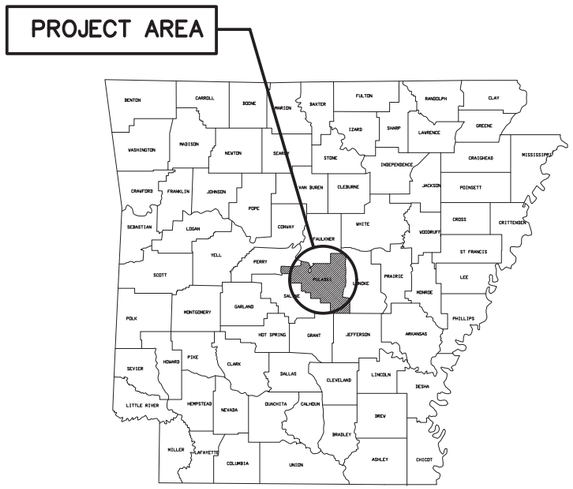
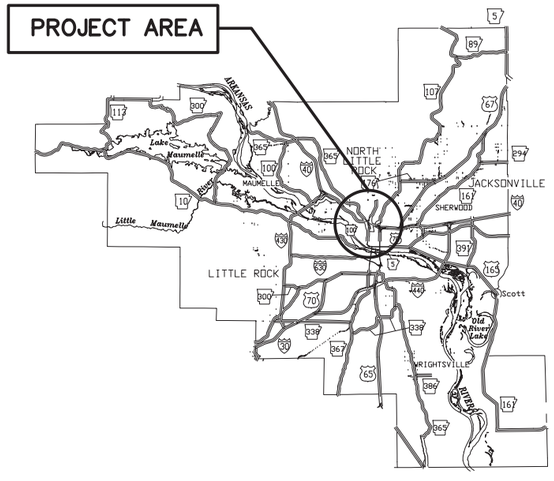
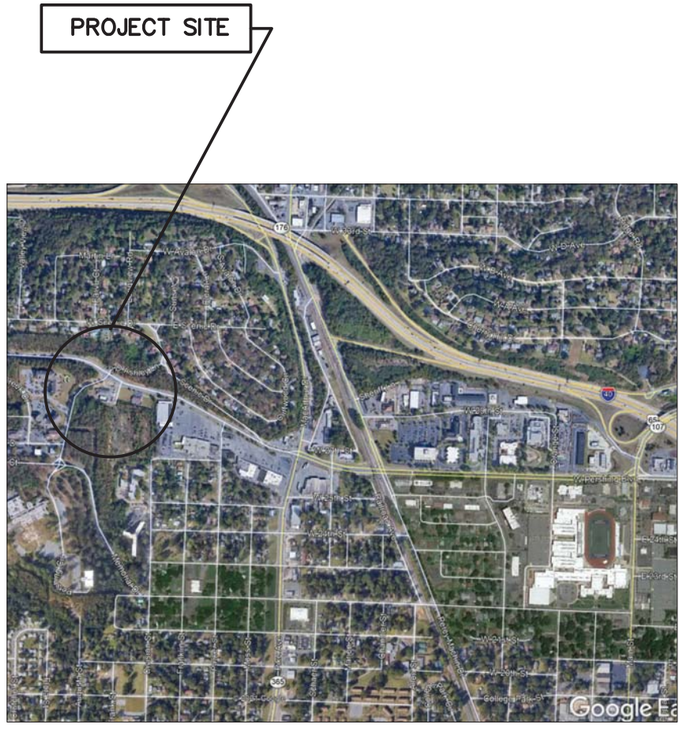
CITY OF NORTH LITTLE ROCK
UA-PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMPROVEMENTS
NORTH LITTLE ROCK, ARKANSAS



ARKANSAS
STATE MAP



PULASKI
COUNTY MAP



LOCATION MAP

INDEX OF SHEETS	
SHEET	TITLE
1	COVER SHEET AND INDEX OF SHEETS
2	SITE PLAN DETAILS
3	CONCRETE ENTRANCE HEADWALL DETAIL 1
4	CONCRETE ENTRANCE HEADWALL DETAIL 2

City of North Little Rock
June 2021

CITY OF NORTH LITTLE ROCK
Parks & Recreation Department
2700 WILLOW STREET NORTH LITTLE ROCK, AR 72114

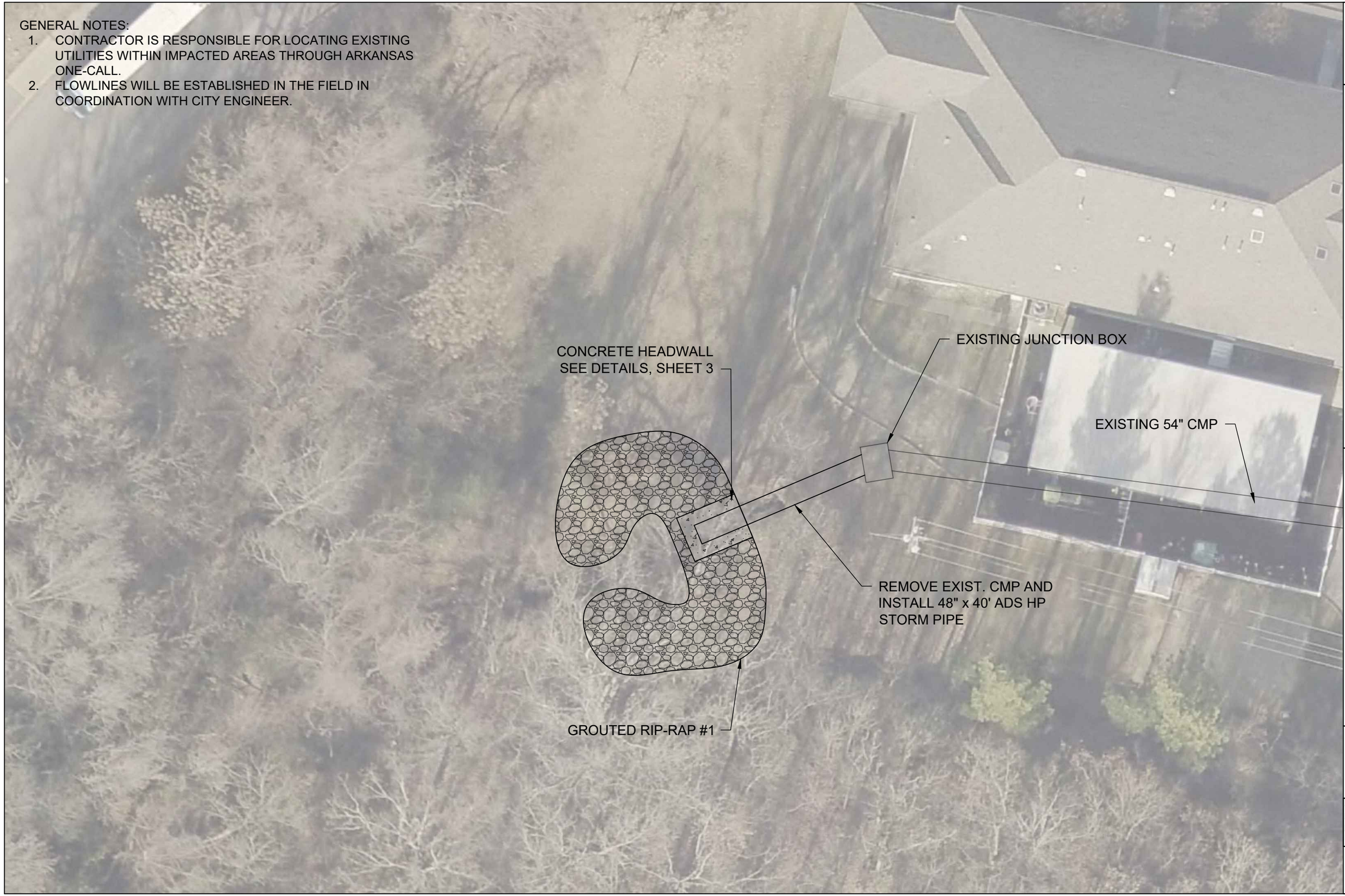
UA-PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMIPROVEMENTS

COVER SHEET
AND
INDEX OF SHEETS

Sheet Number
1

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES WITHIN IMPACTED AREAS THROUGH ARKANSAS ONE-CALL.
2. FLOWLINES WILL BE ESTABLISHED IN THE FIELD IN COORDINATION WITH CITY ENGINEER.



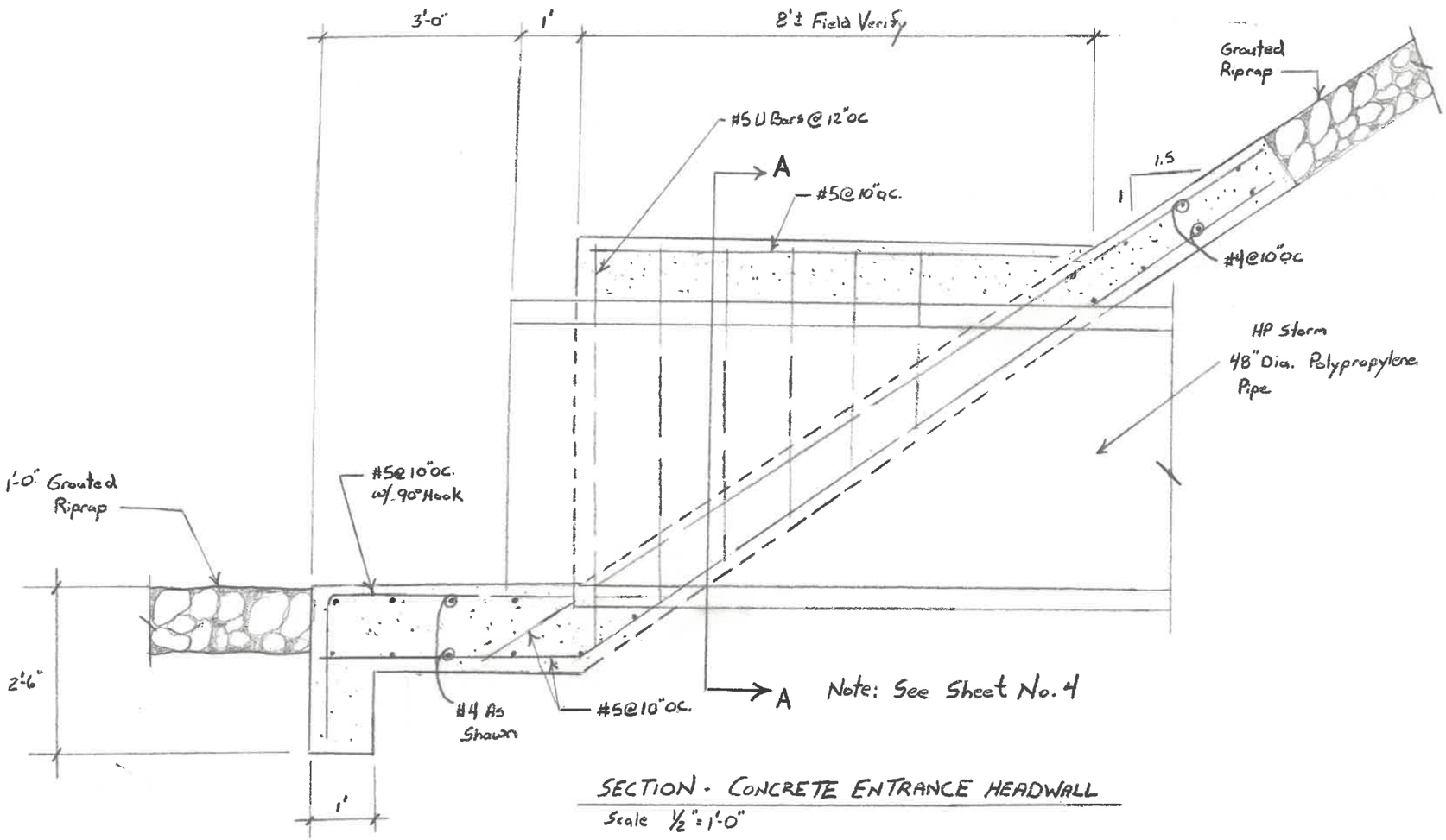
CITY OF NORTH LITTLE ROCK
Engineering Department
500 WEST 13TH STREET
NORTH LITTLE ROCK, AR
72114

UA–PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMPROVEMENTS

SITE
PLAN
DETAILS

DATE:	6/2021
DESIGNED BY:	DMC
DRAWN BY:	DMC
SCALE:	1" = 20'

SHEET NUMBER
2



SECTION - CONCRETE ENTRANCE HEADWALL

Scale ½" = 1'-0"

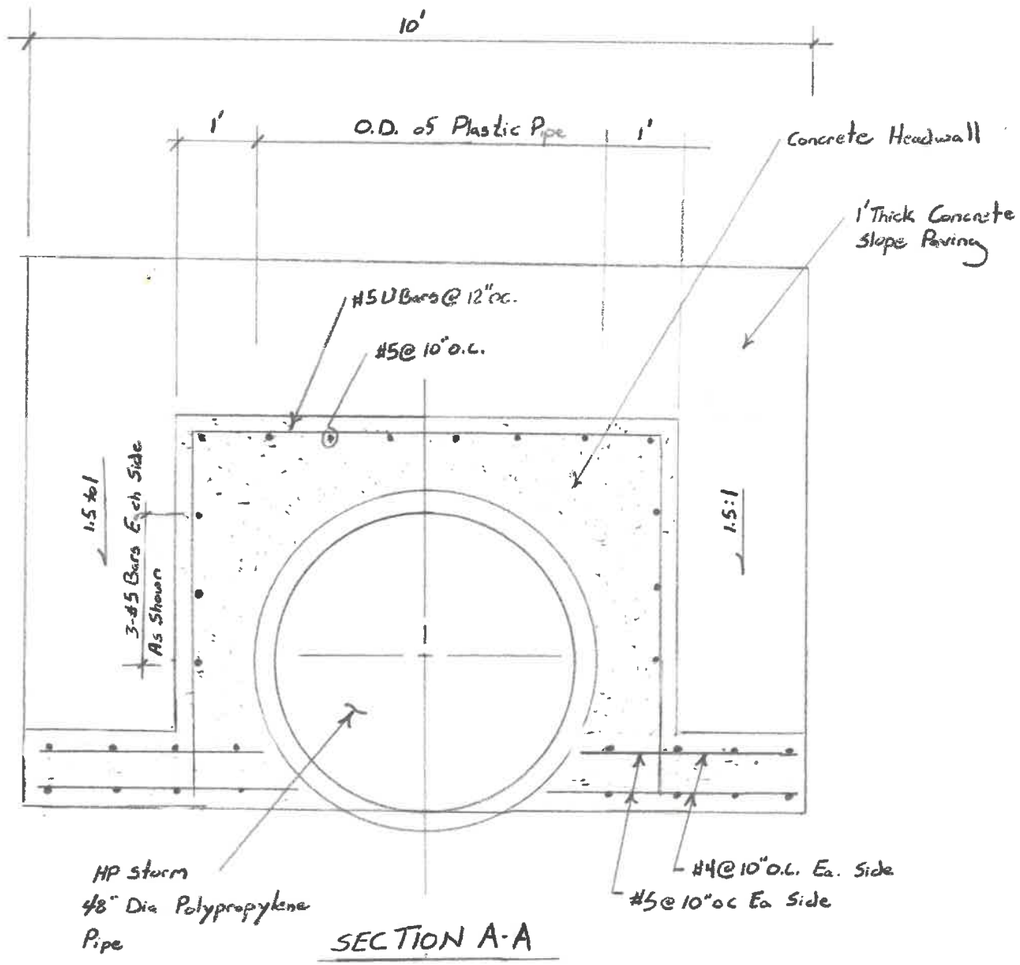
CITY OF NORTH LITTLE ROCK
Engineering Department
500 WEST 13TH STREET
NORTH LITTLE ROCK, AR
72114

UA–PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMPROVEMENTS

CONCRETE ENTRANCE HEADWALL DETAIL 1

DATE: 6/2021
DESIGNED BY: DCW
DRAWN BY: DCW
SCALE: AS SHOWN

SHEET NUMBER
3



SECTION A-A

CITY OF NORTH LITTLE ROCK
Engineering Department
500 WEST 13TH STREET NORTH LITTLE ROCK, AR 72114

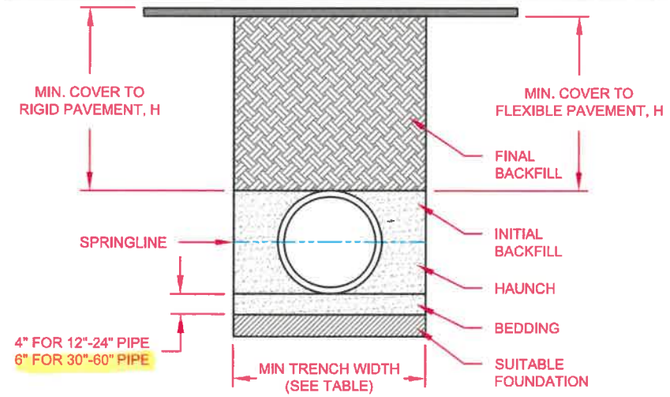
UA–PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMPROVEMENTS

CONCRETE ENTRANCE HEADWALL DETAIL 2

DATE: 6/2021
DESIGNED BY: DCW
DRAWN BY: DCW
SCALE: AS SHOWN

SHEET NUMBER
4

HP STORM TRENCH INSTALLATION DETAIL



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.

No. 57 STONE OR APPROVED EQUAL

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48" (300mm - 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, ft

	CLASS I		CLASS II			CLASS III		CLASS IV
PIPE DIA	COMPACTED	DUMPED	95%	90%	85%	95%	90%	95%
12" (300mm)	41 (12.5m)	21 (6.4m)	28 (8.5m)	21 (6.4m)	16 (4.9m)	20 (6.1m)	16 (4.9m)	16 (4.9m)
15" (375mm)	42 (12.8m)	21 (6.4m)	29 (8.8m)	21 (6.4m)	16 (4.9m)	21 (6.4m)	16 (4.9m)	16 (4.9m)
18" (450mm)	44 (13.4m)	21 (6.4m)	30 (9.1m)	21 (6.4m)	16 (4.9m)	18 (5.5m)	14 (4.3m)	14 (4.3m)
24" (600mm)	30 (9.1m)	15 (4.6m)	21 (6.4m)	15 (4.6m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)
30" (750mm)	39 (11.9m)	19 (5.8m)	27 (8.2m)	19 (5.8m)	14 (4.3m)	19 (5.8m)	15 (4.6m)	14 (4.3m)
36" (900mm)	28 (8.5m)	28 (8.5m)	20 (6.1m)	14 (4.3m)	10 (3.0m)	14 (4.3m)	11 (3.4m)	10 (3.0m)
42" (1050mm)	30 (9.1m)	14 (4.3m)	21 (6.4m)	14 (4.3m)	10 (3.0m)	15 (4.6m)	11 (3.4m)	10 (3.0m)
48" (1200mm)	29 (8.8m)	14 (4.3m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	10 (3.0m)
60" (1500mm)	29 (8.8m)	14 (4.3m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	9 (2.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γs) = 120 PCF

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
7	REV. MAXIMUM COVER HEIGHTS	RWD	04/01/19	

TRENCH INSTALLATION DETAIL (HP STORM)

DRAWING NUMBER: STD-101D(EP)

ADS ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

DRAWN BY: JAB
DATED: 01/29/09
SCALE: NTS
SHEET: 1 OF 1

NLR NORTH LITTLE ROCK

CITY OF NORTH LITTLE ROCK
Engineering Department
500 WEST 13TH STREET NORTH LITTLE ROCK, AR 72114

UA–PTC LITTLE LEARNERS ACADEMY
DRAINAGE IMPROVEMENTS

ADS TRENCH INSTALLATION DETAIL

DATE: 6/2021
DESIGNED BY: -
DRAWN BY: -
SCALE: AS SHOWN

SHEET NUMBER
5