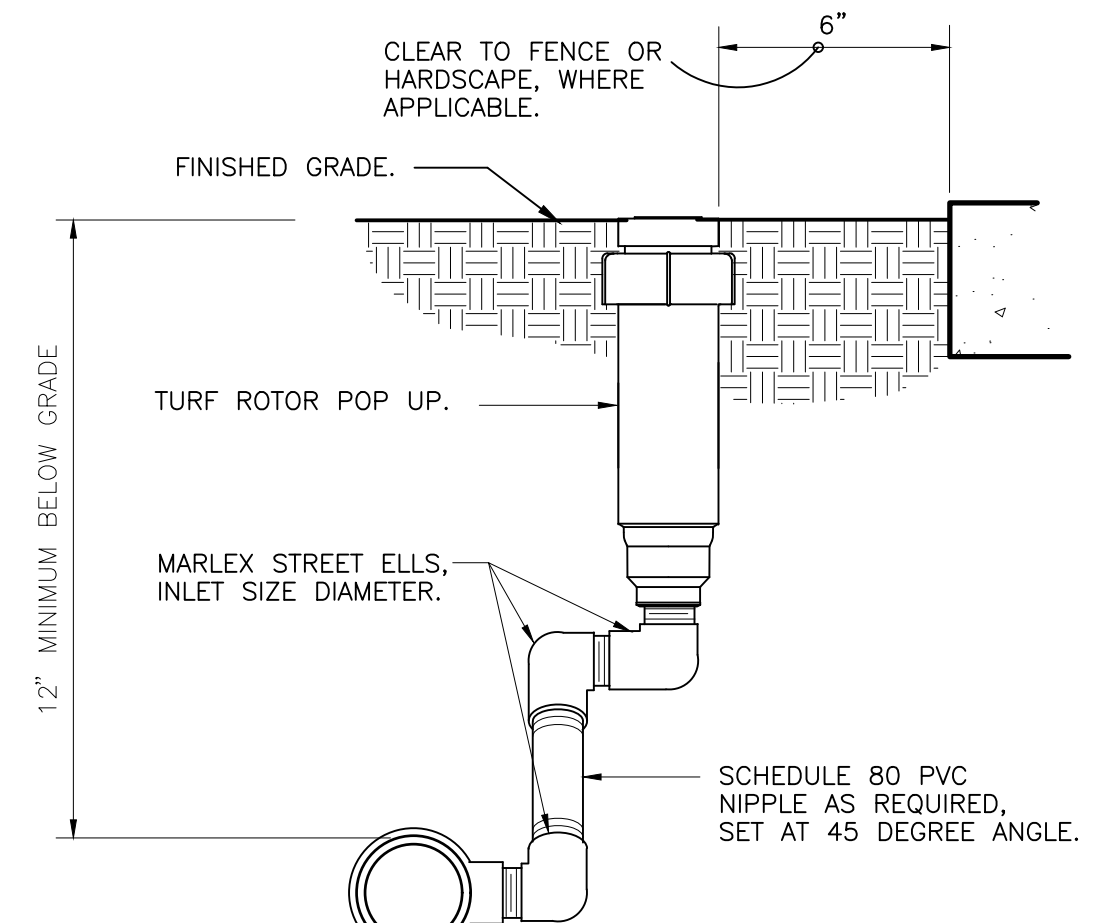
IRRIGATION  
PLAN

L02.0

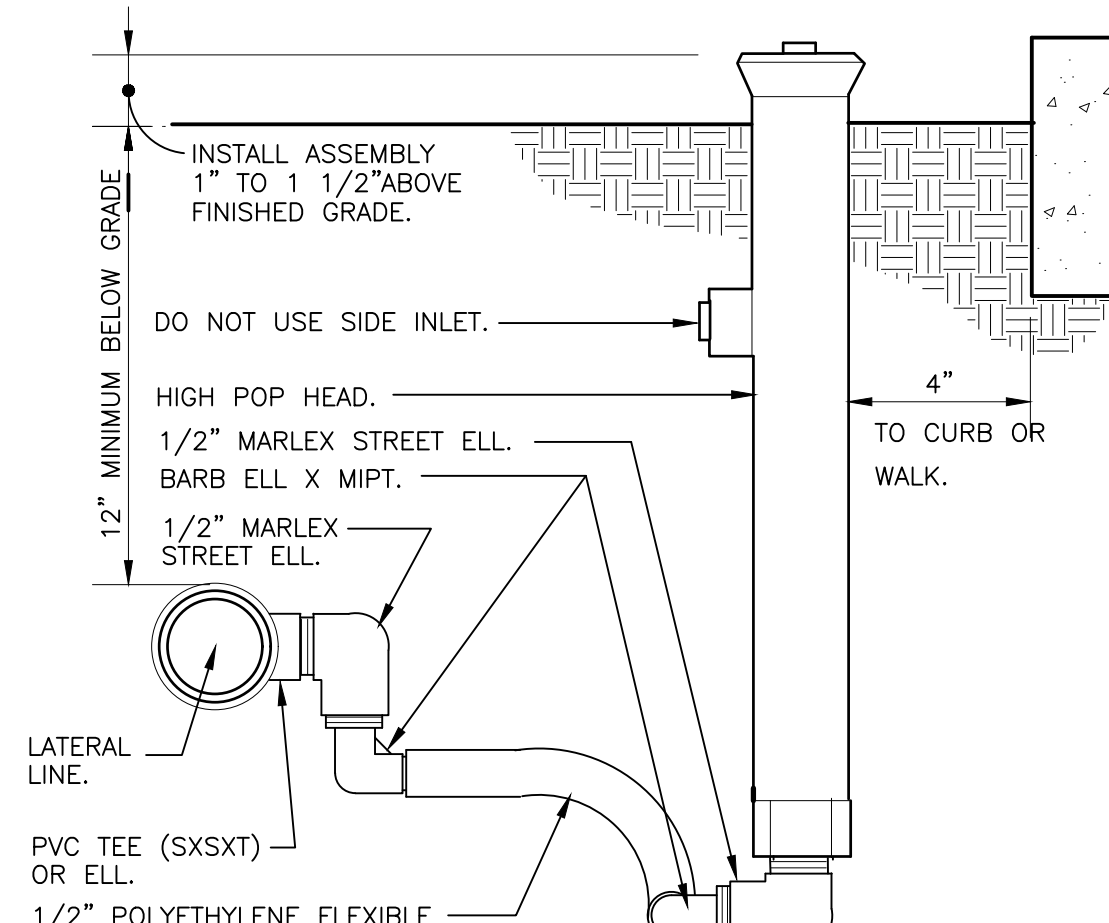




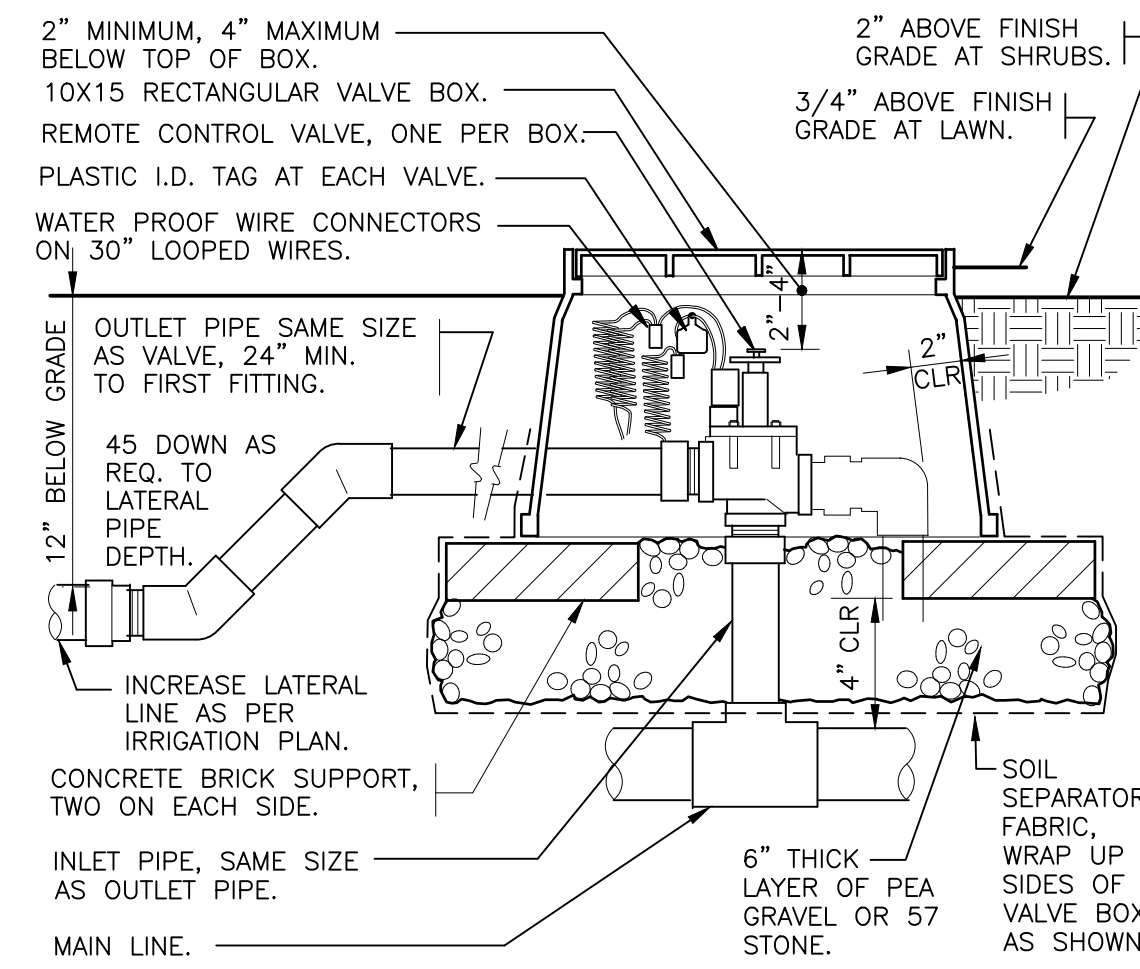
2 TURF SPRAY FLEX ASSEMBLY  
3" = 12" 328413.76-13



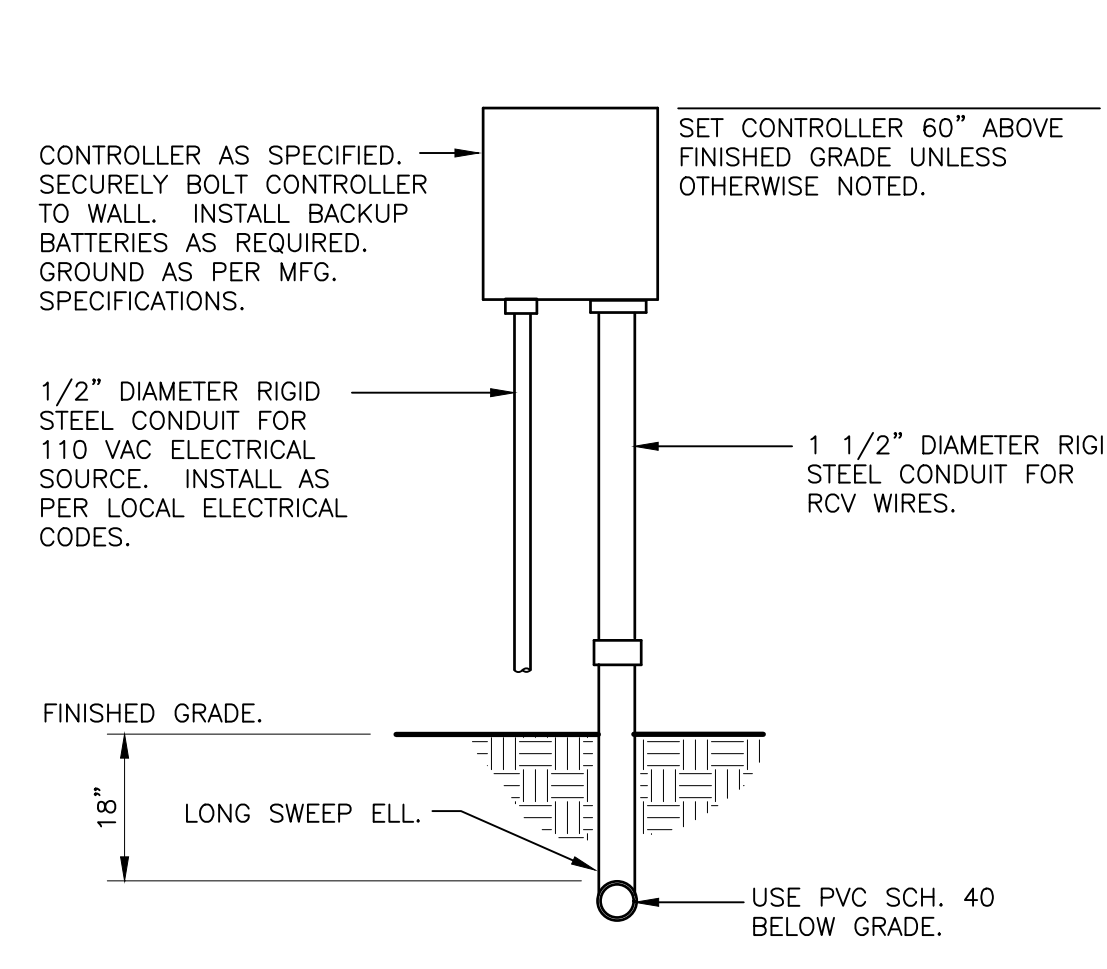
3 TURF ROTOR MARLEX ASSEMBLY  
3" = 12" 328403.16-01



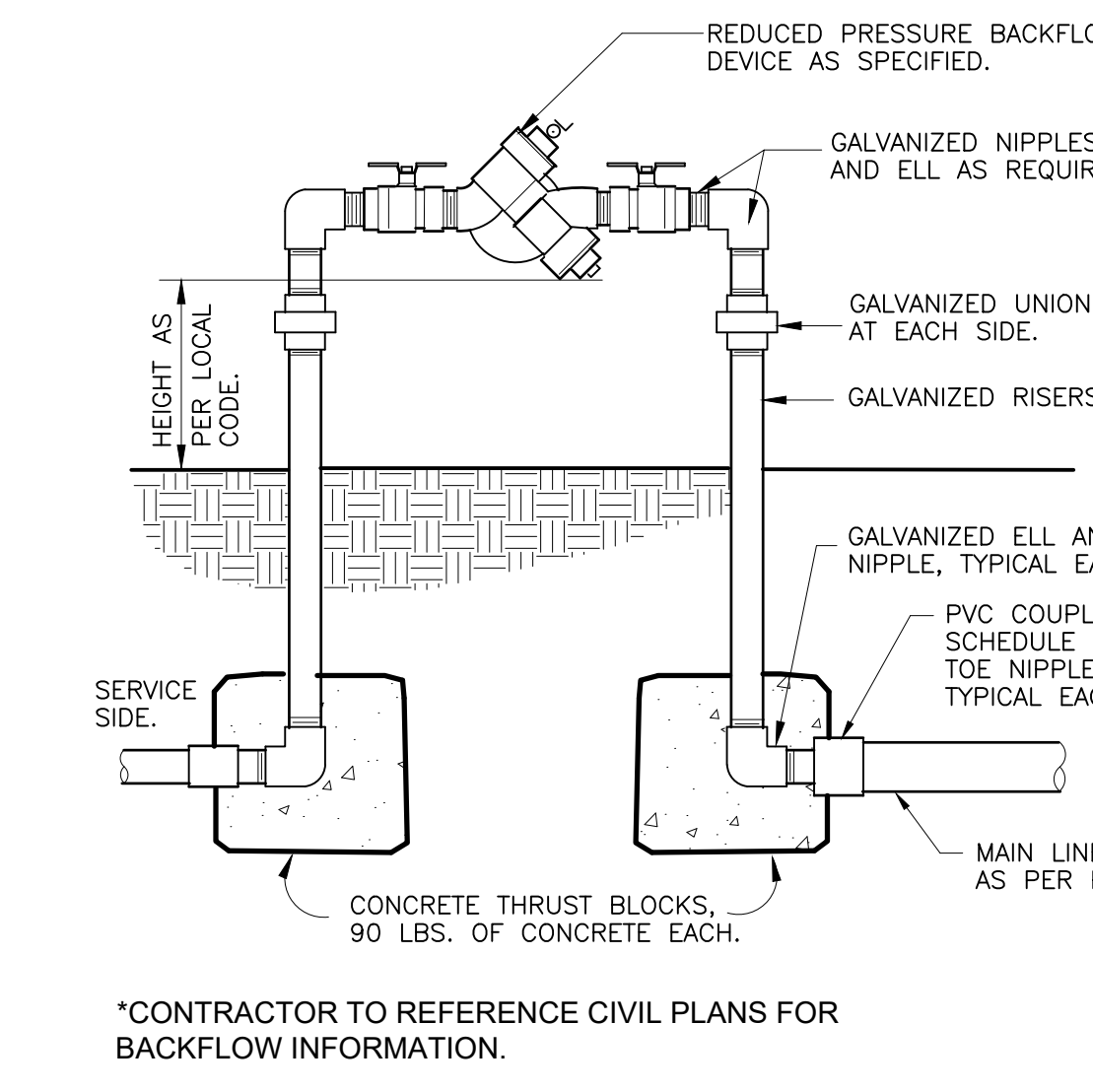
4 SHRUB SPRAY HIGHPOP W/ FLEX ASSEMBLY  
3" = 12" 328403.29-01



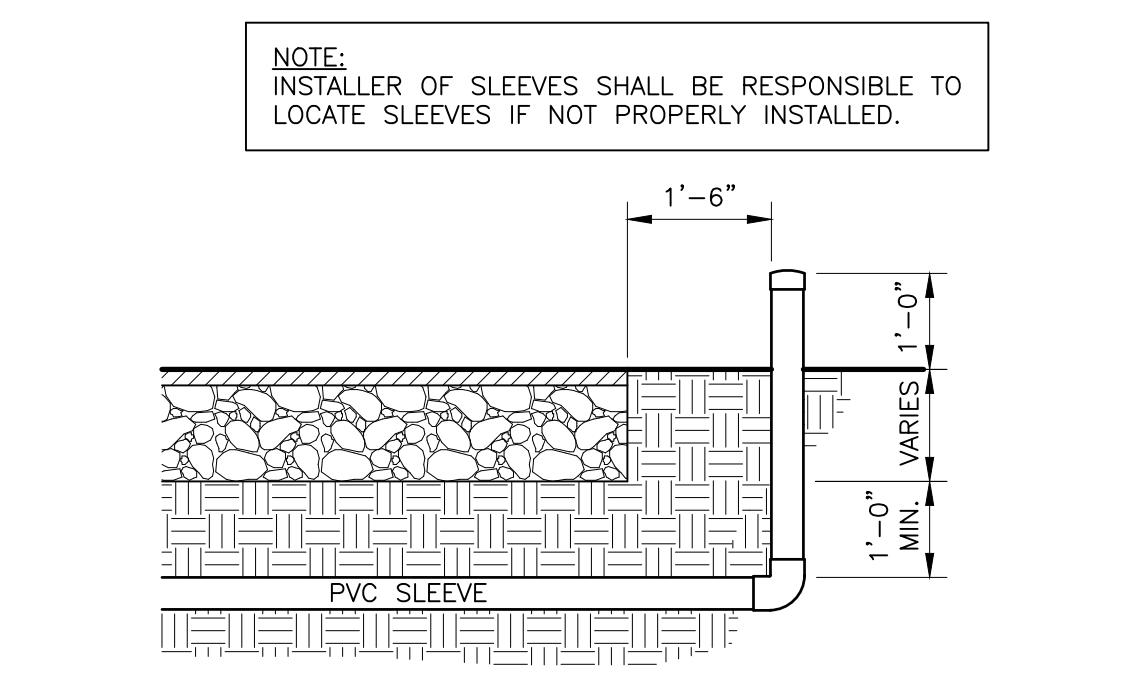
5 ELECTRIC REMOTE CONTROL VALVE  
1 1/2" = 12" 328413.76-13



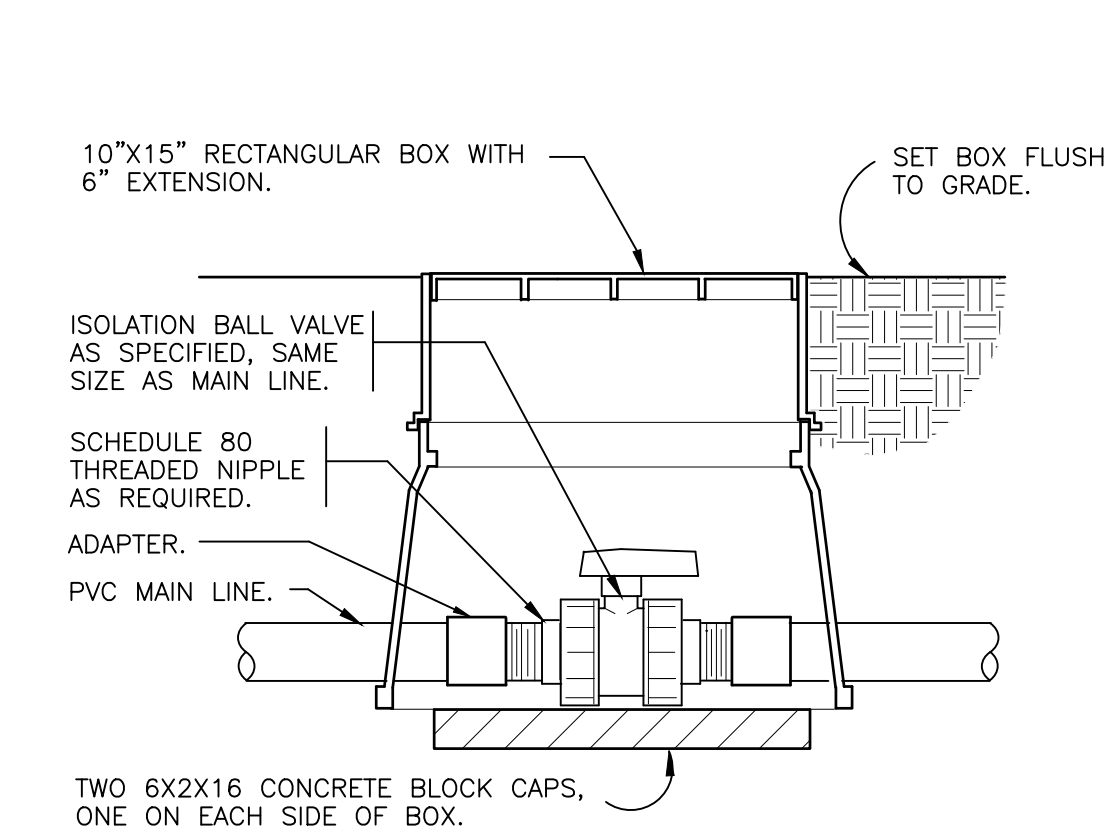
6 WALL MOUNT CONTROLLER  
1" = 12" 328409.13-01



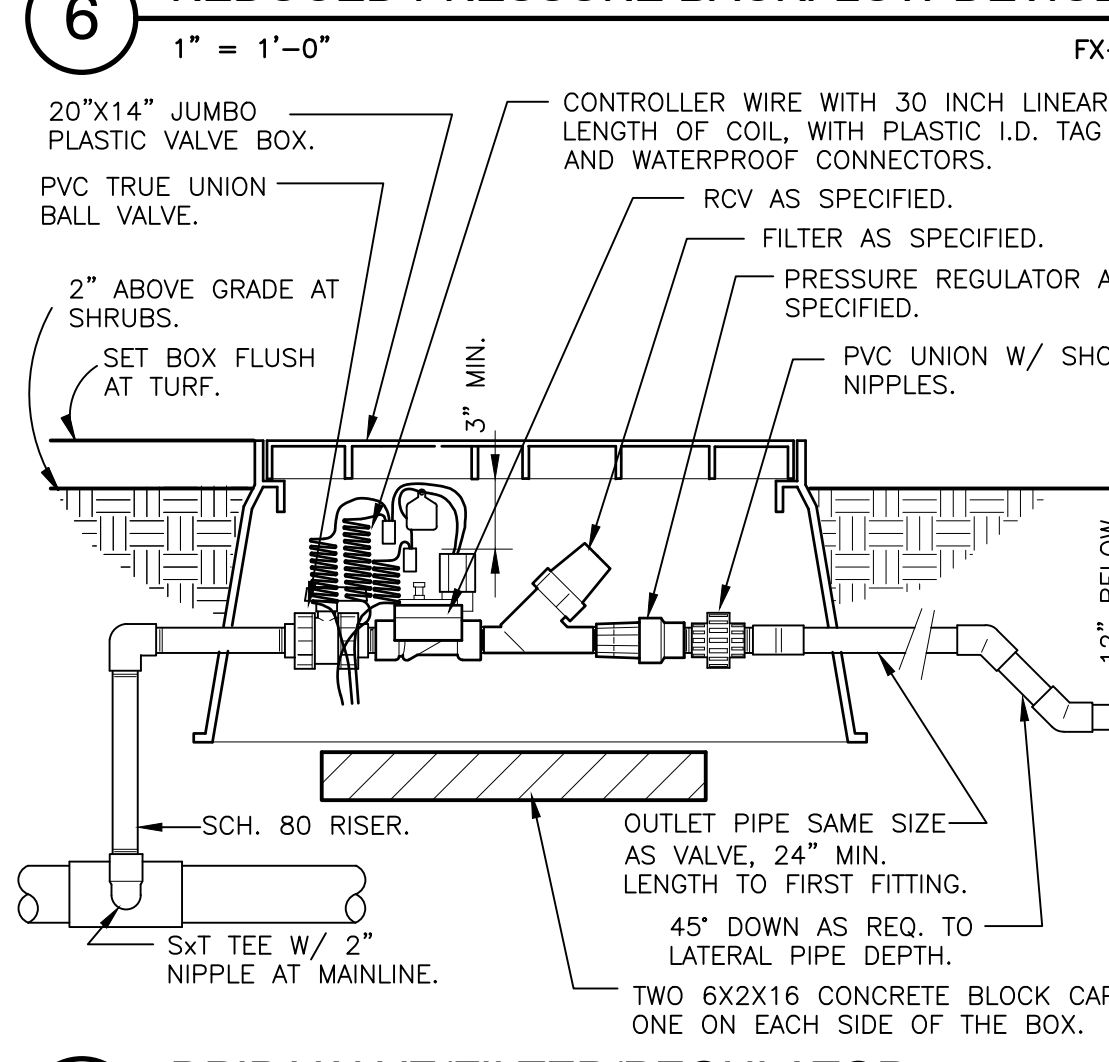
6 REDUCED PRESSURE BACKFLOW DEVICE  
1" = 1'-0" FX-IR-FX-BACK-03



8 SLEEVING DETAIL  
1/2" = 1'-0" 328413.76-13



9 TRUE UNION BALL ISOLATION VALVE  
1 1/2" = 12" 328413.76-13



10 DRIP VALVE/FILTER/REGULATOR  
1 1/2" = 1'-0" 328413.76-13



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Digitally signed by Lester C Watkins Date: 2023.08.11 14:21:53-05'00'

IRRIGATION  
DETAILS

L02.1

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SECTION 328400 - PLANTING IRRIGATION

- 1.1 RELATED DOCUMENTS
- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- 1.2 SUMMARY
- A. Section Includes:
- Piping.
  - Manual valves.
  - Automatic control valves.
  - Sprinklers.
  - Controllers.
  - Boxes for automatic control valves.
- 1.3 DEFINITIONS
- A. Circuit Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.
- B. Main Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.
- C. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.
- 1.4 PERFORMANCE REQUIREMENTS
- A. Irrigation zone control shall be automatic operation with controller and automatic control valves.
- B. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent irrigation coverage of areas indicated.
- C. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties unless otherwise indicated:
- Irrigation Main Piping: 200 psig.
  - Circuit Piping: 150 psig.
- 1.5 ACTION SUBMITTALS
- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- 1.6 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For qualified installer.
- B. Zoning Chart: Show each irrigation zone and its control valve.
- C. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.
- D. Field quality-control reports.
- 1.7 CLOSEOUT SUBMITTALS
- A. Operation and Maintenance Data: For sprinklers and controllers to include in operation and maintenance manuals.
- 1.8 QUALITY ASSURANCE
- A. Installer Qualifications: An employer of workers that include a supervisor with at least five years of experience on projects of similar size, scope, and budget.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- 1.9 DELIVERY, STORAGE, AND HANDLING
- A. Deliver piping with factory-applied and caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- B. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.
- 1.10 PROJECT CONDITIONS
- A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:
- Notify Owner no fewer than two days in advance of proposed interruption of water service.
  - Do not proceed with interruption of water service without Owner's written permission.
- 1.11 PIPES, TUBES, AND FITTINGS
- A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.
- B. Galvanized-Steel Pipe: ASTM A 53/A 53M, Standard Weight, Type E, Grade B.
- Malleable-Iron Unions: ASME B16.39, Class 150, hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface, and female threaded ends.
  - Cast-Iron Flanges: ASME B16.1, Class 125.
- C. PE Pressure Pipe: AWWA C906, with DR of 7.3, 9, or 9.3 and PE compound number required to give pressure rating not less than 200 psig.
- D. PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 40.
- PVC Socket Fittings: ASTM D 2466, Schedule 40.
  - PVC Threaded Fittings: ASTM D 2464, Schedule 80.
  - PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket ends.
- E. PVC Pipe, Pressure Rated: ASTM D 2241, PVC 1120 compound, SDR 26.
- PVC Socket Fittings: ASTM D 2467, Schedule 80.
  - PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket or threaded ends.
- 1.12 PIPING JOINING MATERIALS
- A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick unless otherwise indicated; full-face or ring type unless otherwise indicated.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
- C. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.
- D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- E. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
- F. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.
- 1.13 MANUAL VALVES
- A. Plastic Ball Valves:
- Description:
    - Standard: MSS SP-122.
    - Pressure Rating: 125 psig minimum.
    - Body Material: PVC.
    - Type: Union.
    - End Connections: Socket or threaded.
    - Port: Full.
- 1.14 AUTOMATIC CONTROL VALVES
- A. Plastic, Automatic Control Valves:
- Description: Molded-plastic body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.
- 1.15 SPRINKLERS
- A. General Requirements: Designed for uniform coverage over entire spray area indicated at available water pressure.
- B. Plastic, Pop-Up Spray Sprinklers:
- Description
    - Body Material: ABS.
    - Nozzle: ABS.
    - Retraction Spring: Stainless steel.
    - Internal Parts: Corrosion resistant.
    - Pattern: Fixed, with flow adjustment.  - Plastic Shrub Sprinklers:
    - Description:
      - Body Material: ABS or other plastic.
      - Pattern: Fixed, with flow adjustment.

1.16 CONTROLLERS

A. Description:

    - Controller Stations for Automatic Control Valves: Each station is variable from approximately 5 to 60 minutes. Include switch for manual or automatic operation of each station.
    - Irrigation controller: As indicated on Drawings.
    - Control Transformer: 24-V secondary, with primary fuse.
    - Moisture Sensor: As indicated on Drawings.
    - Wiring: UL 493, Type UF multiconductor, with solid-copper conductors; insulated cable; suitable for direct burial.
      - Feeder Circuit Cables: No. 12 AWG minimum, between building and controllers.
      - Low-Voltage, Branch-Circuit Cables: No. 14 AWG minimum, between controllers and automatic control valves; color-coded different from feeder-circuit-cable jacket color; with jackets of different colors for multiple-cable installation in same trench.
      - Splicing Materials: Manufacturer's packaged kit consisting of insulating, spring-type connector or crimped joint and epoxy resin moisture seal; suitable for direct burial.

1.17 BOXES FOR AUTOMATIC CONTROL VALVES

A. Plastic Boxes:

    - Description: Box and cover, with open bottom and openings for piping; designed for installing flush with grade.
      - Size: As required for valves and service.
      - Shape: Rectangular.
      - Sidewall Material: PE, ABS, or FRP.
      - Cover Material: PE, ABS, or FRP.
      - Lettering: "IRRIGATION."

1.18 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

B. Install warning tape directly above pressure piping, 12 inches below finished grades, except 6 inches below subgrade under pavement and slabs.

C. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from 3/4 to 3 inches, to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.

D. Provide minimum cover over top of underground piping according to the following:

    - Irrigation Main Piping: Minimum depth of 24-inches below finished grade, or not less than 18 inches below average local frost depth, whichever is deeper.
    - Circuit Piping: 12 inches.
    - Drain Piping: 12 inches.
    - Sleeves: 24 inches.

- 1.19 PREPARATION
- A. Set stakes to identify locations of proposed irrigation system. Obtain Architect's approval before excavation.
- 1.20 PIPING INSTALLATION
- A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.
- B. Install piping at minimum uniform slope of 0.5 percent down toward drain valves.
- C. Install piping free of sags and bends.
- D. Install groups of pipes parallel to each other, spaced to permit valve servicing.
- E. Install fittings for changes in direction and branch connections.
- F. Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 or larger pipe connection.
- G. Install underground thermoplastic piping according to ASTM D 2774.
- H. Install expansion loops in control-valve boxes for plastic piping.
- I. Lay piping on solid subbase, uniformly sloped without humps or depressions.
- J. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours at temperatures above 40 deg F before testing.
- K. Install piping in sleeves under parking lots, roadways, and sidewalks.
- L. Install sleeves made of Schedule 40 PVC pipe and socket fittings, and solvent-cemented joints.
- 1.21 JOINT CONSTRUCTION
- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
- Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
  - Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- D. Flanged Joints: Select rubber gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on both threads.
- E. PE Piping Fastener Joints: Join with insert fittings and bands or fasteners according to piping manufacturer's written instructions.
- F. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
- Plain-End PE Pipe and Fittings: Use butt fusion.
  - Plain-End PE Pipe and Socket Fittings: Use socket fusion.
- G. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
- Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
  - PVC Pressure Piping: Join schedule number, ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2872. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
  - PVC Nonpressure Piping: Join according to ASTM D 2855.

- 1.22 VALVE INSTALLATION
- A. Aboveground Valves: Install as components of connected piping system.
- B. Throttling Valves: Install in underground piping in boxes for automatic control valves.
- 1.23 SPRINKLER INSTALLATION
- A. Install sprinklers after hydrostatic test is completed.
- B. Install sprinklers at manufacturer's recommended heights.
- C. Locate part-circle sprinklers to maintain a minimum distance of 4 inches from walls and 2 inches from other boundaries unless otherwise indicated.
- 1.24 AUTOMATIC IRRIGATION-CONTROL SYSTEM INSTALLATION
- A. Equipment Mounting: Install interior controllers on wall.
- Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - Install anchor bolts to elevations required for proper attachment to supported equipment.
- B. Install control cable in same trench as irrigation piping and at least 2 inches below or beside piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas.

- 1.25 CONNECTIONS
- A. Comply with requirements for piping specified in Section 221113 "Facility Water Distribution Piping" for water supply from exterior water service piping, water meters, protective enclosures, and backflow preventers. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment, valves, and devices to allow service and maintenance.
- C. Connect wiring between controllers and automatic control valves.

- 1.26 IDENTIFICATION
- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplates and signs on each automatic controller.
- Text: In addition to identifying unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
  - Warning Tapes: Arrange for installation of continuous, underground, detectable warning tapes over underground piping during backfilling of trenches. See Section 312000 "Earth Moving" for warning tapes.
- B. Tests and Inspections:

- 1.27 FIELD QUALITY CONTROL
- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Tests and Inspections:
- Leak/Hydrostatic Test: After installation, charge system at 150% of operating pressure continuously for 2 hours with open trenches and observe for leaks. Repair leaks and retest until no leaks exist.
  - Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
  - Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Any irrigation product will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

- 1.28 STARTUP SERVICE
- A. Perform startup service.
- Complete installation and startup checks according to manufacturer's written instructions.
  - Verify that controllers are installed and connected according to the Contract Documents.
  - Verify that electrical wiring installation complies with manufacturer's submittal.

- 1.29 ADJUSTING
- A. Adjust settings of controllers.
- B. Adjust automatic control valves to provide flow rate at rated operating pressure required for each sprinkler circuit.
- C. Adjust sprinklers and devices, except those intended to be mounted aboveground, so they will be flush with, or not more than 1/2 inch above, finish grade.

- 1.30 CLEANING
- A. Flush dirt and debris from piping before installing sprinklers and other devices.

- 1.31 DEMONSTRATION
- A. Train Owner's maintenance personnel to adjust, operate, and maintain automatic control valves and controllers.

- 1.32 PIPING SCHEDULE
- A. Install components having pressure rating equal to or greater than system operating pressure.
- B. Piping in control-valve boxes and aboveground may be joined with flanges or unions instead of joints indicated.
- C. Underground irrigation main piping, NPS 4 and smaller, shall be one of the following as indicated on Drawings:
- Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.
  - SDR 21, PVC, pressure-rated pipe, Schedule 80, PVC socket fittings, and solvent-cemented joints.
- D. Circuit piping, NPS 2 and smaller, shall be one of the following as indicated on Drawings:
- Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.
  - SDR 21, PVC, pressure-rated pipe, Schedule 40, PVC socket fittings, and solvent-cemented joints.
  - SDR 26, PVC, pressure-rated pipe, Schedule 40, PVC socket fittings, and solvent-cemented joints.
- E. Underground Branches and Offsets at Sprinklers and Devices: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.
- Option: Plastic swing-joint assemblies, with offsets for flexible joints, manufactured for this application.



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REVISIONS:


ISSUE DATE:

	DEVELOPER REVIEW	01/20/23
	PERMIT SET	02/13/23
	BID	XX-XX-XX
	CONSTRUCTION	XX-XX-XX

DRAWN BY: JCS

PANDA PROJECT #: S8-24-D23223

PANDA STORE #:

IE PROJECT #: 220109



Registration - FL LA6666896

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY LESTER CHAD WATKINS. R/LA ON THE DATE LISTED ABOVE.

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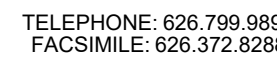
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IRRIGATION  
SPECIFICATIONS

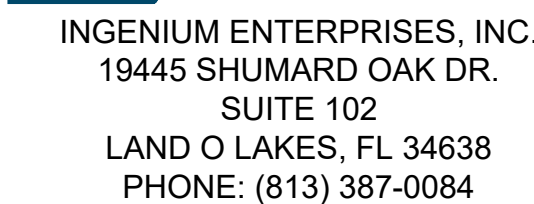
L02.2

TRUE WATER WILL COME 2000





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## SITE LIGHTING PLAN

SHEET 38 OF 38

PANDA HOME R3

