

DWG: F:\2018\0001-0500\018-0330-B\40-Design\AutoCAD\Final Plans\Sheets\GNC\WORK PACKAGE 10\C_TL_0180330.dwg
DATE: Apr 20, 2021 12:37pm
USER: tparsons
XREFS: C_TBLK_018330

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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NOT TO SCALE

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

UTILITY AND GOVERNING AGENCY CONTACT INFORMATION	
CITY OF LEE'S SUMMIT, MISSOURI	220 SE GREEN LEE'S SUMMIT, MO 64063
CITY HALL	816.969.1000
BUILDING INSPECTIONS	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
LEE'S SUMMIT PUBLIC WORKS	816.969.1800
SPIRE (MGE)	314.342.0500
KANSAS CITY POWER & LIGHT	8700 EAST FRONT STREET KANSAS CITY, MO 64120 816.471.5275
TELEPHONE SERVICE	
AT&T	816.221.1781
CABLE TELEVISION SERVICE	
SPECTRUM	877.772.2253
GOOGLE FIBER	877.454.6959

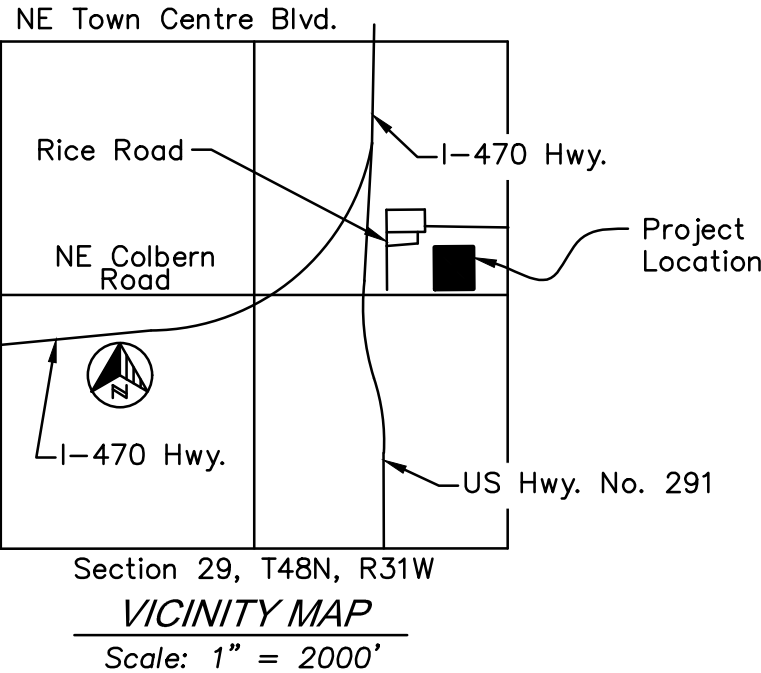
BENCHMARKS:

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: 0.99999001
GROUND COORDINATES (US SURVEY FEET):
N: 1017506.29', E: 2828581.25'

LEGAL DESCRIPTION:

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.



AS BUILT

**SAPP
DESIGN
ARCHITECTS**
3750 S. Fremont Ave.
Springfield, MO 65804 417.877.9600

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Missouri State Certificate of Authority #000607

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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 wherever & whenever 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
CONSTRUCTION DOCUMENTS FOR
COLBERN ROAD BRANCH
1000 N.E. COLBERN ROAD
LEE'S SUMMIT, MO 64086
JACKSON COUNTY

PACKAGE
10

Engineer of Record

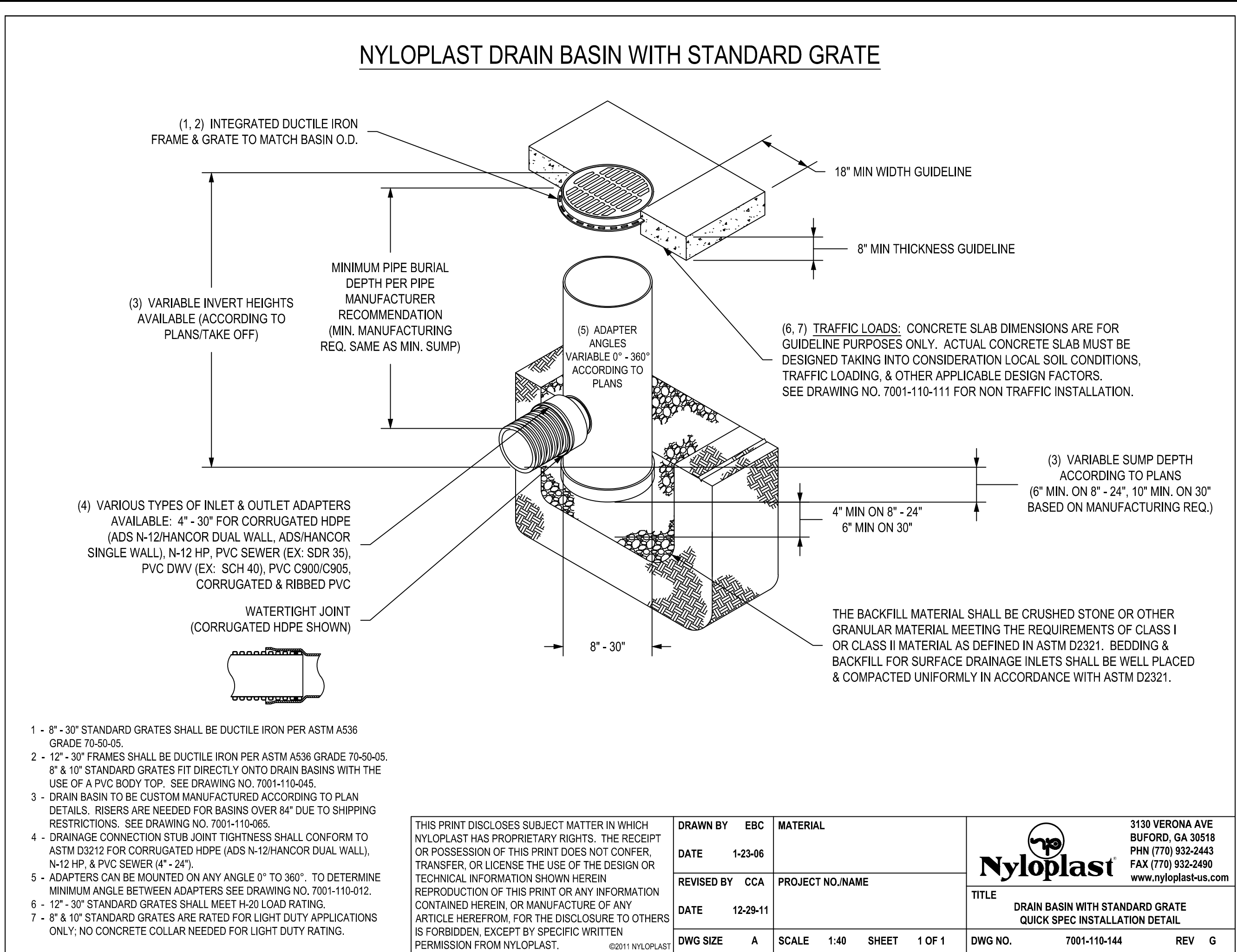
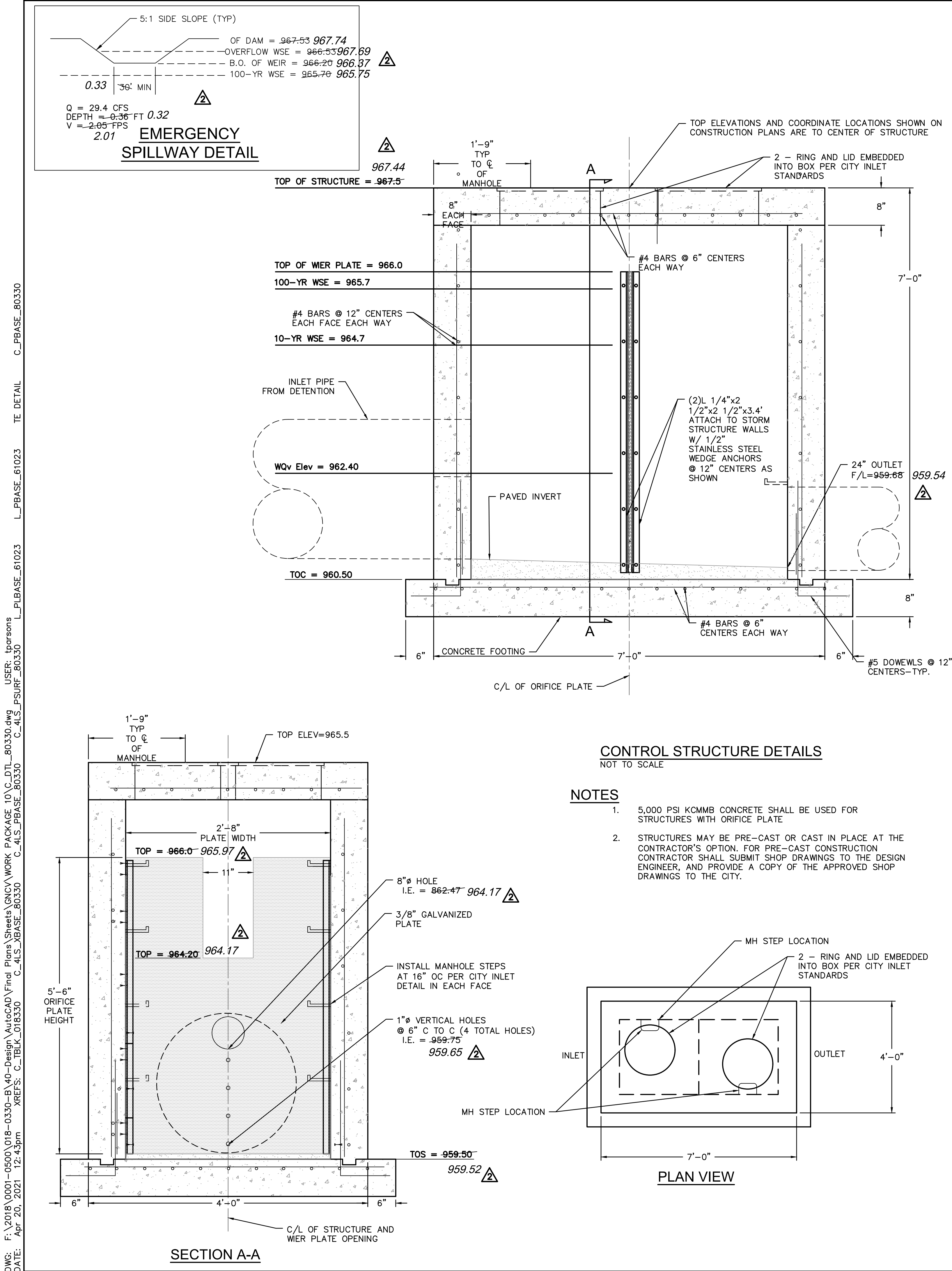
Terry M Parsons, Engineer MO PE-2018010505

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Missouri State Certificate of Authority #001592
Revision No. Description Date
1 ASI03 05.08.20
2 AS-BUILT 04.19.21
Project No. Date Drawn
B18-0330 02.05.20 RLK
Drawing No.
**C1.0
COVER SHEET**
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DWG: F:\2018\0001-0500\018-0330-B\40-Design\AutoCAD\Final Plans\Sheets\GNCV\WORK PACKAGE 10\C_DRN_0180330.as built.dwg
DATE: Apr 20, 2021 12:34pm XREFS: C_TBLK_018330 C_PBASE_018330 C_PBASE_018330 C_PBASE_018330 A_PBASE_0161023 USER: tparsons

STORM SEWER PIPE AND STRUCTURE TABLE																																
STORM SEWER PIPE AND STRUCTURE TABLE																																
TITLE: COLBERN ROAD LIBRARY (LEES SUMMIT)																																
JOB #: B18-0330																																
DESIGN CONDITIONS: 10 YEAR STORM EVENT STRUCTURES															PIPE DESIGN																	
FROM	TO	DIRECT AREA (ACRES)	TOTAL AREA (ACRES)	C	KC (K=1.00)	Tc (MIN)	FLOW TIME (MIN)	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH (L.F.)	PIPE SLOPE (%)	PIPE DIA (IN)	Q FULL (CFS)	PIPE AREA (SQ.FT.)	V FULL (F/S)	DESIGN V (F/S)	Hw/D	MH TOP ELEVATION	UPSTREAM FLOWLINE	DOWNSTREAM FLOWLINE	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	HW, OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAX)	Comments
RD		0.77	0.77	0.90	0.90	5.0	-	7.35	5.09	ROOF DRAINS	30.00	1.20	15	11.54	1.77	6.53	6.32	0.89	N/A	969.00	968.64	N/A	N/A	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									971.33											965.92	969.86	
	C3	0.33	0.33	0.80	0.80	5.0	-	7.35	3.76	18 in. HDPE	99.00	1.00	15	8.81	1.77	4.99	4.78	0.79	971.33	971.33	967.18	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	964.49	968.82	
C3		0.09		0.80	0.65	5.0	-	7.35	2.68	CURB INLET									970.59											964.49	968.82	
	C2	0.41	0.41	0.80	0.80	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	966.88	964.90	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74	963.47	966.00	
C2		0.00		0.00	0.80	5.0	-	7.35	3.63	CURB INLET									967.51													
	C1	0.41	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	0.87	964.59	964.59	965.45	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	963.47	966.00	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	0.72	0.71	0.71	5.0	-	7.35	3.76	18 in. HDPE	179.00	0.70	18	8.81	1.77	4.99	4.78	0.79	965.31	965.31	963.48	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	964.49	968.82	
B3		0.56		0.65	0.65	5.0	-	7.35	2.68	CURB INLET									969.62											964.49	968.82	
	B2	1.28	1.28	0.68	0.68	5.0	-	7.35	6.40	24 in. HDPE	108.00	0.70	24	18.98	3.14	6.04	5.44	0.75	963.76	963.76	962.70	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74	963.47	966.00	
B2		0.76		0.65	0.65	5.0	-	7.35	3.63	CATCH BASIN									967.00													
	B1	2.04	2.04	0.67	0.67	5.0	-	7.35	10.05	24 in. HDPE	207.00	0.50	24	18.98	3.14	6.04	6.11	0.87	962.70	962.70	962.31	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	963.47	966.00	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	3.17	0.68	0.68	5.0	-	7.35	4.40	18 in. HDPE	220.00	0.50	18	7.45	1.77	4.21	4.47	0.87	966.02	960.47	959.34	960.66	0.46	1.00	1.00	0.31	0.78	961.77	961.43	961.43	966.00	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	3.36	0.69	0.69	5.0	-	7.35	4.90	18 in. HDPE	38.00	0.50	18	7.45	1.77	4.21	4.71	1.00	958.84	958.84	958.65	960.18	0.13	0.50	1.00	0.34	0.48	960.34	960.66	960.66	966.00	Design Q based on Detained Flows

STORM SEWER PIPE AND STRUCTURE TABLE																																	
TITLE: COLBERN ROAD LIBRARY (LEES SUMMIT)																																	
JOB #: B18-0330																																	
DESIGN CONDITIONS: 100 YEAR STORM EVENT STRUCTURES											PIPE DESIGN																						
FROM	TO	DIRECT AREA (ACRES)	TOTAL AREA (ACRES)	C	KC (K=1.00)	Tc (MIN)	FLOW TIME (MIN)	INTENSITY (IN/HR)	DESIGN Q (CFS)	DESCRIPTION	PIPE LENGTH (L.F.)	PIPE SLOPE (%)	PIPE DIA (IN)	Q FULL (CFS)	PIPE AREA (SQ.FT.)	V FULL (F/S)	DESIGN V (F/S)	Hw/D	MH TOP ELEVATION	UPSTREAM FLOWLINE	DOWNSTREAM FLOWLINE	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	HW, OUTLET CONTROL	HYDRAULIC GRADE ELEV.	HYDRAULIC GRADE (MAX)	Comments	
RD		0.77	0.77	0.90	0.90	5.0	-	7.35	5.09	ROOF DRAINS	30.00	1.20	15	11.54	1.77	6.53	6.32	0.89	N/A	969.00	968.64	N/A	N/A	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									971.33												965.92	969.86	
	C3	0.33	0.33	0.80	0.80	5.0	-	7.35	3.76	18 in. HDPE	99.00	1.00	15	8.81	1.77	4.99	4.78	0.79	971.33	971.33	967.18	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	964.49	968.82		
C3		0.09		0.80	0.65	5.0	-	7.35	2.68	CURB INLET									970.59												964.49	968.82	
	C2	0.41	0.41	0.80	0.80	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	966.88	964.90	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74	963.47	966.00		
C2		0.00		0.00	0.80	5.0	-	7.35	3.63	CURB INLET									967.51														
	C1	0.41	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	0.87	964.59	964.59	965.45	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	963.47	966.00	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	0.72	0.71	0.71	5.0	-	7.35	3.76	18 in. HDPE	179.00	0.70	18	8.81	1.77	4.99	4.78	0.79	965.31	965.31	963.48	964.49	0.23	0.40	0.40	0.14	0.37	965.92	964.86	964.49	968.82		
B3		0.56		0.65	0.65	5.0	-	7.35	2.68	CURB INLET									969.62												964.49	968.82	
	B2	1.28	1.28	0.68	0.68	5.0	-	7.35	6.40	24 in. HDPE	108.00	0.70	24	18.98	3.14	6.04	5.44	0.75	963.76	963.76	962.70	963.47	0.09	0.40	0.40	0.18	0.27	964.49	963.74	963.47	966.00		
B2		0.76		0.65	0.65	5.0	-	7.35	3.63	CATCH BASIN									967.00														
	B1	2.04	2.04	0.67	0.67	5.0	-	7.35	10.05	24 in. HDPE	207.00	0.50	24	18.98	3.14	6.04	6.11	0.87	962.70	962.70	962.31	962.20	0.36	0.50	0.50	0.29	0.65	963.47	962.85	963.47	966.00	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	3.17	0.68	0.68	5.0	-	7.35	4.40	18 in. HDPE	220.00	0.50	18	7.45	1.77	4.21	4.47	0.87	966.02	960.47	959.34	960.66	0.46	1.00	1.00	0.31	0.78	961.77	961.43	961.43	966.00	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	3.36	0.69	0.69	5.0	-	7.35	4.90	18 in. HDPE	38.00	0.50	18	7.45	1.77	4.21	4.71	1.00	958.84	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	



Section 2721

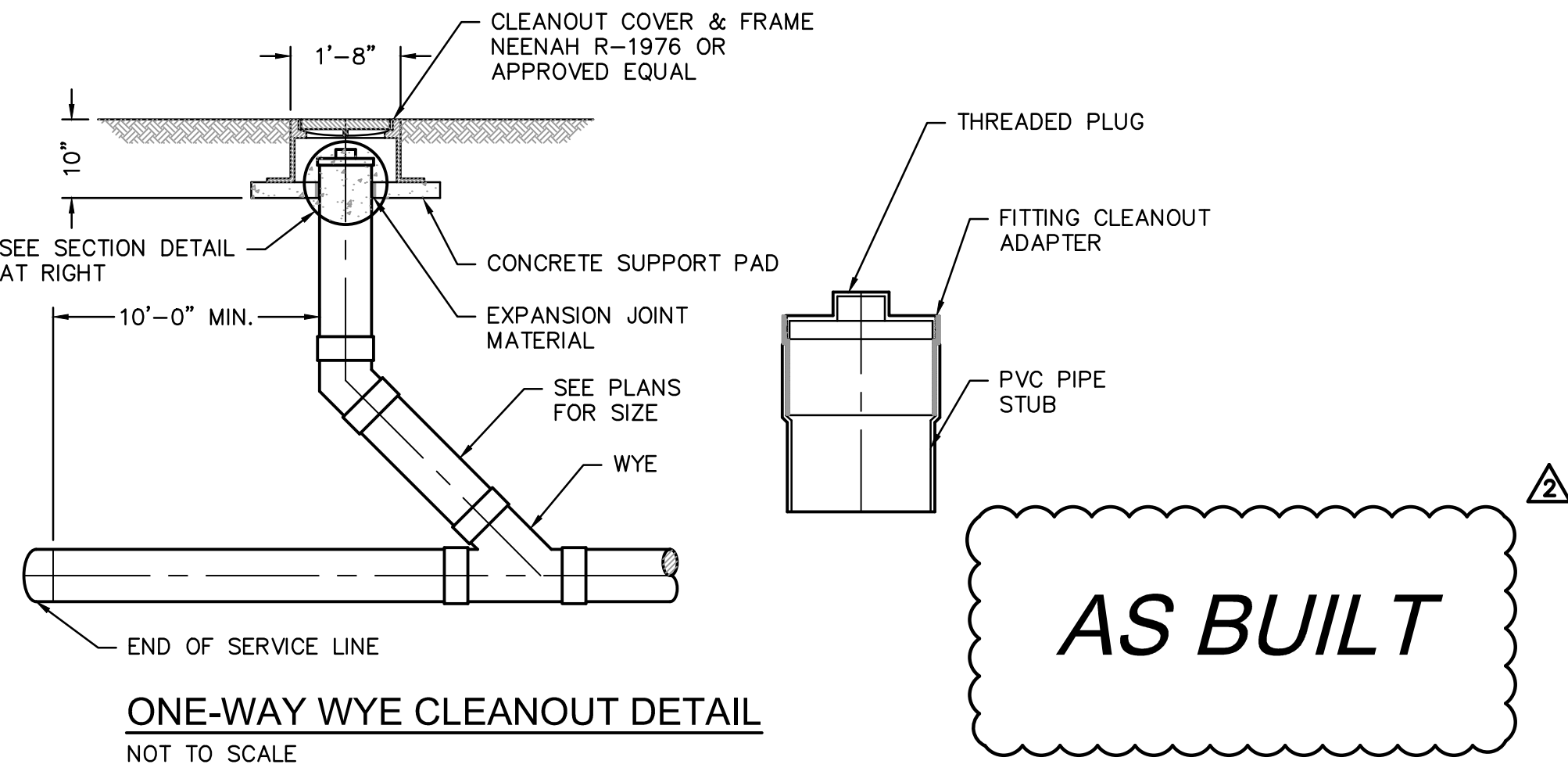
Engineered Surface Drainage Products

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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SPECIAL NOTICES

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The personal seal of the registered Architect or Engineer shall be the legal equivalent of this signature wherever & whenever 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
CONSTRUCTION DOCUMENTS FOR
COLBERN ROAD BRANCH
1000 N.E. COLBERN ROAD
LEE'S SUMMIT, MO 64086
JACKSON COUNTY

PACKAGE
10

Engineer of Record

TERRY M. PARSONS
NUMBER
PE-2018010505
4/11/2021
PROFESSIONAL ENGINEER

Terry M Parsons, Engineer MO PE-2018010505

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Revision No.	Description	Date
1	AS103	05.08.20
2	AS-BUILT	04.19.21

Project No.
B18-0330 Date
02.05.20 Drawn
RLK

Drawing No.
C10.6

STANDARD DETAILS

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