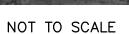
CONSTRUCTION DOCUMENTS FOR

MID-CONTINENT PUBLIC LIBRARY COLBERN BRANCH

NE 1/4 OF SECTION 29, TOWNSHIP 48 NORTH, RANGE 31 WEST LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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CITY OF LEE'S SUMMIT, MISSOURI	220 SE GREEN
CIT OF LEE 3 SOMMIT, MISSOOKI	LEE'S SUMMIT, MO 64063
CITY HALL	816.969.1000
BUILDING ISPECTIONS	816.969.1200
SPECIAL INSPECTIONS	816.969.1200
BUILDING PERMITS	816.969.1200
LAND DEVELOPMENT DIVISION/INSPECTIONS	816.969.1200
TRAFFIC OPERATIONS	816.969.1800
LEE'S SUMMIT WATER UTILITIES	1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64081
LEE'S SUMMIT WATER & SERVICES	816.969.1940
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SPIRE (MGE)	314.342.0500
KANSAS CITY POWER & LIGHT	8700 EAST FRONT STREET KANSAS CITY, MO 64120 816.471.5275
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877.772.2253

877.454.6959

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SPECTRUM

UTILITY AND GOVERNING AGENCY CONTACT INFORMATION

BENCHMARKS:

BENCHMARK #1: MO BRAUN 3: ALUMINUM NGS DISK SET IN CONCRETE 5" + ABOVE GRADE 57' + WEST OF I-470 PAVED SHOULDER STAMPED "BRAUN 3, 1979" PUBLISHED GRID COORDINATES (2003 ADJUSTMENT) N: 310136.375M, E: 862153.323M ELEV.=305.7M GRID FACTOR: 0.9999001 GROUND COORDINATES (US SURVEY FEET):

LEGAL DESCRIPTION:

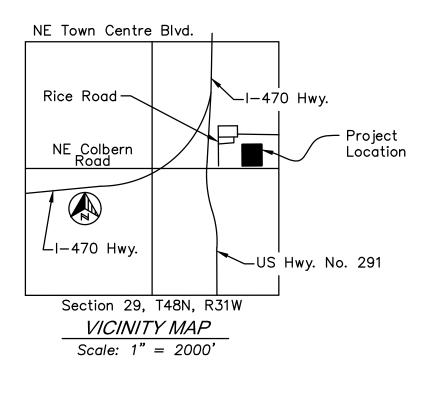
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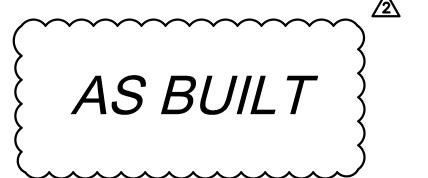
ALL OF LOT 1, RICE ACRES, A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, TOGETHER WITH ALL THAT PART OF AN UNPLATTED TRACT OF LAND, ALL LYING IN THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 48 NORTH, RANGE 31 WEST, DESCRIBED BY TIMOTHY BLAIR WISWELL, MO-PLS 2009000067, OF OLSSON, INC. LC-366, AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 48 NORTH, RANGE 31 WEST; THENCE NORTH 88 DEGREES 28 MINUTES 52 SECONDS WEST, ON THE SOUTH LINE OF SAID NORTHEAST QUARTER, A DISTANCE OF 755.18 FEET TO A POINT ON THE SOUTHERLY EXTENSION OF THE WEST LINE OF LOT 1 RICE ACRES, A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI; THENCE NORTH 01 DEGREE 23 MINUTES 04 SECONDS EAST, DEPARTING SAID SOUTH LINE, ON SAID SOUTHERLY EXTENSION, A DISTANCE OF 55.66 FEET TO THE SOUTHWEST CORNER OF SAID LOT 1, THE POINT OF BEGINNING; THENCE NORTH 01 DEGREE 23 MINUTES 04 SECONDS EAST, ON SAID WEST LINE, A DISTANCE OF 436.21 FEET TO THE NORTHWEST CORNER OF SAID LOT 1; THENCE SOUTH 88 DEGREES 38 MINUTES 41 SECONDS EAST, ON THE NORTH LINE OF SAID LOT 1 AND ITS EASTERLY EXTENSION, A DISTANCE OF 400.00 FEET TO A POINT; THENCE SOUTH 01 DEGREE 23 MINUTES 04 SECONDS WEST, DEPARTING SAID EASTERLY EXTENSION, A DISTANCE OF 436.21 FEET TO A POINT ON THE EASTERLY EXTENSION OF THE SOUTH LINE OF SAID LOT 1; THENCE NORTH 88 DEGREES 38 MINUTES 41 SECONDS WEST, ON SAID EASTERLY EXTENSION AND ON SAID SOUTH LINE, A DISTANCE OF 400.00 FEET TO THE POINT OF BEGINNING, CONTAINING 174,485 SQUARE FEET OR 4.0056 ACRES, MORE OR LESS.

DEVELOPMENT TEAM CONTACT INFORMATION OWNER/DEVELOPER STEVEN V. POTTER ADMINISTRATIVE HEADQUARTERS 15616 E. 24 HWY. INDEPENDENCE, MO 64050 MID-CONTINENT PUBLIC 816.836.5200 CIVIL ENGINEER 7301 W. 133RD STREET SUITE 200 TERRY PARSONS OVERLAND PARK, KS 66213 PH: 913.381.1170 FAX: 913.381.1174 tparsons@olsson.com









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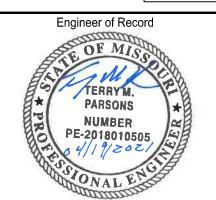
Kansas City, MO 64108

SPECIAL NOTICES

the event the client consents to, allows, authorizes or approve esign professional, the client recognizes that such changes and the herefore, the client agrees to release the design professional from hanges. In addition, the client agrees to the fullest extent permitte ny damage, liability or cost (including reasonable attorney's fees a usts of defense) arising from such changes.

egal equivalent of his signature whenever & wherever used, and the ections pertaining to this sheet. Responsibility shall be disclaimed cuments or instruments relating to or intended to be used for any





Terry M Parsons, Engineer MO PE-2018010505



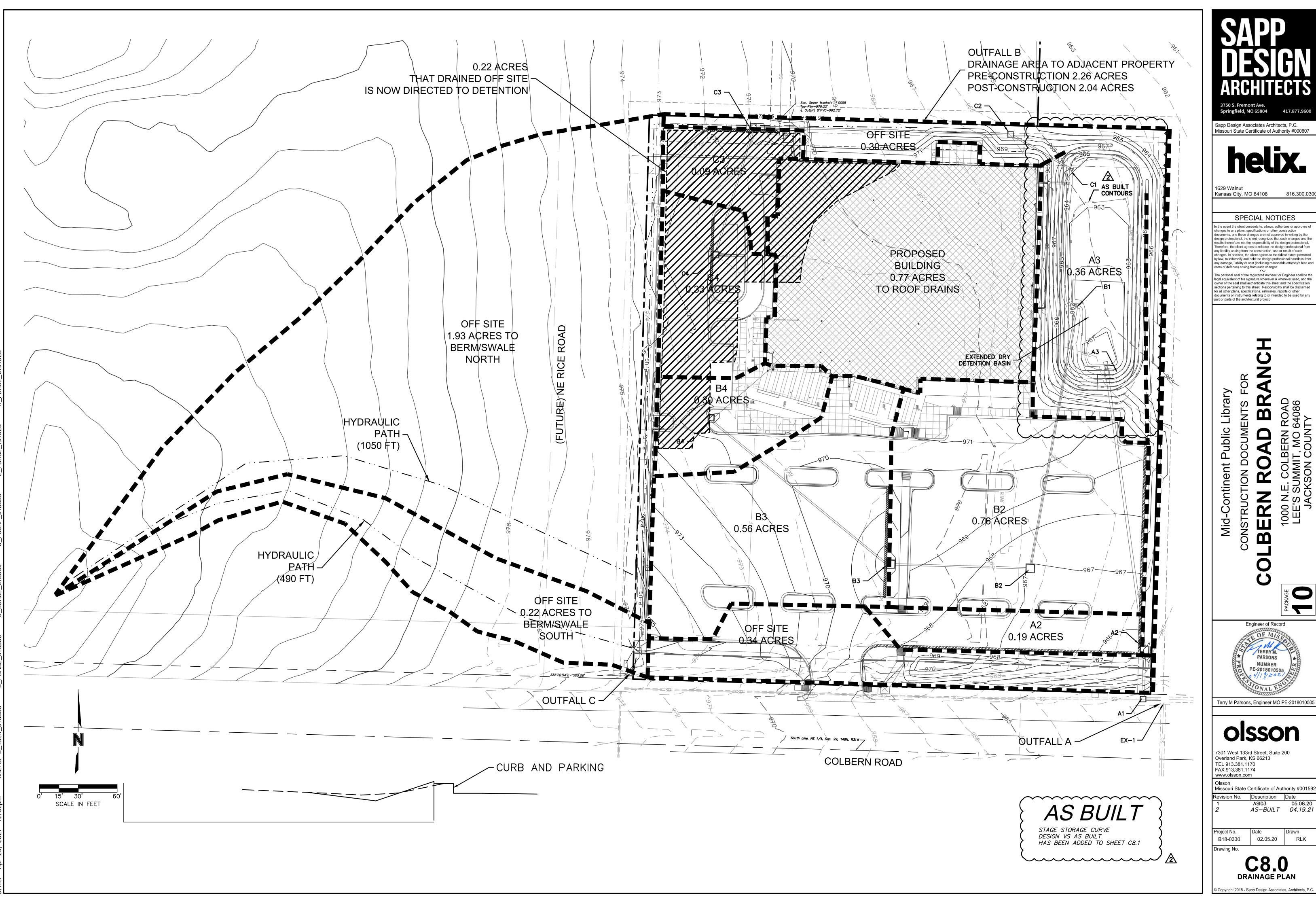
Overland Park, KS 66213 TEL 913.381.1170 FAX 913.381.1174

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AS-BUILT 04.19.21

02.05.20 B18-0330

COVER SHEET

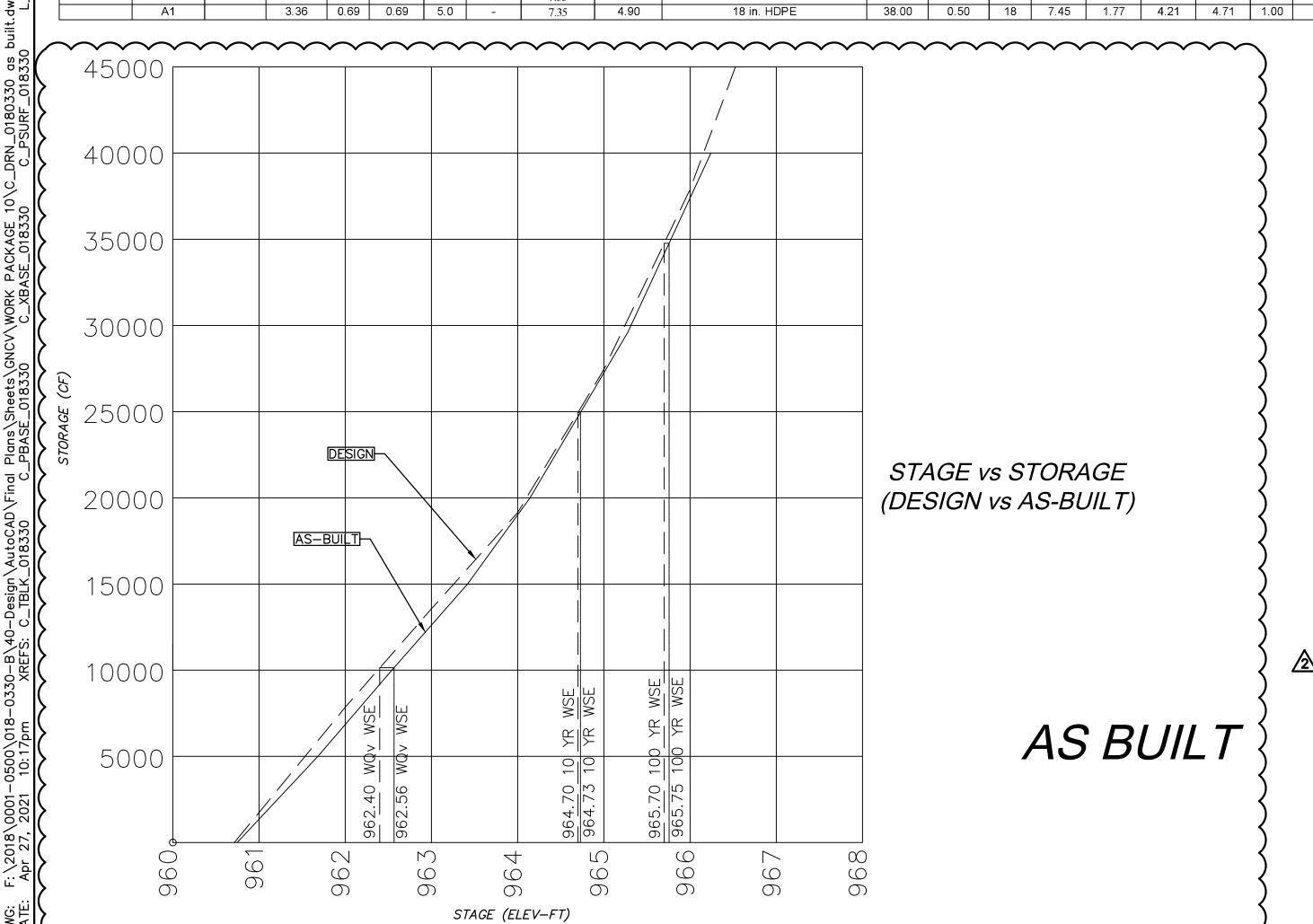


																	STORM SE	WER PIPE	AND STRUCTU	RE TABLE											
		D STRUCTU																													
		IBRARY (LE	EES SUM	MIT)																											
#: B18-03																															
		S: 10 YE	AR STO																_												
TRUC	URES	DIDECT			NOFF C	ALCUI	ATIONS	i			- DIDE		Loine						<u>P</u>	IPE DESIGN	T D OVA WIG TO E A LA		_ ENTEN (LOGG			1			10/DD 41 II 10	1.D/DDA1.II.10	
ROM	ТО	DIRECT AREA	AREA	. С	KC (K=1.00)	Tc (MIN)	FLOW TIME	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH			Q FULL (CFS)	AKEA	V FULL (F/S)	DESIGN HW	/D MH T		DOWNSTREAM FLOWLINE	WAIER	FRICTION HEAD (h f)	ENTRY LOSS	T ENTRY	ENTRY LOSS (h m)	I	HW, INLET	OUTLET	HYDRAULIC GRADE	GRADE	Comments
		(ACRES)	(ACRES	,			(MIN)	(, ,		(L.F.)	(%)	(IN)	(0.0)	(SQ.FT.)	(1.70)	(,,,,,,			. 201122	ELEVATION	1.2, 12 (11.1)	(k)	LOSS (k)) [2000 ()	()		CONTROL	ELEV.	(MAX)	
RD		0.77		0.90		5.0	-	7.35	5.09	ROOF DRAINS								N/A											N/A	N/A	
			0.77	0.90	0.90	5.0	-	7.35	5.09	18 in. HDPE	30.00	1.20	15	11.54	1.77	6.53	6.32 0.	39	969.00	968.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			END SECTION TO BASIN
C4		0.33		0.80	0.80	5.0	_	7.35	1.76	CURB INLET								971.	3										965.92	969.86	
<u>'</u>	C3	0.00	0.33			5.0	_	7.35	3.76	18 in. HDPE	99.00	1.00	15	8.81	1.77	4.99	4.78 0.		971.33	967.18	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	000.02	000.00	
3		0.09	0.00	0.80		5.0	_	7.35	2.68	CURB INLET	00.00	1.00	1 1	0.01		1.00		970.		331.13	00 1. 10	0.20	3.10	0.10			1 333.32	001.00	964.49	968.82	
	C2		0.41			5.0	-	7.35	6.40	24 in. HDPE	195.00	1.00	15	18.98	3.14	6.04	5.44 0.	75	966.88	964.90	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74			
2		0.00		0.00	0.80	5.0	-	7.35	3.63	CURB INLET								967.	1										963.47	966.00	
	C1		0.41	0.80	0.80	5.0	-	7.35	10.05	24 in. HDPE	52.00	1.00	15	18.98	3.14	6.04	6.11 0.	37	964.59	965.45	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85			END SECTION TO BASIN
4		0.30		0.80		5.0	-	7.35	1.76	CURB INLET								970.											965.92	969.86	
	B3	2.50	0.72			5.0	-	7.35	3.76	18 in. HDPE	179.00	0.70	18	8.81	1.77	4.99	4.78 0.		965.31	963.48	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	004.40	222.22	
3	D0	0.56	4.00	0.65		5.0	-	7.35	2.68	CURB INLET	100.00	0.70	- 04	40.00	0.44	0.04	5 44 0	969.		000.70	000.47	0.00	0.40	0.40	0.40	0.07	004.40	000.74	964.49	968.82	
,	B2	0.76	1.28	0.68 0.65		1 0.0	-	7.35 7.35	6.40 3.63	24 in. HDPE CATCH BASIN	108.00	0.70	24	18.98	3.14	0.04	5.44 0.	967.	963.76	962.70	963.47	0.09	0.40	0.40	0.18	0.27	964.49	903.74	963.47	966.00	
2	B1	0.76	2.04		0.67		-	7.35	10.05	24 in. HDPE	207.00	0.50	24	18.98	3.14	6.04	6.11 0.		962.70	962.31	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	903.47	900.00	END SECTION TO BASIN
									1 0.70																				204 77	004.00	
3	4.0	0.36	0.47	0.30			-	7.35	0.79	Control Structure	000.00	0.50	1,	7.45	4 ==	4.04	4 47	965.		050.04	000.00	0.40	4.00	1.00	0.04	0.70	004 77	004.40	961.77	964.00	Design Observation Datains LEL (C. 1.1. "
,	A2	0.40	3.17	l l	1		-	7.35	4.40	18 in. HDPE	220.00	0.50	18	7.45	1.77	4.21	4.47 0.		960.47	959.34	960.66	0.46	1.00	1.00	0.31	0.78	961.77	961.43	000.00	965.02	Design Q based on Detained Flows (includes all areas to
2	A1	0.19	3.36	0.80 0.69	1	5.0 5.0	-	7.35 7.35	0.88 4.90	CURB INLET 18 in. HDPE	38.00	0.50	18	7.45	1.77	4.21	4.71 1.	966. 00	958.84	958.65	960.18	0.13	0.50	1.00	0.34	0.48	960.34	960.66	960.66	905.02	Design Q based on Detained Flows

	STORM SEWER PIPE AND STRUCTURE TABLE
STORM SEWER PIPE AND STRUCTURE TABLE	
TITLE: COLDEDN DOAD LIDDADY (LEEC CLIMMIT)	

TITLE: COLBERN ROAD LIBRARY (LEES SUMMIT)
JOB #: B18-0330

DESIGN CO	NDITION	ONS: 100 YEAR STORM EVENT									T													
STRUCT	URES	RUNOFF CALCULATIONS	'									PI	IPE DESIGN		'									
FROM	ТО	DIRECT TOTAL AREA AREA (ACRES) (ACRES) C (K=1.00) (MIN) (MIN) (INTENSITY (IN/HR) (CFS)	DESCRIPTION PIPE LENGTH (L.F.)	H SLOI	PE DIA		L PIPE AREA (SQ.FT.)	V FULL (F/S)	DESIGN V (F/S)	Hw/D			DOWNSTREAM	DOWNSTREAM WATER ELEVATION	FRICTION HEAD (h f)	ENTRY LOSS COEFFICIENT (k)	ACTUAL ENTRY LOSS (k)	ENTRY LOSS (h m)	h f + h m (FT)	HW, INLET CONTROL	OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAX)	Comments
RD		0.77 0.90 0.90 5.0 - 7.35 5.09	ROOF DRAINS								N/A											N/A	N/A	
		0.77 0.90 0.90 5.0 - 7.35 5.09	18 in. HDPE 30.00	1.2	0 15	5 11.54	1.77	6.53	6.32	0.89		969.00	968.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			END SECTION TO BASIN
C4		0.33	CURB INLET								971.33											965.92	969.86	
	C3	0.33	18 in. HDPE 99.00	1.0	0 15	5 8.81	1.77	4.99	4.78	0.79	971.55	971.33	967.18	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	900.92	909.80	+
C3		0.09 0.80 0.65 5.0 - 7.35 2.68	CURB INLET						1		970.59	01.1100	551115		5.25	1 0.10	0,10					964.49	968.82	
	C2	0.41 0.80 0.80 5.0 - 7.35 6.40	24 in. HDPE 195.00	1.0	0 15	18.98	3.14	6.04	5.44	0.75		966.88	964.90	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74			
C2		0.00 0.00 0.80 5.0 - 7.35 3.63	CURB INLET								967.51											963.47	966.00	
	C1	0.41 0.80 0.80 5.0 - 7.35 10.05	24 in. HDPE 52.00	1.0	0 15	18.98	3.14	6.04	6.11	0.87		964.59	965.45	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85			END SECTION TO BASIN
B4		0.30 0.80 0.80 5.0 - 7.35 1.76	CURB INLET								970.86											965.92	969.86	
	B3	0.72 0.71 0.71 5.0 - 7.35 3.76	18 in. HDPE 179.00	0.7	0 18	8.81	1.77	4.99	4.78	0.79		965.31	963.48	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86			
B3	DO	0.56	CURB INLET	0.7	0 04	1 10.00	0.44	0.04	5 44	0.75	969.62	000 70	962.70	000.47	0.00	0.40	0.40	0.40	0.07	004.40	000.74	964.49	968.82	
B2	B2	1.28 0.68 0.68 5.0 - 7.35 6.40 0.76 0.65 0.65 5.0 - 7.35 3.63	24 in. HDPE 108.00 CATCH BASIN	0.7	0 24	18.98	3.14	6.04	5.44	0.75	967.00	963.76	962.70	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74	963.47	966.00	
DZ	B1	2.04 0.67 0.67 5.0 - 7.35 10.05	24 in. HDPE 207.00	0.5	0 24	18.98	3.14	6.04	6.11	0.87	907.00	962.70	962.31	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	903.47	900.00	END SECTION TO BASIN
A3		0.36 0.30 0.30 5.0 - 7.35 0.79	Control Structure								965.00											961.77	964.00	
	A2	3.17 0.68 0.68 5.0 - 7.35 4.40	18 in. HDPE 220.00	0.5	0 18	7.45	1.77	4.21	4.47	0.87		960.47	959.34	960.66	0.46	1.00	1.00	0.31	0.78	961.77	961.43			Design Q based on Detained Flows (includes all areas to basin)
A2		0.19 0.80 0.80 5.0 - 7.35 0.88	CURB INLET								966.02											960.66	965.02	
	A1	3.36 0.69 0.69 5.0 - 7.35 4.90	18 in. HDPE 38.00	0.5	0 18	7.45	1.77	4.21	4.71	1.00		958.84	958.65	960.18	0.13	0.50	1.00	0.34	0.48	960.34	960.66			Design Q based on Detained Flows





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Kansas City, MO 64108

SPECIAL NOTICES

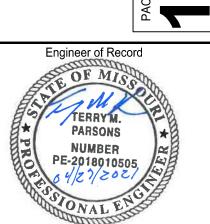
In the event the client consents to, allows, authorizes or approves of changes to any plans, specifications or other construction documents, and these changes are not approved in writing by the

design professional, the client recognizes that such changes and the results thereof are not the responsibility of the design professional. Therefore, the client agrees to release the design professional from any liability arising from the construction, use or result of such changes. In addition, the client agrees to the fullest extent permitted by law, to indemnify and hold the design professional harmless from any damage, liability or cost (including reasonable attorney's fees and costs of defense) arising from such changes.

The personal seal of the registered Architect or Engineer shall be the legal equivalent of his signature whenever & wherever used, and the owner of the seal shall authenticate this sheet and the specification sections pertaining to this sheet. Responsibility shall be disclaimed for all other plans, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural project.

Mid-Continent Public Library

1000 N.E. COLBERN ROAD LEE'S SUMMIT, MO 64086 JACKSON COUNTY COLBERN



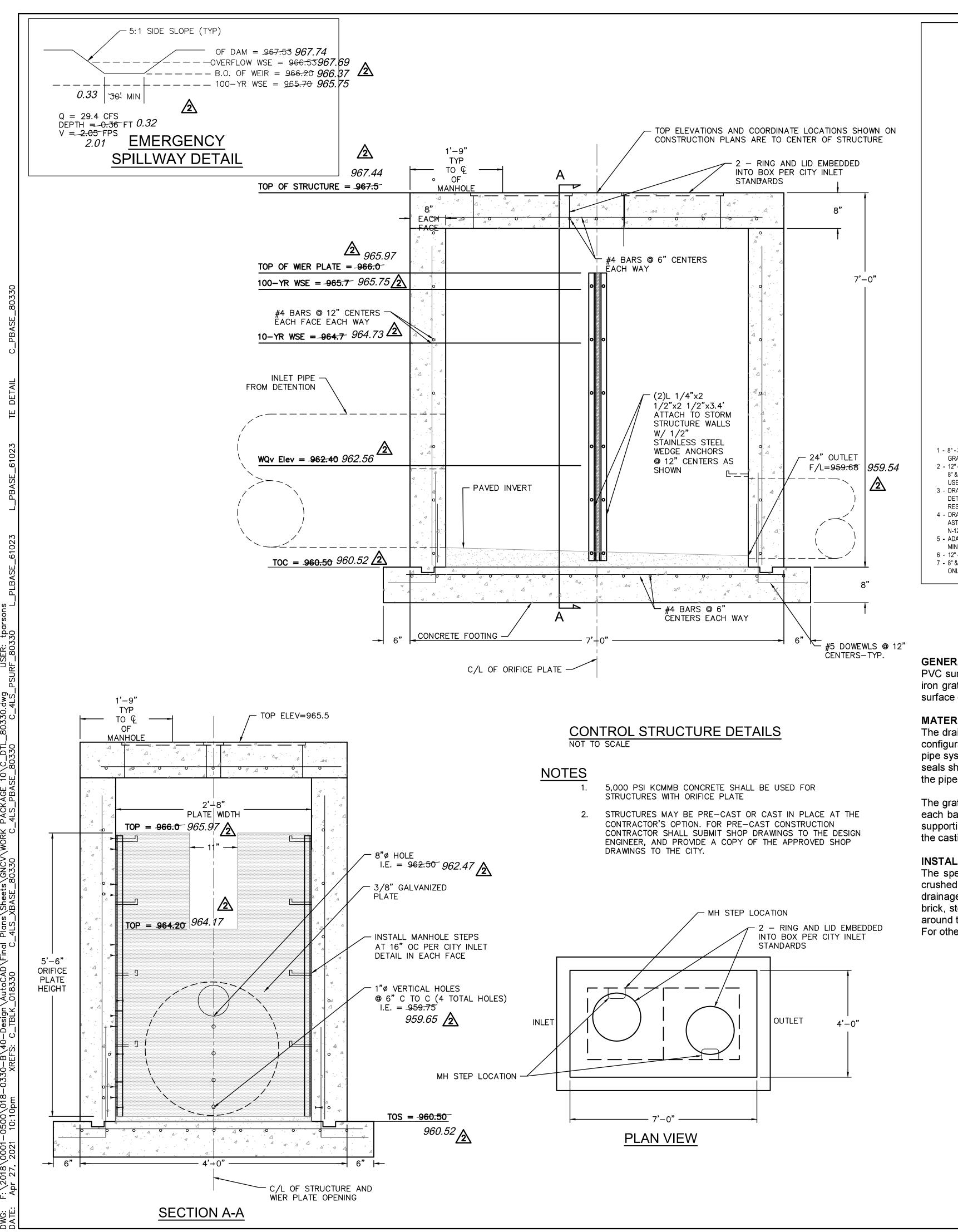
Terry M Parsons, Engineer MO PE-2018010505

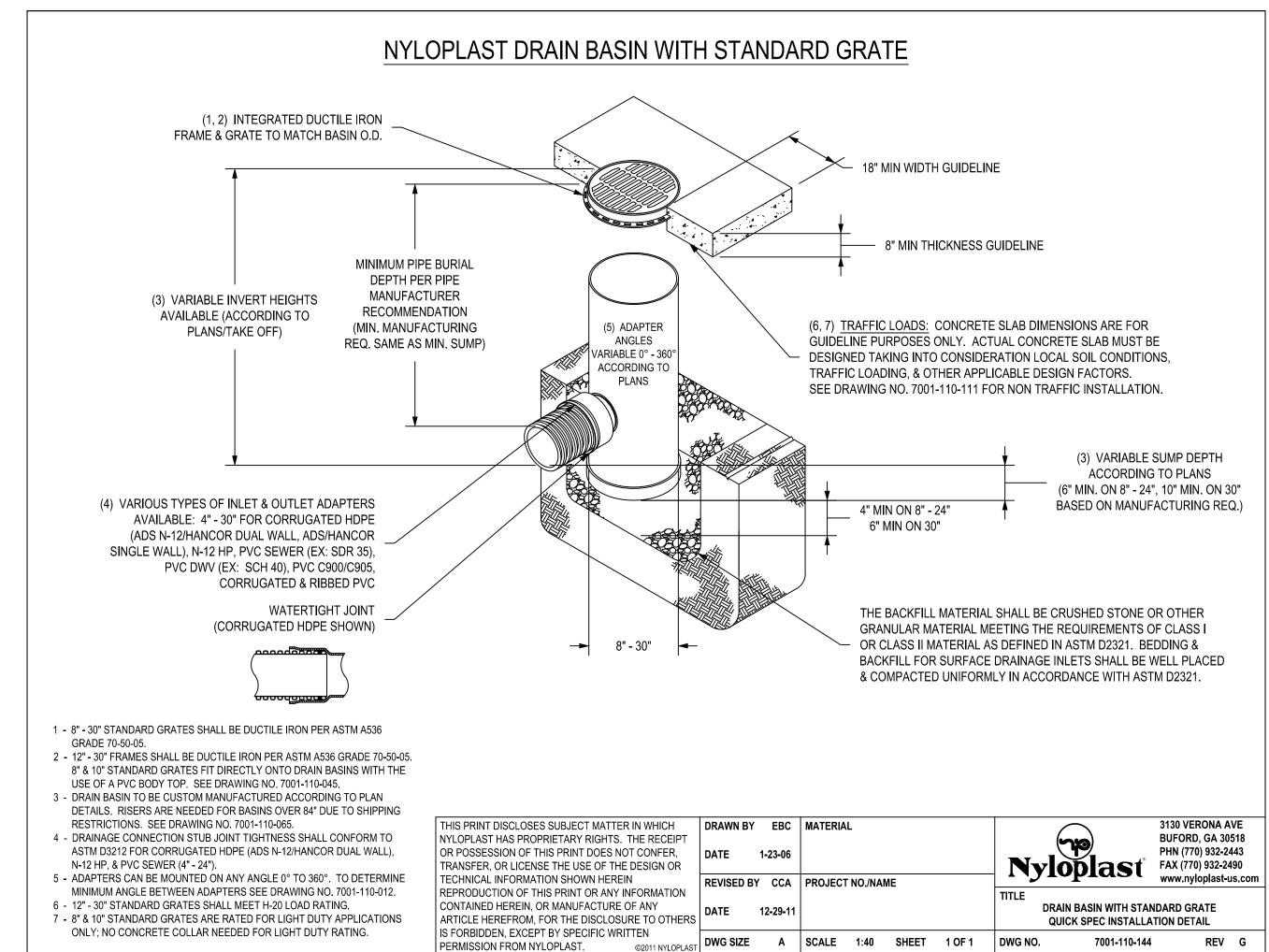
7301 West 133rd Street, Suite 200 Overland Park, KS 66213 TEL 913.381.1170 FAX 913.381.1174 www.olsson.com

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02.05.20 B18-0330

C8.1 DRAINAGE
CALCULATIONS
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Section 2721

Engineered Surface Drainage Products

GENERAL

PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc., or prior approved equal.

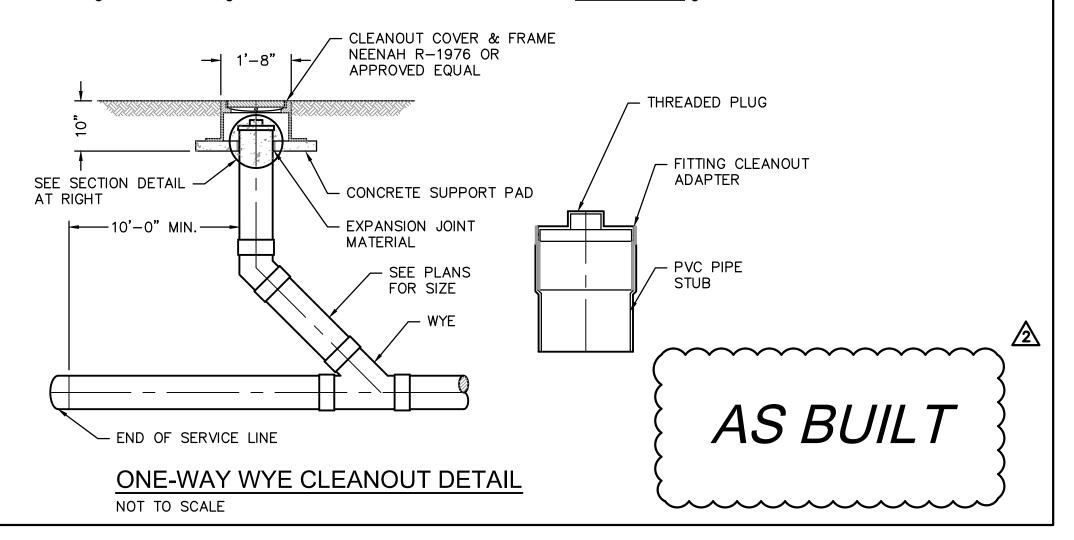
MATERIALS

The drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain and sewer plastic pipe using flexible elastomeric seals. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin or catch basin. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.

The grates and frames furnished for all surface drainage inlets shall be ductile iron for sizes 8", 10", 12", 15", 18", 24" and 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the surface drainage inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. 12" and 15" square grates will be hinged to the frame using pins. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be provided painted black.

INSTALLATION

The specified PVC surface drainage inlet shall be installed using conventional flexible pipe backfill materials and procedures. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1 or class 2 material as defined in ASTM D2321. Bedding and backfill for surface drainage inlets shall be well placed and compacted uniformly in accordance with ASTM D2321. The drain basin body will be cut at the time of the final grade. No brick, stone or concrete block will be required to set the grate to the final grade height. For load rated installations, a concrete slab shall be poured under and around the grate and frame. The concrete slab must be designed taking into consideration local soil conditions, traffic loading, and other applicable design factors. For other installation considerations such as migration of fines, ground water, and soft foundations refer to ASTM D2321 guidelines.





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Kansas City, MO 64108 816.300.0300

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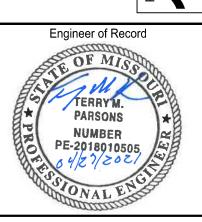
the event the client consents to, allows, authorizes or approves o nges to any plans, specifications or other construction esign professional, the client recognizes that such changes and the sults thereof are not the responsibility of the design professional herefore, the client agrees to release the design professional from hanges. In addition, the client agrees to the fullest extent permitte law, to indemnify and hold the design professional harmless from ny damage, liability or cost (including reasonable attorney's fees a

ts of defense) arising from such changes. personal seal of the registered Architect or Engineer shall be the gal equivalent of his signature whenever & wherever used, and the ctions pertaining to this sheet. Responsibility shall be disclaimed cuments or instruments relating to or intended to be used for any

or parts of the architectural project.

Mid-Contine

1000 N.E. CC LEE'S SUMN JACKSO ERN N \Box



Terry M Parsons, Engineer MO PE-2018010505



Overland Park, KS 66213 TEL 913.381.1170 FAX 913.381.1174

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02.05.20 B18-0330

STANDARD DETAILS

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