KIRKLYNN & KENNEWICK BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

CITY OF TAKOMA PARK, MARYLAND

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LEGEND

IMBRICATED RIP RAP	PROPOSED LINE
RIVER JACK ROCK/ RIP RAP	EXISTING LINE
#57 STONE	HIDDEN LINE
BRICK	GAS LINE
CONCRETE	SEWER LINE
EARTH	WATER LINE
MULCH	ELECTRIC LINE
C-33 / SAND	CABLE LINE
BIO PLANTING SOIL	FENCE LINE
	STORM DRAIN PIPE
	DRAINAGE AREA

GENERAL NOTES

STORM DRAIN INSTALLATION

1. A pre-construction conference shall be held prior to the start of construction. The details of construction shall be discussed; and the contractor shall be prepared to furnish the necessary equipment, material, and labor to accomplish the task.
2. Before any construction may occur, the contractor shall have plans which have been signed and approved by the City of Takoma Park Public Works Department, obtained all City, county, state, federal and other required permits, and have posted all required bonds.
3. All storm drainage improvements shall be designed and constructed in accordance with the latest edition of the City of Takoma Park Public Works Pre-Approved Plans and Policies and the Standard Specifications for Road, Bridge and Municipal Construction.
4. Any deviation from the approved plans will require written approval, all changes shall be submitted to the City.
5. A copy of the approved storm water plans must be on the job site whenever construction is in progress.
6. All disturbed areas shall be seeded and mulched or similarly stabilized to the satisfaction of the City of Takoma Park Department of Public Works for the prevention of on-site erosion after the completion of construction.
7. Minimum cover over storm drainage pipes in ROW or vehicular path shall be 18 inches, unless other design is approved.
8. Steel pipe shall have Asphalt Treatment #1 or better inside and outside.
9. All catch basins with a depth of over five feet (5') to the pipe invert shall have a standard ladder installed.
10. All storm drainage main extensions within the public right-of-way or in easements must be staked for line and grade prior to starting construction.
11. Rock for erosion protection of roadway ditches, where required, must be of sound quarry rock, placed to a depth of one foot (1') and must meet the following specifications: 4"-8" rock/40%-70% passing; 2"-4" rock/30%-40% passing; 2"-minus rock/10%-20% passing. Recycled concrete shall not be used for erosion protection, including for construction entrance or temporary stabilization elsewhere on site.
12. All pipe, manholes, catch basins, and appurtenances shall be laid on a properly prepared foundation in accordance with the current Montgomery County and City of Takoma Park Standard specifications for road and bridge construction. This shall include necessary leveling of the trench bottom or the top of the foundation material as well as placement and compaction of required bedding material to uniform grade so that the entire length of the pipe will be supported on a uniformly dense, unyielding base. If the native material in the bottom of the trench meets the requirements for "gravel backfill for pipe bedding," the first lift of pipe bedding may be omitted provided the material in the bottom of the trench is loosened, regraded, and compacted to form a dense unyielding base. All pipe bedding shall be #57 stone, pea gravel or better. Pipe shall not be installed on sod, frozen earth, large boulders, or rock. Pipe bedding for flexible pipes shall be pea gravel or # 57 stone to the spring line of the pipe.
13. Construction of dewatering discharges shall always meet The State of Maryland Surface Water Quality Standard. Temporary discharges to sanitary sewer require prior authorization and permit and notification to the City of Takoma Park Public Works.
14. All trench backfill shall be compacted to 95 percent density in roadways, roadway shoulders, roadway prism and driveways, and 85 percent density in unpaved areas. All pipe zone compaction shall be 95 percent.
15. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, confined space protection, flaggers, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of work covered by the contract. Any work within the traveled right-of-way that may interrupt normal traffic flow shall require a Traffic Control Plan approved by the City of Takoma Park.

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ALI KHALILIAN
No. 18492
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PROFESSIONAL ENGINEER

Ali Khalilian

SHEET No. 1 OF 11

DRAWING NUMBER SW-1A

CITY OF TAKOMA PARK 1890 MARYLAND

DESIGNED BY: A. Khalilian, P.E.
DRAWN BY: Z. Mathewos
APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Sept 18,2017
SCALE: NTS

PORJECT TYPE: BIORETENTION WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE: TITLE AND GENERAL NOTES

PORJECT NAME: KIRKLYNN AND KENEWICK BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM (OPTION-2) CITY OF TAKOMA PARK DEPARTMENT OF PUBLIC WORKS MONTGOMERY COUNTY, MARYLAND

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16. No final cut or fill slope shall exceed slopes of two (2) horizontal to one (1) vertical without stabilization by rockery or by a structural retaining wall.

17. All manhole ladders shall be firmly attached and extend to within 1' of the bottom of the structure.

18. Approximate locations of existing utilities have been obtained from available records and are shown for convenience. The Contractor shall be responsible for verification of existing utility locations whether or not these utilities are shown on the plans. The Contractor shall exercise all care to avoid damage to any utility. If conflicts with existing utilities arise during construction, the contractor shall notify the City Construction Inspector and any changes required shall be approved by the City Engineer prior to commencement of related construction on the project.

19. The underground utility location service shall be contacted for field location of existing utilities prior to any construction. The owner or his representative shall be contacted if a utility conflict exists. The Contractor is responsible to ensure that utility locates are maintained throughout the life of the project.

20. The Contractor shall verify the locations, widths, thicknesses, and elevations of all existing pavements and structures that are to interface with new work. Provide all trimming, cutting, saw cutting, grading, leveling, sloping, coating, and other work, including materials as necessary, to cause the interface with existing works to be proper, acceptable to the Engineer and the City of Takoma Park, complete in place and ready to use.

21. All inlet, manhole, and catch basin frames and grates shall not be adjusted to grade until immediately prior to final paving. All catch basin grates shall be set 0.10' below pavement level.

22. Open cut road crossings for utility trenches on existing traveled roadway shall be backfilled only with 5/8" minus crushed rock and mechanically compacted (unless otherwise approved by the City). Cuts into the existing asphalt shall be neat line cut with saw or jackhammer in a continuous line. A temporary cold mix patch must be placed immediately after backfill and compaction. A permanent hot mix patch shall be placed within 30 days and shall be a minimum of 1" thicker than the original asphalt with a minimum thickness of 2".

23. All damages incurred to public and/or private property by the contractor during the course of construction shall be promptly repaired to the satisfaction of the City Construction Inspector.

24. Grout all seams and openings in all inlets, catch basins, and manholes. Jet set grout is NOT allowed.

25. When widening an existing roadway where an existing Type I catch basin will remain in the travel lane, the existing frame and cover shall be replaced with a round, locking frame and cover.

26. Recycled concrete shall not be used around stormwater facilities.

BIORETENTION AREA SOIL MIXTURE REQUIREMENTS

1. SOIL TEXTURE AND STRUCTRURE:
   Soil mixture for bioretention shall have a sand, sandy loam, loamy sand, or loam texture per USDA texture range. Maximum clay content is 5%; soil mixture shall be 50-60% sand; 20-30% leaf mulch; and 20-30% topsoil. The soil shall be a uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substance shall be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operation. The planting soil shall be free of Bermuda Grass, Quack grass, Johnson Grass, Mugwort, Nutsedge, Poison Ivy, Canadian Thistle, Tearthub, or other noxious weeds.

2. SOIL TESTING
   Planting soil for bioretention area must be tested prior to installation for PH and organic matter. The soil mixture should meet the following criteria (Landscape Contractors Association, 1986)
   PH Range: 5.5-6.5
   Organic Matter: 1.5-3.0%

It is required that a sieve analysis, PH, and organic matter tests be performed per each bioretention area.
This requirement may be waived or substituted by presenting test results by the contractor from the supplier in lieu of performing tests. Any soil placed is subject to approval after placement and must be removed and replaced if it does not meet this requirements.

1. SOIL PLACEMENT:
   Placement of the planting soil in the bioretention area should be in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozen or backhoe. No equipment shall be traveling over the bottom of the bio retention pond at any stage of the construction in order to prevent compaction.

2. MULCH SPECIFICATIONS:
   Individual planting shall be mulched (refer to landscape details, DRWG. C-16). Acceptable mulch shall be shredded hardwood only. Mulch must be well aged, uniform in color, and free of foreign material including plant material. Well-aged mulch is defined as mulch that has stockpiled or stored for at least twelve months.

3. SAND SPECIFICATIONS:
   Provide clean sand, free of deleterious material. Sand shall meet AASHTO M-6 or ASTM C-33 with grain size of 0.02"-0.04".

4. GRAVEL FILTER SPECIFICATIONS:
   Underdrain gravel blanket shall be double washed, #57 stone. ½" to 1" size. Pea Gravel shall be washed, river-run, round diameter, ¼" – ½" in size.

5. CONSTRUCTION REQUIREMENTS:
   - City engineer or qualified representative shall monitor subgrade preparation at the completion of excavation, during underdrain, filter installation and backfill of soil into bioretention areas.
   - Soil certifications for backfill are required to be maintained by contractor.
   - The final topsoil layers should be thoroughly wetted to achieve settlement of the soil/sand backfill mix.
   - Additional soil backfill should be placed as required to achieve the design top surface elevation.
   - The work shall be inspected by the engineer prior to final stabilization and planting.
   - Sediment and erosion control practices may be removed upon approval by the City Engineer.

CONCRETE WORKS

1. MINIMUM SPECIFIED COMPRESSIVE STRENGHT OF CONCRETE:
   For structural walls, foundations, and all other concrete not expose to weather: 3000psi
   For structural walls with lateral soil pressure exposed to weather: 3500 psi
   For beams and above grade slabs exposed to traffic: 4000 psi

2. MINIMUM REQUIREMENT FOR CONCRETE TESTING
   Taking sample for strength tests shall be performed in accordance with ASTM C 172
   Mold and standard curing for strength testing shall be done in accordance with ASTM C 31
   Test cylinders in accordance with ASTM C 39
   As per ACI 318, section 26.12.1.1, strength tests shall be the average of the strength of at least two 6 by 12 inch or three 4 by 8 inch cylinders made from the same sample of concrete tested at 28 days

STRUCTURAL MASONRY

1. Load bearing masonry walls are considered to be structural masonry.
2. REQUIRED COMPRESSIVE STRENGTH OF MASONRY UNITS:
   Solid clay units_____ 6200 psi
   Concrete units _____ 1900 psi
3. Concrete masonry units (CMU) shall be grade N, conforming to ASTM C 90. Refer to architectural drawings and specifications for unit size.
4. Mortar: Type S, ASTM C 270
5. Grout for reinforced masonry: Fine grout, ASTM C 476 with minimum 28 days compressive strength of 2000 psi

SHEET No. 2 OF 11

DRAWING NUMBER SW-1B

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CITY OF TAKOMA PARK 1890 MARYLAND

DESIGNED BY: A. Khalilian, P.E.
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APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Mar. 23.2017
SCALE: NTS

PORJECT TYPE: BIORETENTION WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE: TITLE AND GENERAL NOTES

PORJECT NAME: KIRKLYNN AND KENEWICK BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM (OPTION-2) CITY OF TAKOMA PARK DEPARTMENT OF PUBLIC WORKS MONTGOMERY COUNTY, MARYLAND

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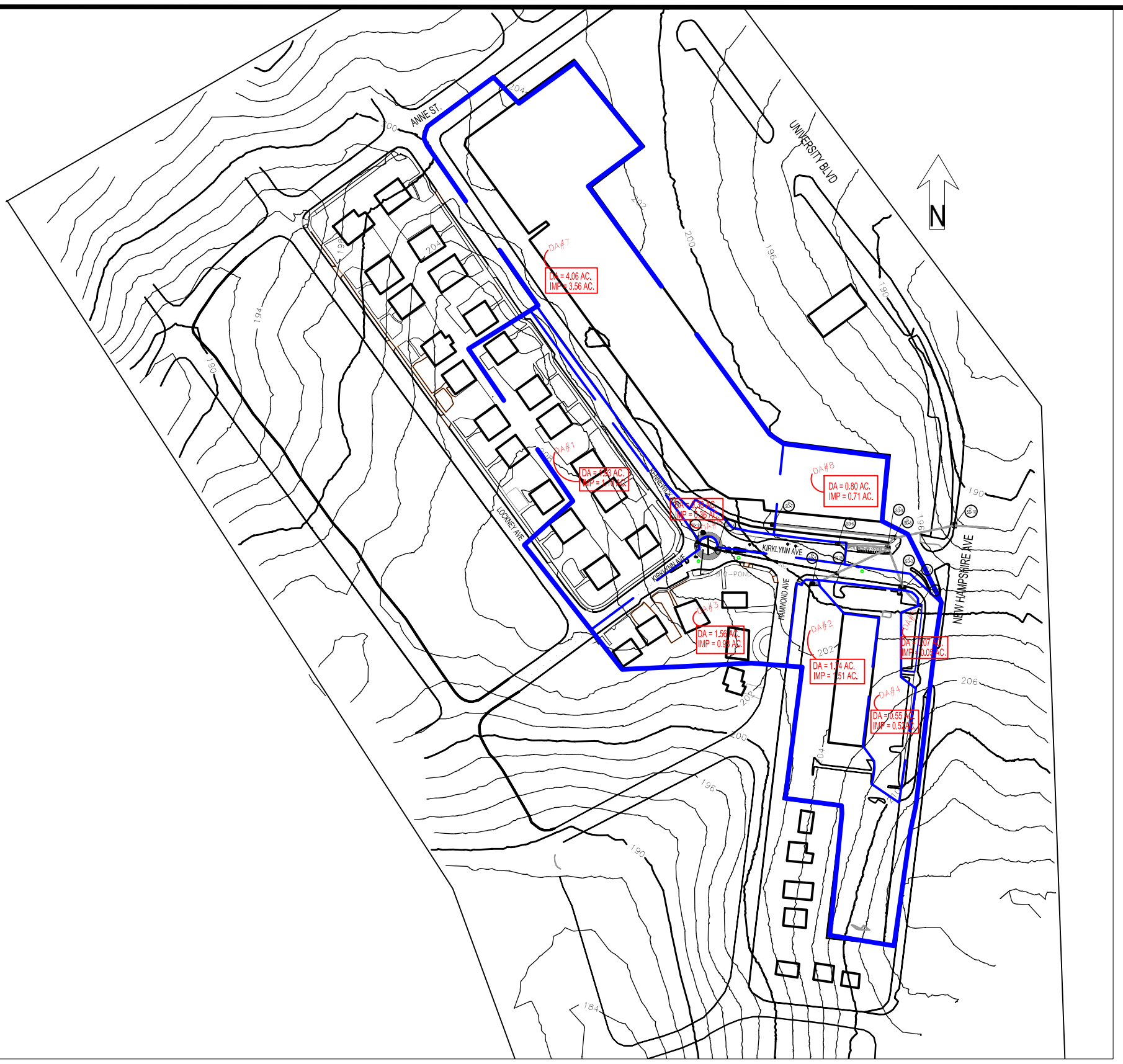

1
SW-2

DRAINAGE AREA PLAN-1

1" = 200'-0"

TABLE-1

SUMMARY OF DRAINAGE AREA PER INDIVIDUAL STURUCTUE/FACILITY

AD #	DRAINAGE AREA (ACRES)			STRUCTURE # / FACILITY	REMARKS
	IMP	PER	DA		
DA#1	1.10	0.83	1.93	BIORETENTION FACILITY	
DA#2	1.51	0.23	1.74	SD-2 / A-5 INLET	
DA#3	0.98	0.52	1.56	SD-3 / A-5 INLET	
DA#4	0.52	0.03	0.55	SD-4 / DROP INLET	
DA#5	0.05	0.02	0.07	SD-5 / A-4 INLET	
DA#6	0.36	0.00	0.36	SD-6 / A-5 INLET	
DA#7	3.56	0.50	4.06	SD-7 / A-5 INLET	
DA#8	0.71	0.09	0.80	SD-8 / A-5 INLET	

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PORJECT NAME:
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BIO RETENTION FACILITY WITH
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(OPTION-2)
CITY OF TAKOMA PARK
DEPARTMENT OF PUBLIC WORKS
MONTGOMERY COUNTY, MARYLAND

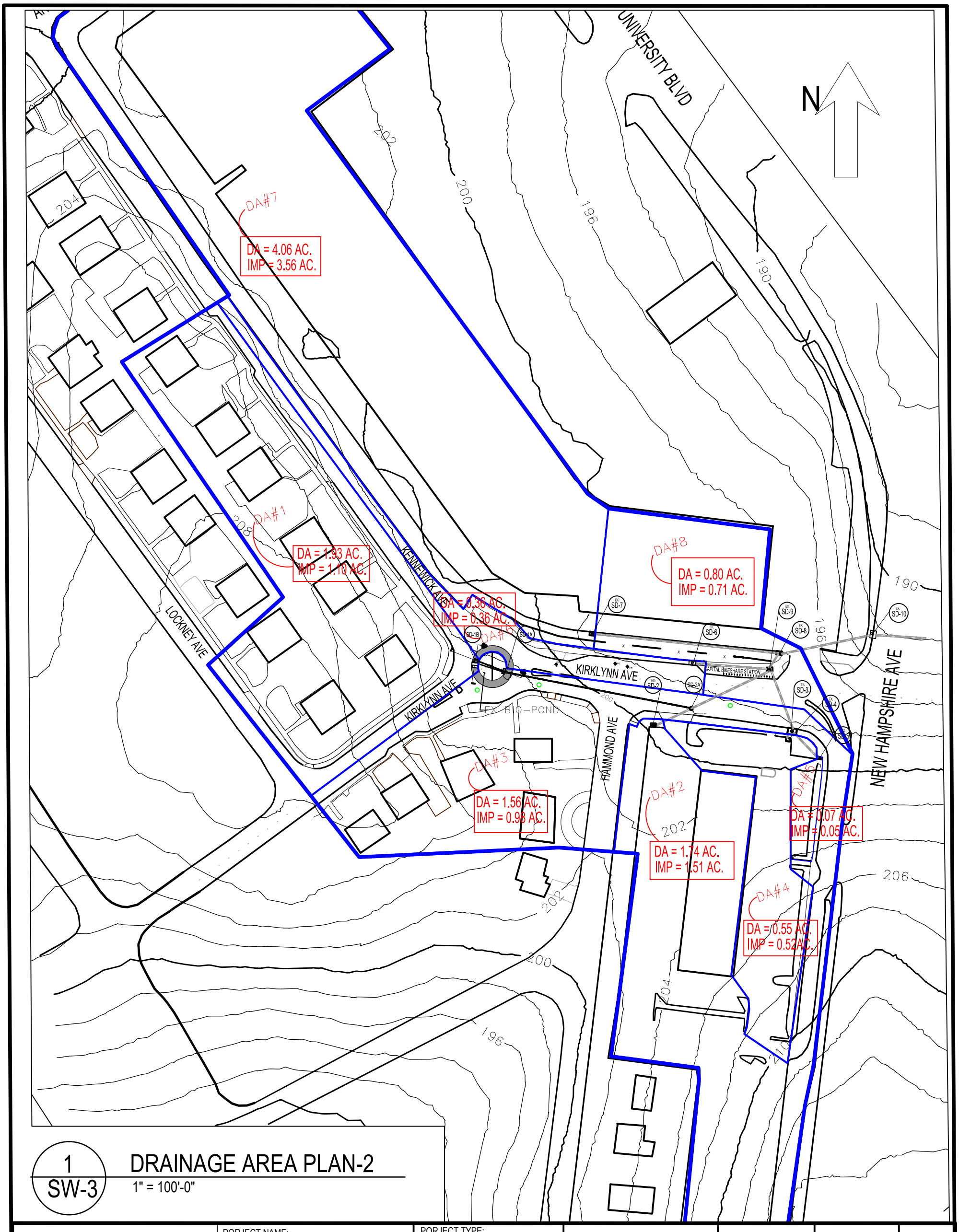
PORJECT TYPE:
BIO RETENTION FACILITY AND
OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE:
DRAINAGE AREA PLAN-1

DESIGNED BY: A. Khalilian, P.E.
DRAWN BY: Z. Mathewos
APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Feb. 27, 2017
SCALE: 1" = 200'-0"

DRAWING NUMBER
SW-2

SHEET
No. 3
OF 11



1 SW-3

DRAINAGE AREA PLAN-2

1" = 100'-0"

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(OPTION-2)
CITY OF TAKOMA PARK
DEPARTMENT OF PUBLIC WORKS
MONTGOMERY COUNTY, MARYLAND

PORJECT TYPE:
BIO RETENTION FACILITY AND
OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE:
DRAINAGE AREA PLAN-1

DESIGNED BY: A. Khalilian, P.E.
DRAWN BY: Z. Mathewos
APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Feb. 27, 2017
SCALE: 1" = 100'-0"

DRAWING NUMBER
SW-3

SHEET
No. 4
OF 11

1 / SW-4 BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM PLAN

1" = 40'-0"

SHEET No. 5 OF 11

DRAWING NUMBER SW-4

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DATE APPROVED: Sept 18, 2017

SCALE: 1" = 40'-0"

PORJECT TYPE: BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE: EXISTING BIO RETENTION FACILITY AND NEW OVERFLOW DRAINAGE SYSTEM PLAN

PORJECT NAME: KIRKLYNN AND KENEWICK BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM (OPTION-2)

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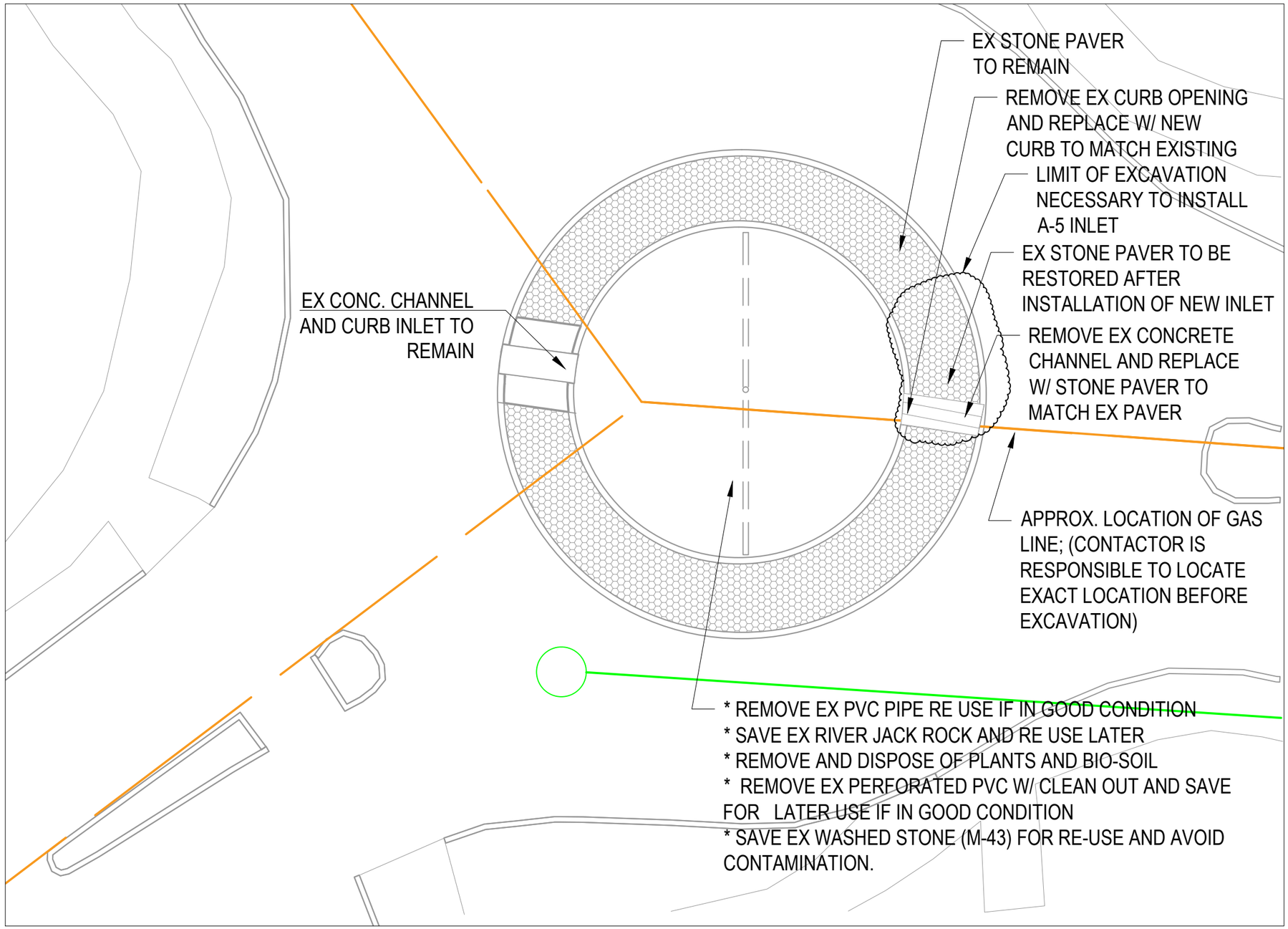

1 / SW-5 BIORETENTION FACILITY EXISTING CONDITIONS AND DEMOLITION PLAN

1" = 10'-0"

SHEET No. 6 OF 11

DRAWING NUMBER SW-5

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CITY OF TAKOMA PARK · MARYLAND · 1890

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APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Feb. 27, 2017

SCALE: 1" = 10'-0"

PORJECT TYPE: BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE: BIO RETENTION FACILITY EXISTING CONDITIONS AND DEMOLITION PLAN

PORJECT NAME: KIRKLYNN AND KENEWICK BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM (OPTION-2)

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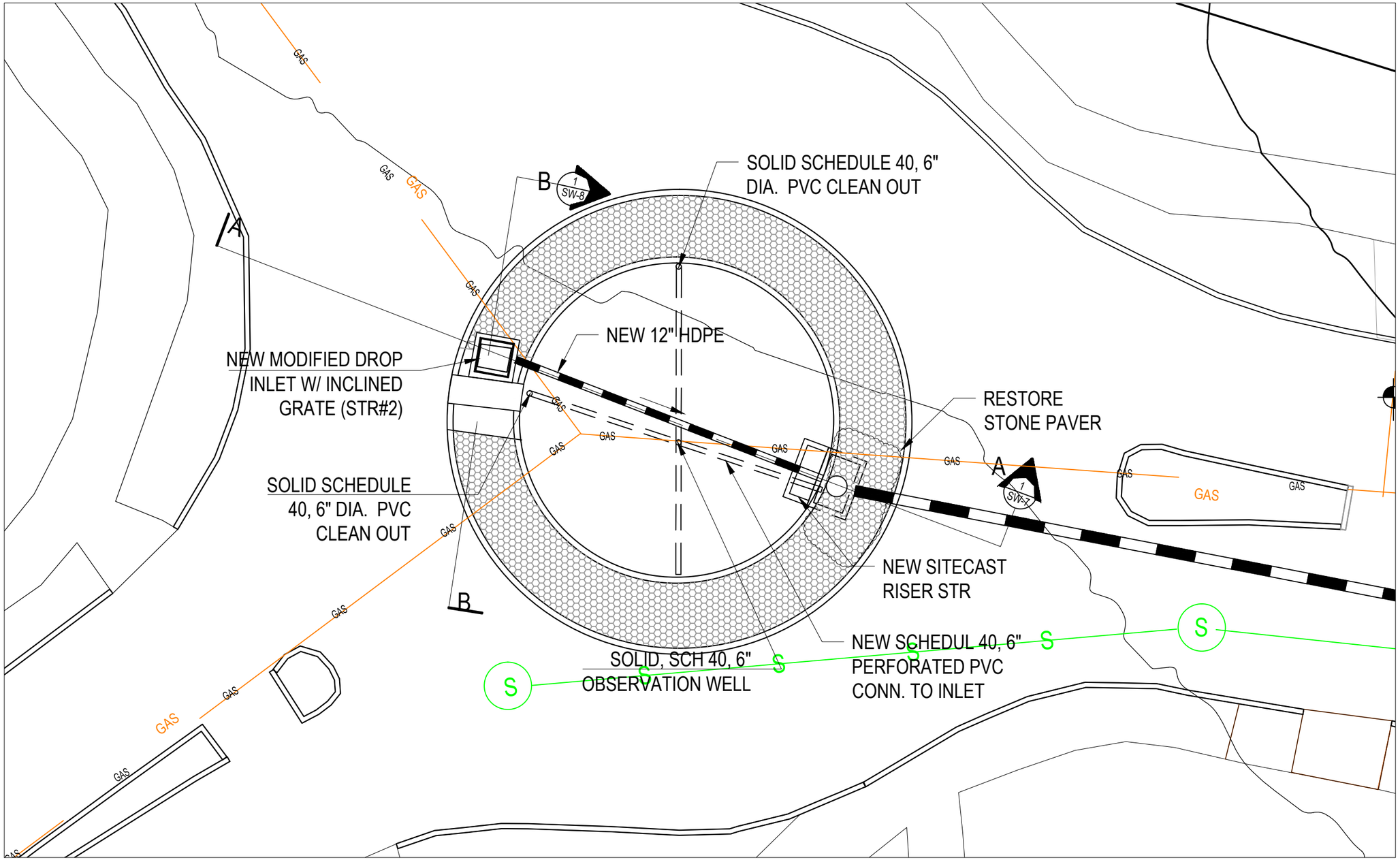

1 / SW-6 BIORETENTION FACILITY WITH INLET STRUCTURE PLAN

1" = 10'-0"

SHEET No. 7 OF 11

DRAWING NUMBER SW-6

STATE OF MARYLAND · ALI KHALILIAN · No. 18482 · REGISTERED PROFESSIONAL ENGINEER

CITY OF TAKOMA PARK · 1890 · MARYLAND

DESIGNED BY: A. Khalilian, P.E.
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APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Feb. 27, 2017

SCALE: 1" = 10'-0"

PORJECT TYPE: BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE: BIO RETENTION FACILITY WITH INLET STRUCTURE PLAN

PORJECT NAME: KIRKLYNN AND KENEWICK BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM (OPTION-2)

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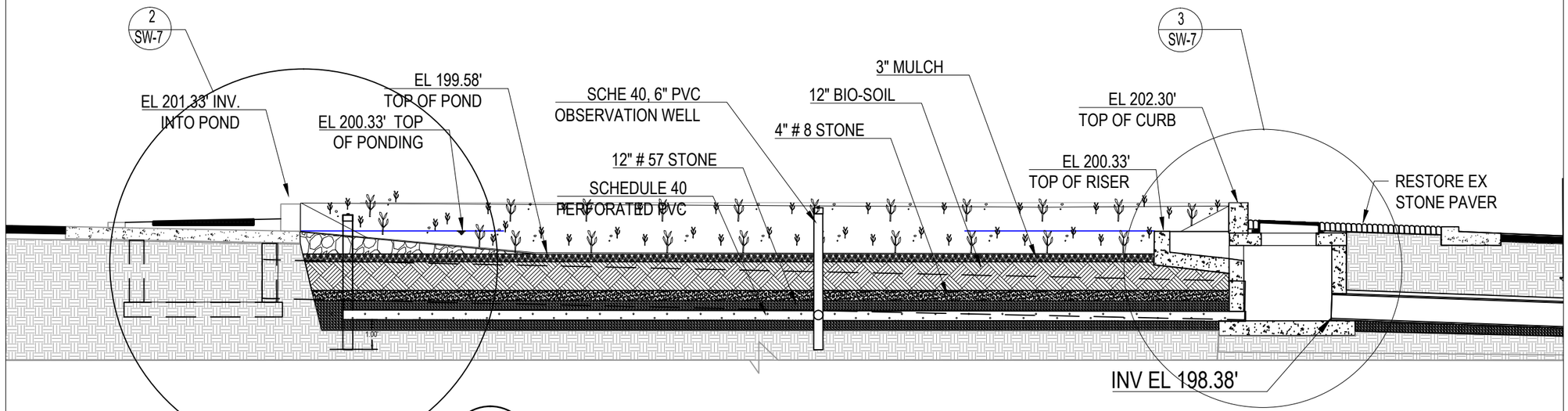
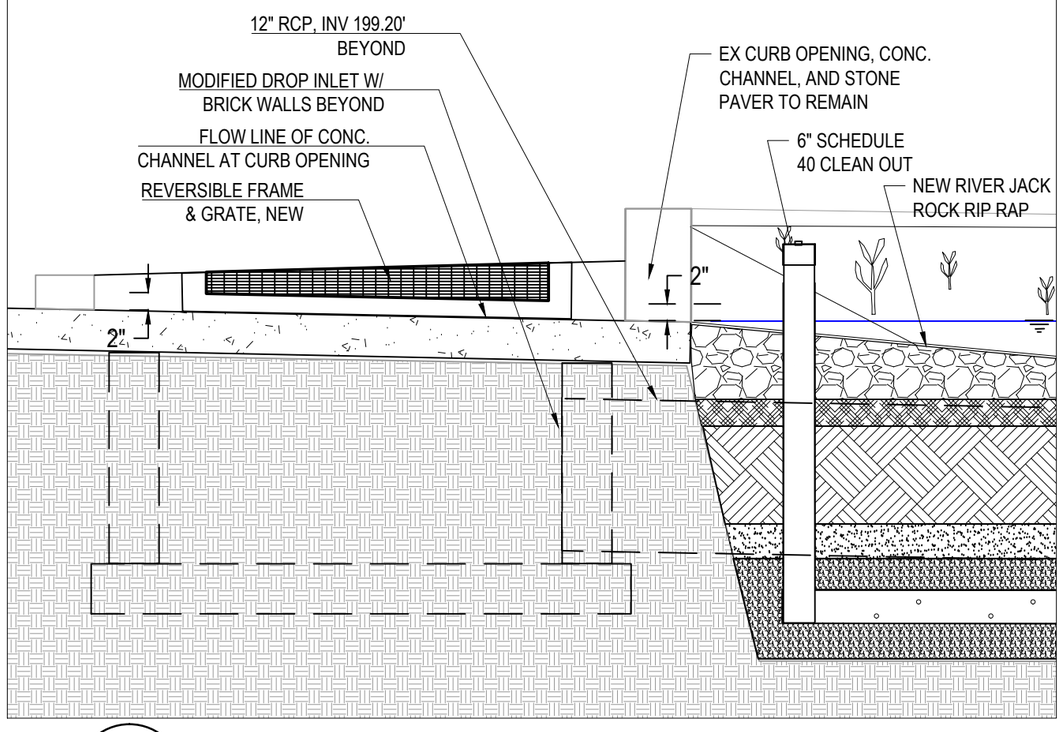
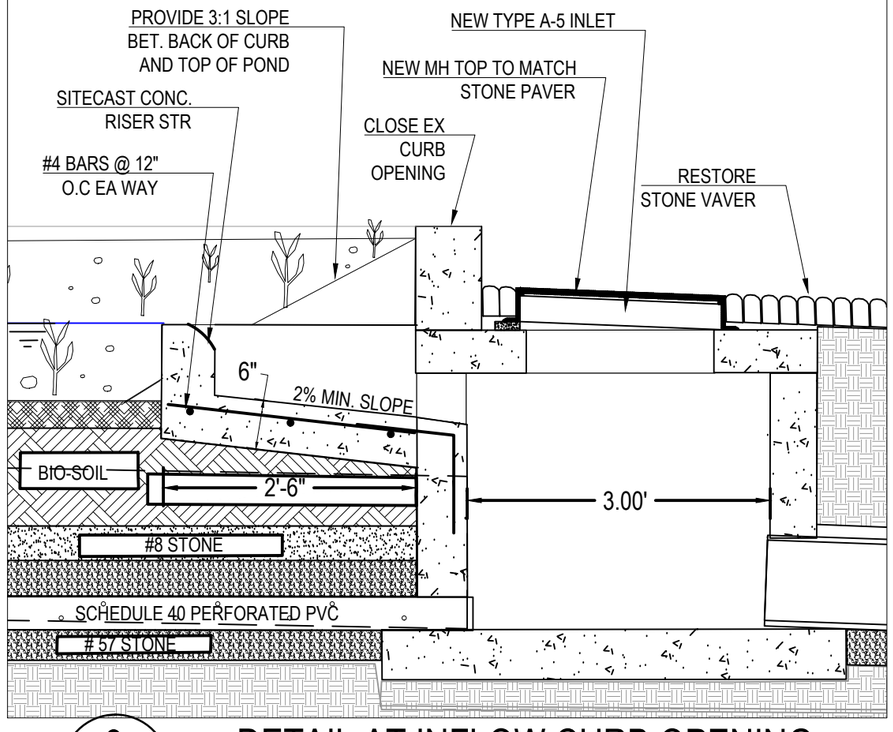


1 SW-7 **SECTION THROUGH BIORETENTION FACILITY (LINE A-A)**
1" = 4'-0"



2 SW-7 **DETAIL AT BIORETENTION OUTFALL**
1" = 1'-6"



3 SW-7 **DETAIL AT INFLOW CURB OPENING**
1" = 1'-6"

SHEET No. 8 OF 11

DRAWING NUMBER SW-7

STATE OF MARYLAND · ALI KHALILIAN · 19482 · REGISTERED PROFESSIONAL ENGINEER

CITY OF TAKOMA PARK · MARYLAND · 1800

DESIGNED BY: A. Khalilian, P.E.
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DATE APPROVED: Mar 3, 2017

SCALE: AS INDICATED

PROJECT TYPE: BIO RETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PROJECT TITLE: CROSS SECTIONS AND DETAILS OF BIORETENTION FACILITY

PROJECT NAME:
KIRKLYNN AND KENEWICK
BIO RETENTION FACILITY WITH
OVERFLOW DRAINAGE SYSTEM
(OPTION-2)
CITY OF TAKOMA PARK
DEPARTMENT OF PUBLIC WORKS
MONTGOMERY COUNTY, MARYLAND

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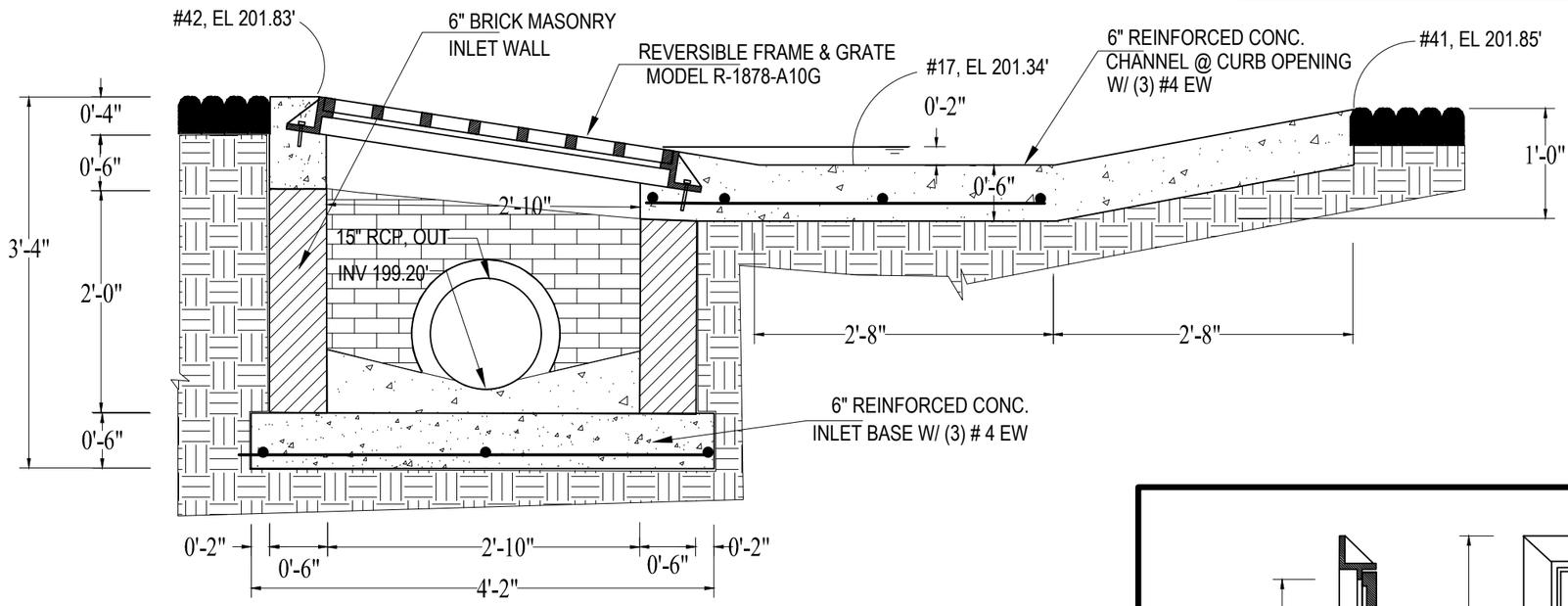
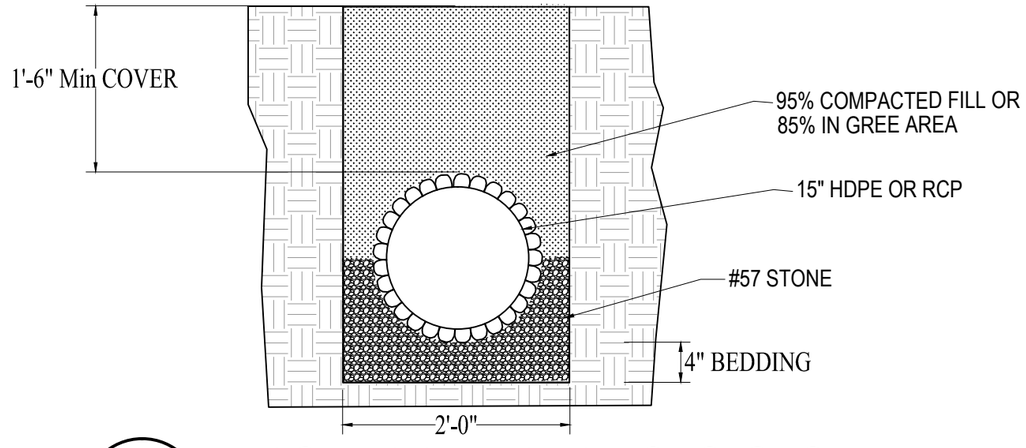


SECTION THRU (B-B) STR#2, OPTION-2

1 / SW-8

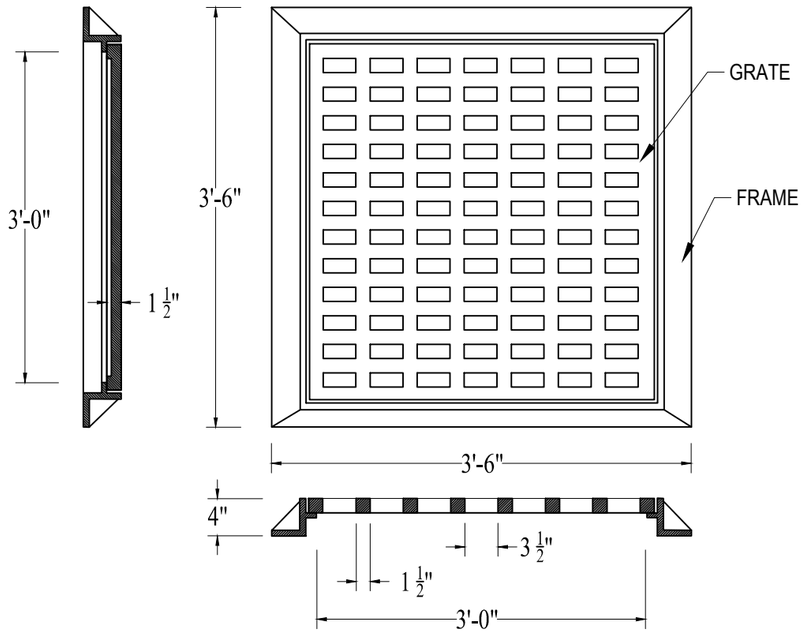
SCALE: 3/4" = 1'-0"



TYPICAL. PIPE AND TRENCH SECTION

2 / SW-8

SCALE: 3/4" = 1'-0"



SECTION THRU REVERSIBLE FRAME & GRATE (R-1878-A10G)

3 / SW-8

SCALE: 3/4" = 1'-0"

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BIORETENTION FACILITY WITH
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CITY OF TAKOMA PARK
DEPARTMENT OF PUBLIC WORKS
MONTGOMERY COUNTY, MARYLAND

PORJECT TYPE:
BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE:
CROSS SECTIONS B-B AND FRAME & GRATE

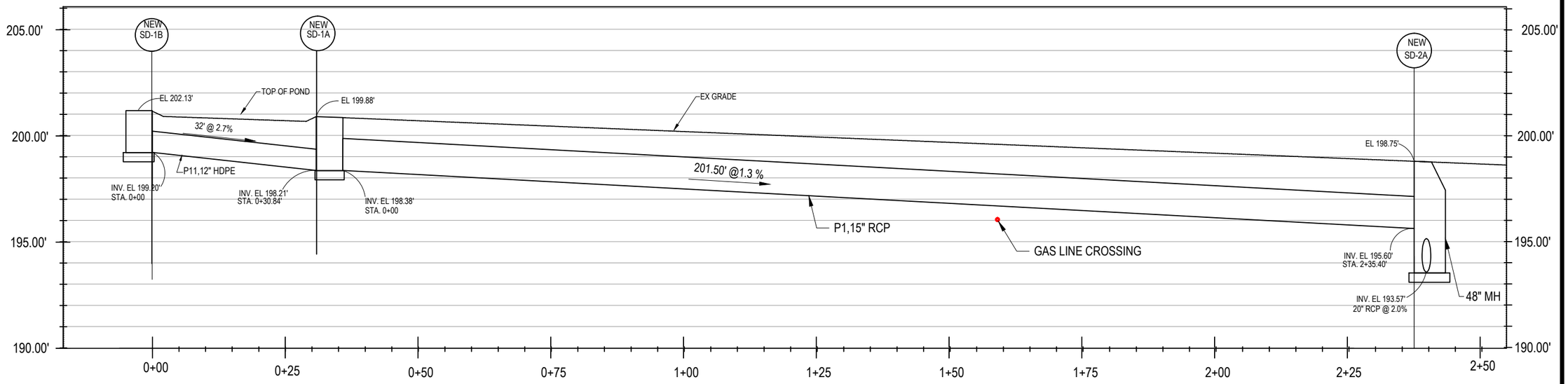
DESIGNED BY: A. Khalilian, P.E.
DRAWN BY: Z. Mathewos
APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Mar 23, 2017
SCALE: 3/4" = 1'-0"

CITY OF TAKOMA PARK MARYLAND 1890

STATE OF MARYLAND ALI KHALILIAN 10488 PROFESSIONAL ENGINEER

Ali Khalilian

SHEET
9 OF 11



SD-1B TO SD-1A, SD-1A TO SD-2A STORM DRAIN PIPE PROFILE

1
SW-9

SCALE: 1" = 20'-0" (H) 1" = 5'-0" (V)

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PORJECT NAME:
KIRKLYNN AND KENNEWICK AVE
BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM
CITY OF TAKOMA PARK
DEPARTMENT OF PUBLIC WORKS
MONTGOMERY COUNTY, MARYLAND

PORJECT TYPE:
BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE:
PROPOSED STORM DRAIN PROFILE

DESIGNED BY: A. Khalilian, P.E.
DRAWN BY: Z. Mathewos
APPROVED BY: A. Khalilian, P.E.
DATE APPROVED: Sept 18, 2017
SCALE: AS INDICATED

STORM DRAIN PROFILE

STATE OF MARYLAND ALI KHALILIAN 16482 PROFESSIONAL ENGINEER

CITY OF TAKOMA PARK MARYLAND 1890

SHEET
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TABLE-2

STORM DRAIN STRUCTURE SCHEDULE

STR #	DESCRIPTION	INTERIOR DIMENSION (FT)	MC DOT STR #	TOP/RIM ELEV. (ft)	INVERTS		ADDITIONAL NOTES	LOCATION
					PIPE #, IN/OUT	ELEVATION (ft)		
SD-1		5.00' x 3.00'		202.13	Out/ (P1)15" RCP	198.38	A-5 Inlet to be installed near gas line. Contractor shall locate gas line before excavation	N: 1075139.65' E: 14164491.75'
Ex. SD-2	Ex. "A-5" CMU Inlet	5.00' x 3.00'		199.88	In/ (P1)15" RCP In/ 8" Cast Iron R.D Out/ (P2) 20" RCP	194.38 196.53 194.36	RCP #1 to be connected to ex inlet STR EX SD-2. Contractor shall verify invert elevation and make adjustments if necessary.	N: 1075139.65' E: 14164491.75'
Ex.SD-3	Ex. "A-5" brick Inlet	5.00' x 3.00'		198.20	In/(P3) 6" PVC In/ (P4) 15" RCP Out/ (P5) 15" RCP	196.12 194.03 194.03	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075451.33' E: 14164429.52'
Ex.SD-4	Ex. Drop Inlet	4.00' x 3.00'		198.20	Out/ (P3) 6" PVC	196.35	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075445.63' E: 14164418.48'
Ex.SD-5	Ex. Conc. Inlet	4.00' x 3.00'		199.11	Out/ (P4) 15" RCP	194.94	All pipes and STR are existing. No improvement needed. This information is for design purpose only. But Inlet was clogged with sediment. It needs cleaning.	N: 1075480.60' E: 14164399.93'
Ex.SD-6	Precast conc. type "A-5"	5.00' x 3.00'		199.10	Out/ (P6) 15" HDPE	197.00	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075251.35' E: 14164510.86'
Ex.SD-7	Brick type "A-5"	5.00' x 3.00'		197.20	Out/ (P8) 15" RCP	192.03	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075231.60' E: 14164536.40'
Ex.SD-8	Brick type "A-5"	5.00' x 3.00'		196.91	In/ (P8) 18" RCP In/ (P7) 20" RCP Out/ (P9) 24" RCP	189.91 191.17 189.41	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075430.79' E: 14164511.77'
Ex.SD-9	Brick, Box Manhole	10.00' x 4.30'		197.20	In/ (P2) 20" RCP In/ (P6) 15" HDPE In/ (P5) 15" RCP Out/ (P7) 22" RCP	191.72 192.81 192.93 191.67	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075424.99' E: 14164495.45'
Ex.SD-10	SHA, Drop Inlet	5.50' x 5.00'		192.32	In/ (P9) 22" RCP Out / (P10) 60" RCP	186.57 186.24	All pipes and STR are existing. No improvement needed. This information is for design purpose only.	N: 1075424.67' E: 14164594.44'

TABLE-3

STORM DRAIN PIPE SCHEDULE

SD PIPE No.	INV. EL @ STR #		PIPE INFORMATION			REMARKS
	AT PIPE OUT	AT PIPE IN	LENGTH (ft)	SLPOE (%)	SIZE/TYPE	
P-11	SD-1B @ 199.20	SD-1A @ 198.38	32.00'	2.7	12" HDPE	NEW PIPE TO BE INSTALLED
P-1	SD-1A @ 198.38	SD-2A@ 195.60	201.50'	1.3	15" RCP	PIPE IS CONNECTED TO NEW DROP INLET ADJACENT TO SD-6 INLET
P-2A	SD-2 @ 194.36	SD-2A @ 193.57	40.60'	2.0	20" RCP	EX. RCP TO BE CONNECTED TO A NEW 48" CONC. MH
P-2B	SD-2A @ 193.41	SD-9 @ 191.72	91.60	2.0	20" RCP	EX. RCP TO BE CONNECTED TO A NEW 48" CONC. MH
P-6	SD-6 @ 197.00	SD-9 @ 192.81	78.01	5.4	15" HDPE	EXISTING PIPE TO REMAIN
P-3	SD-4 @ 196.35	SD-3 @ 196.12	4.50	5.1	6" PVC	EXISTING PIPE TO REMAIN
P-4	SD-5 @ 194.94	SD-3 @ 194.03	35.00	2.6	15" RCP	EXISTING PIPE TO REMAIN
P-5	SD-3 @ 194.03	SD-9 @ 192.93	68.20	1.6	15" RCP	EXISTING PIPE TO REMAIN
P-7	SD-9 @ 191.67	SD-8 @ 191.17	17.35	2.9	20" RCP	EXISTING PIPE TO REMAIN
P-8	SD-7 @ 192.03	SD-8 @ 189.91	197.94	1.1	18" RCP	EXISTING PIPE TO REMAIN
P-9	SD-8 @ 189.41	SD-10 @ 186.07	98.54	3.4	22" RCP	EXISTING PIPE TO REMAIN
P-10	SD-1 @ 186.24	N/A	N/A	2.0	60" RCP	EXISTING PIPE TO REMAIN

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BIORETENTION FACILITY WITH OVERFLOW DRAINAGE SYSTEM

PORJECT TITLE:
PROPOSED AND EXISTING STRUCTURE AND PIPE SCHEDULES

DESIGNED BY: A. Khalilian, P.E.
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