

**GRADING & DRAINAGE NOTES**

- SEE LANDSCAPE PLAN FOR REQUIRED TREES AND GROUND COVER.
- SLOPE OF SURFACE GRADE SHALL BE A MINIMUM OF 1.0%
- MINIMUM CUT OF FILL SLOPES IS 2:1H: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 TIER, HORIZONTAL LAYERS (MAXIMUM 6-INCH) AND COMPACTED TO AT LEAST 96 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 98 PERCENT. CORROSION MUST BE CERTIFIED BY A GEOTECHNICAL REGISTERED PROFESSIONAL SOILS ENGINEER PRIOR TO THE INSTALLATION OF PAVEMENTS, CURBS, SIDEWALKS OR FOOTINGS OF ANY TYPE.
- DETENTION POND, DETENTION OUTLET STRUCTURES AND BEST MANAGEMENT PRACTICE (BMP) FEATURES ARE TO BE FULLY CONSTRUCTED AND OPERATIONAL PRIOR TO ANY OTHER CONSTRUCTION. THE 5% SLOPE LENGTH OF RIP-RAP PADS AT PIPE OUTLET STRUCTURES TO BE A MINIMUM LENGTH OF (4) SIX TIMES THE DIAMETER OF THE PIPE.
- JURISDICTIONAL LAND DISTURBANCE PLANS TO BE DISPLAYED ON SITE AT ALL TIMES DURING CONSTRUCTION AND A PLAN TO BE SUBMITTED TO A PUBLIC ROAD OR STREET.
- SEE SHEET C01 FOR GENERAL NOTES.

IN ACCORDANCE WITH THE METRO STORMWATER MANAGEMENT MANUAL, VOLUME 1, SECTION 3.9, AS-BUILT CERTIFICATIONS, MMS STORMWATER DIVISION MUST APPROVE THE FOLLOWING AS-BUILTS PRIOR TO THE ISSUANCE OF THE USE & OCCUPANCY PERMIT:

- UNDERGROUND DETENTION AND WATER QUALITY INFRASTRUCTURE
- ABOVE GROUND DETENTION AND WATER QUALITY INFRASTRUCTURE
- PUBLIC STREET SEWER INFRASTRUCTURE
- CUT & FILL IN THE FLOODPLAIN
- SINK HOLE ALTERATIONS.

THE ENGINEER SHALL CONTACT STORMWATER DEVELOPMENT REVIEW STAFF FOR SUBMITTAL REQUIREMENTS.

BIORETENTION POND  
(SEE WALL PLANS BY OTHERS)  
TOP OF WALL: 531.20  
POND BOTTOM EL.: 524.37  
OUTLET ELEVATION: 525.47  
POND TOTAL CAPACITY: 6,000 CU. FT.  
100 YR. EL.: 525.85  
100 YR. VOL.: 900 CU. FT.

**GRADING & DRAINAGE LEGEND**

NAME	SIZE	LENGTH	SLOPE	MATERIAL
EXD	18"	30'	0.3%	RCP
PAD	18"	13'	0.3%	RCP
PAI	18"	28'	0.50%	RCP
PA2	18"	35'	0.50%	RCP
PAS	18"	42'	0.50%	RCP
PA4	18"	90'	0.50%	RCP
PA4.1	18"	66'	0.3%	RCP
PAS	18"	54'	0.25%	RCP
PBI	18"	35'	0.50%	RCP
PEB	18"	50'	0.50%	RCP
PEB	18"	100'	0.25%	RCP

**BUILDING AREA NOTES**

- MAINTAIN ACCESS FOR EMERGENCY VEHICLES AROUND AND TO ALL BUILDINGS UNDER CONSTRUCTION. I.E. IN TIMES OF RAIN OR FLOOD, ROADS SHALL BE PASSABLE TO EMERGENCY VEHICLES BY BEING PAVED OR HAVING A CRUSHED STONE BASE ETC. WITH A MINIMUM WIDTH OF 20 FEET. THE ACCESS TO BUILDINGS HAVING SPRINKLER OR STANDPIPE SYSTEMS SHALL BE TO WITHIN 40 FEET OF THE FIRE DEPARTMENT CONNECTION (NFPA 141-3-1).
- CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING IN ALL AREAS AROUND BUILDING. INSTALL FRENCH DRAIN IN LANDSCAPED AREAS ADJACENT TO BUILDING AND CONNECT TO DRAINAGE SYSTEM.
- SEE SHEET C01 FOR GENERAL NOTES.

**HYDROLOGY STATEMENT**

THE EXISTING SITE HAS TWO DROP GRATE INLETS NEAR THE REAR OF THE SITE THAT COLLECT ALL OF THE STORMWATER RUNOFF AND THEN CONVEY THAT RUNOFF TO THE CITY'S STORMWATER SYSTEM WHICH RUNS ALONG ELM HILL PIKE. THE EXISTING SITE DOES NOT TREAT THIS STORMWATER IN ANY MANNER, NOR DOES IT REDUCE RUNOFF IN ANY MANNER. THE PROPOSED SITE REDUCES THE RUNOFF BY APPROXIMATELY 64.9 THROUGH THE USE OF BOTH LEVEL 1 AND LEVEL 2 BIORETENTION. THE ADJUSTED CURVE NUMBER OF THE PROPOSED SITE IS 45.6, WHICH IS LESS THAN THE EXISTING CURVE NUMBER OF 40.0, THEREFORE, NO DETENTION IS REQUIRED.

**STORM STRUCTURE TABLE**

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A1	NO.42 CATCH BASIN DETAIL 2, SHEET C04.1	529.80	529.39 (PA4.1)	
A5	NO.42 CATCH BASIN DETAIL 2, SHEET C04.1	529.75	526.24 (PA5)	
B1	NO.42 CATCH BASIN DETAIL 2, SHEET C04.1	529.50	525.07 (PE2)	525.07 (PE3)
B2	JUNCTION BOX DETAIL 2, SHEET C04.1	529.20	525.32 (PE3)	525.32 (PE2)
B3	LOW PROFILE NO.2 CATCH BASIN DETAIL 1, SHEET C04.4	529.00	525.57 (PE3)	

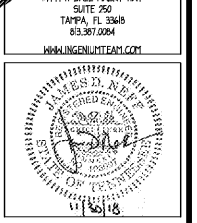
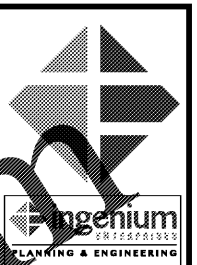
**STORM STRUCTURE TABLE**

STRUCTURE NAME	STRUCTURE TYPE	RIM ELEVATION	INVERT IN	INVERT OUT
A0	FORTERRA 24" x 36" SURFACE INLET DETAIL 4, SHEET C04.1	529.99	520.06 (PA1)	520.06 (PA0)
A1	BIORETENTION OUTLET STRUCTURE DETAIL 3, SHEET C04.1	525.40		527.22 (PA1)
A2	JUNCTION BOX DETAIL 2, SHEET C04.3	530.05	525.50 (PA3)	525.50 (PA2)
A3	LOW PROFILE NO.2 CATCH BASIN DETAIL 1, SHEET C04.4	529.80	525.70 (PA4)	525.71 (PA3)
A4	LOW PROFILE NO.2 CATCH BASIN DETAIL 1, SHEET C04.4	529.75	526.15 (PA5)	526.15 (PA4)

**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:**  
CLAY WORTHY  
602-931-6540



**PANDA EXPRESS, INC.**  
STORE NUMBER: #####  
DEVELOPMENT NUMBER: 6559  
2740 ELM HILL PIKE  
NASHVILLE, TENNESSEE



CLIENT:  
**PANDA EXPRESS, INC.**  
1683 WALNUT GROVE AVENUE  
ROSEMead, CA 91770  
PHONE: 626-799-9898

**REVISION HISTORY**

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

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PROJ. # 18050  
DWG. NAME: 18050 C05.DWG  
ISSUE DATE: 11/30/2018  
PROJ. MGR: LLC

**GRADING & DRAINAGE PLAN**

C05.0  
SHEET NUMBER