

5.17 Study Area 17 – Downtown Mon

These findings apply to ALCOSAN Points of Connection M-01 through M-04, which include combined sewer systems in the City of Pittsburgh.

Downtown Mon - BMP GIS Features

The SUSTAIN BMP siting tool analysis resulted in identification of a total of 627 BMP GIS Features covering 74 acres, which consisted of the following:

Table 5.17-1 - TOTAL SUSTAIN BMP Features Output

SUSTAIN BMP Feature Type	Number of Features	Area of BMP Features (Acres)
Permeable Pavement	242	46
Bioretention	168	12
Infiltration Basin/Trenches	0	0
Vegetated Filter Strips	35	6
Grass Swales	182	11
Constructed Wetlands	0	0

Locations of all identified BMP GIS features are presented on the SUSTAIN BMP Features Figure.

Downtown Mon - Concept Municipal GSI Projects

Based on the BMP features, 22 concept Municipal GSI Projects were identified covering 2 total acres with a corresponding drainage area delineation of 11 total acres and consisted of the following:

Table 5.17-2 - Summary of Identified Concept Municipal GSI Projects

Concept GSI Technology	Number of Projects	GSI Project Area (Acres)	Project Drainage Area (Acres)
Permeable Pavement	8	1	8
Bioretention	14	1	3
Infiltration Basin/Trenches	0	0	0
Vegetated Filter Strips	0	0	0
Grass Swales	0	0	0
Constructed Wetlands	0	0	0

Project statistics including ALCOSAN POC, model subcatchment, BMP type, project area, area of project inside and outside of the public right-of-way, tributary drainage area, and tributary impervious drainage area are provided in the Concept Municipal Projects Table. Locations of all identified Concept Municipal GSI projects are presented in the Concept Municipal GSI Projects Figure (1) and the corresponding delineated tributary drainage areas are presented by BMP in the Individual Project Drainage Area Figures (2).

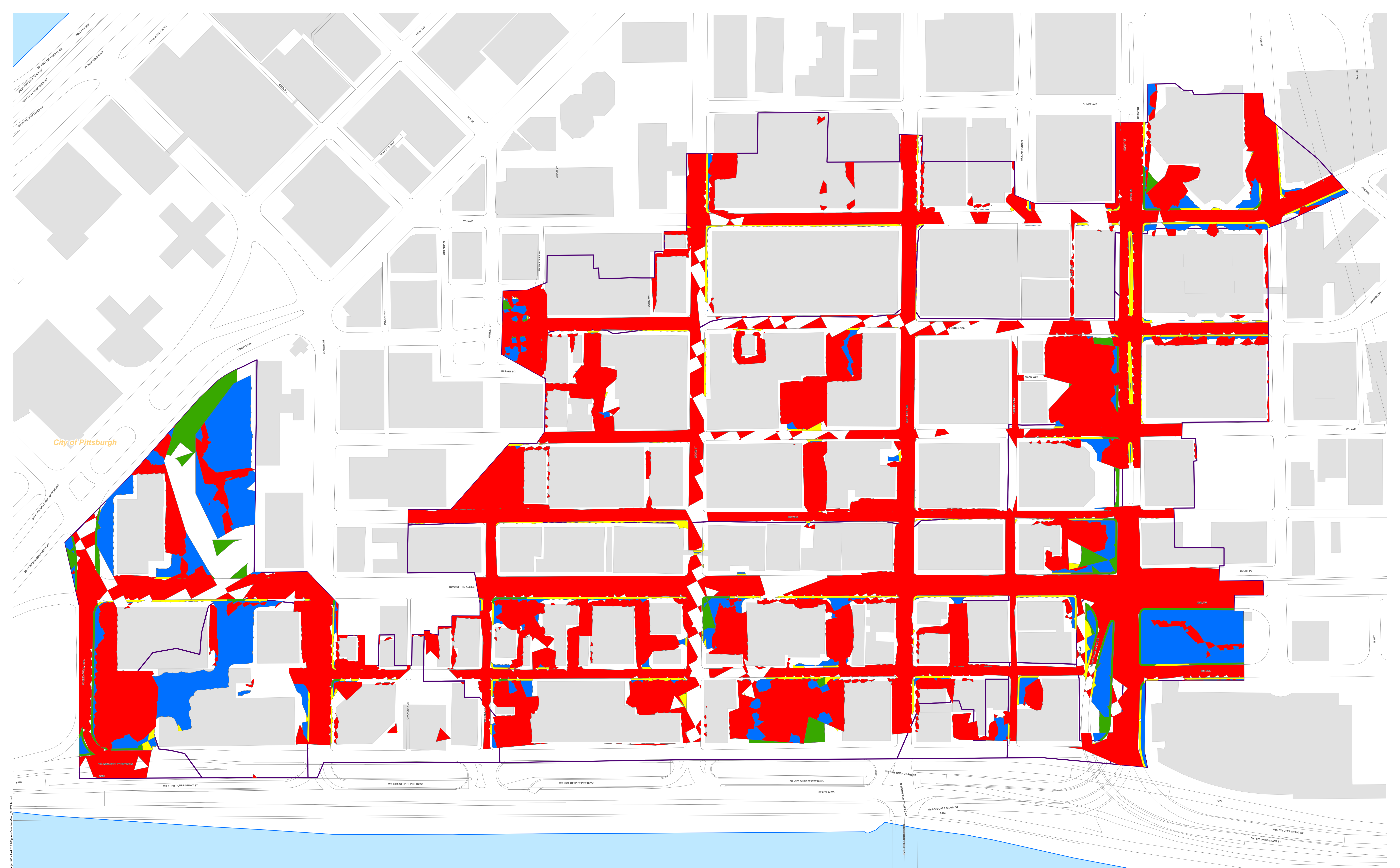
Downtown Mon - Concept Commercial/Institutional and Special Case GSI Projects

Based on the BMP features, 88 concept Commercial/Institutional and Special Case GSI Projects were identified covering 35 total acres and consisted of the following:

Table 5.17-3 - Summary of Identified Concept Commercial/Institutional and Special Case GSI Projects

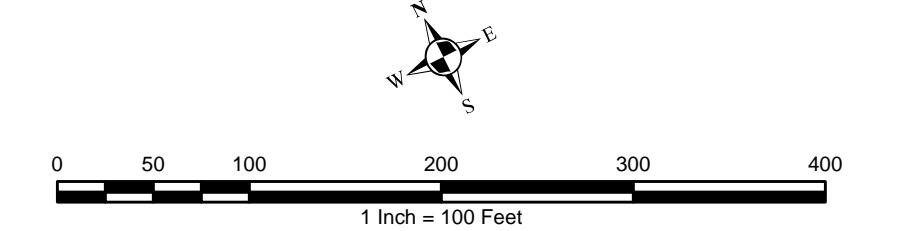
Concept GSI Technology or Special Case Project Category	Number of Projects	GSI Project Area (Acres)
Commercial/Institutional Permeable Pavement	22	5
Commercial/Institutional Green Roofs	36	12
State Route Permeable Pavement	30	17
Busway Permeable Pavement	0	0
Busway Bioretention	0	0

Project statistics including ALCOSAN POC, model subcatchment, BMP type, project area, area of project taxable, exempt, provisionally exempt and in the public right-of-way are provided in Concept Commercial / Institutional GSI Projects Table. Locations of all identified Concept Commercial / Institutional GSI projects are presented in the Concept Commercial / Institutional GSI Projects Figure (1).



City of Pittsburgh

- Permeable Pavement
- Bioretention Basin
- Infiltration Basin / Trench
- Vegetated Filter Strips
- Grass Swales
- Constructed Wetlands
- Combined Sewer Subcatchment
- Municipal Boundaries



ALCOSAN GSI Project
M-01 through M-04
SUSTAIN BMP Features

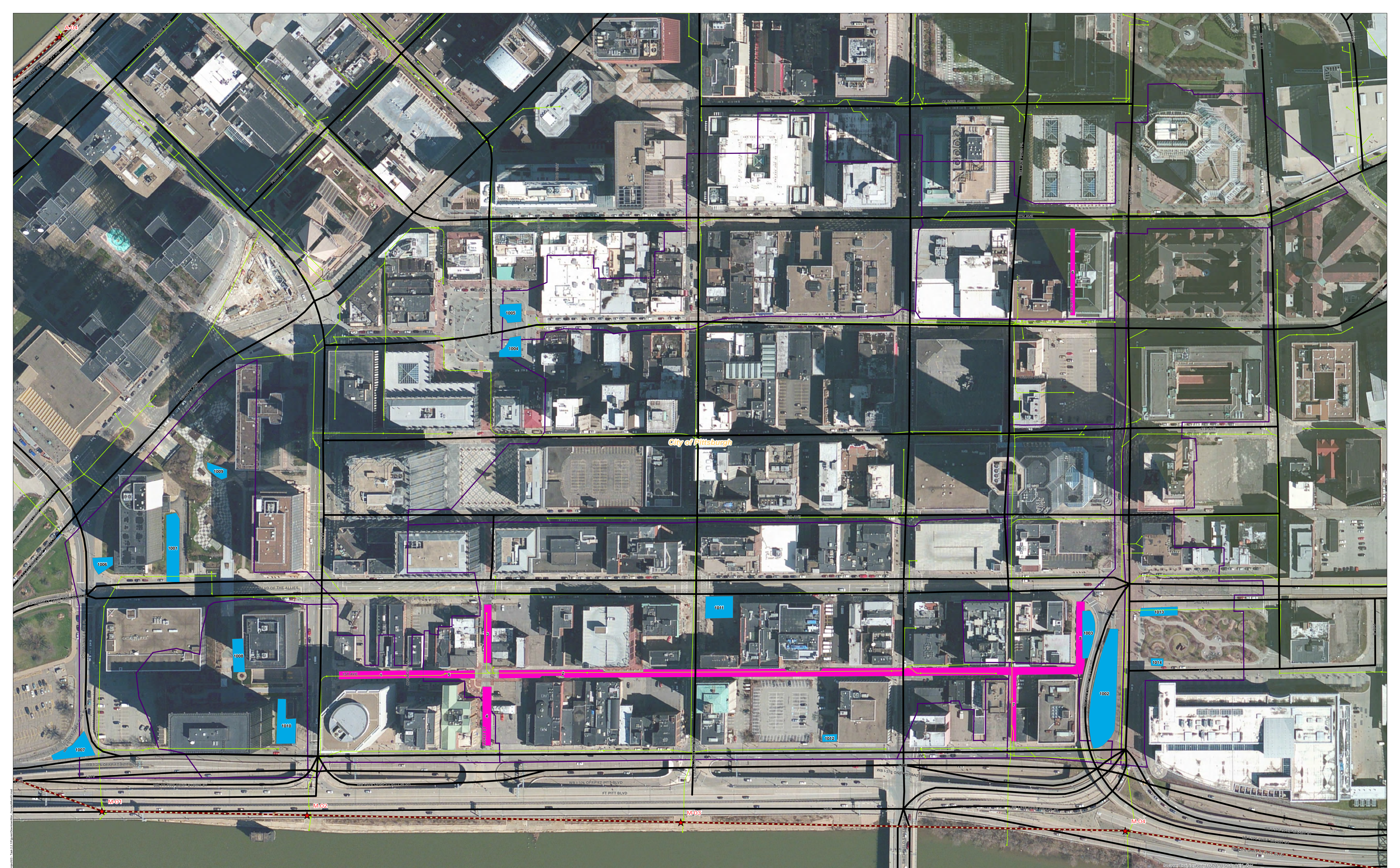
Downtown Mon Concept Municipal Projects

June 4, 2014

Revised October 7, 2014

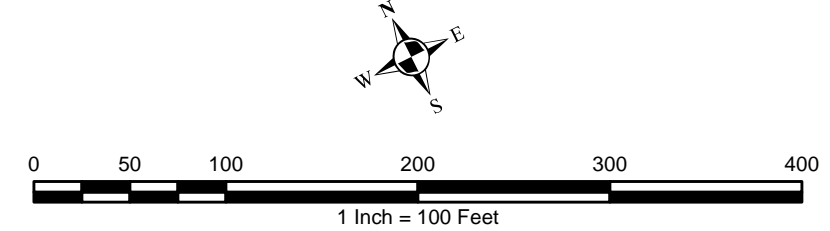
*Note: The drainage area presented in this table is representative of the individual drainage area tributary to each concept municipal project without any revisions to account for overlap, without engineering judgment revisions applied, and without the drainage areas being clipped to their corresponding model subcatchments.

ALCOSAN POC	Model Subcatchment	Concept Municipal Project UID	BMP Type	Concept Municipal Project Area (acres)	Public ROW or Parcel		Concept Municipal Project Individual Drainage Area (acres)*	Concept Municipal Project Individual Project Impervious Drainage Area (acres)*
					Area of Municipal Project in Public ROW (acres)	Area of Municipal Project outside of Public ROW (acres)		
M-02-00	M-02-C-1	DMON_1	PP	0.100	0.100	0.000	0.470	0.362
M-03-00	M-03-C-1	DMON_2	PP	0.586	0.586	0.000	5.081	3.964
M-03-00	M-03-C-1	DMON_3	PP	0.066	0.066	0.000	0.303	0.194
M-02-00	M-02-C-1	DMON_4	PP	0.078	0.078	0.000	0.144	0.139
M-03-00	M-03-C-1	DMON_5	PP	0.062	0.062	0.000	0.189	0.144
M-03-00	M-03-C-4	DMON_6	PP	0.062	0.062	0.000	1.163	0.867
M-04D-00	M-04A-C-2	DMON_7	PP	0.135	0.135	0.000	0.378	0.347
M-04-00	M-04-S-2	DMON_8	PP	0.091	0.091	0.000	0.392	0.209
M-01-00	M-01-C-1-A	DMON_1001	BR	0.134	0.018	0.116	0.139	0.007
M-04-00	M-04-S-2	DMON_1002	BR	0.362	0.362	0.000	1.304	0.872
M-04-00	M-04-S-2	DMON_1003	BR	0.076	0.076	0.000	0.246	0.106
M-03-00	M-03-C-2	DMON_1004	BR	0.052	0.006	0.046	0.057	0.000
M-03-00	M-03-C-3	DMON_1005	BR	0.056	0.010	0.046	0.059	0.000
M-01-00	M-01-C-1-A	DMON_1006	BR	0.038	0.025	0.013	0.044	0.005
M-01-00	M-01-C-1-A	DMON_1007	BR	0.084	0.084	0.000	0.441	0.362
M-01-00	M-01-C-1-B	DMON_1008	BR	0.058	0.000	0.058	0.171	0.007
M-01-00	M-01-C-1-A	DMON_1009	BR	0.030	0.000	0.030	0.042	0.000
M-01-00	M-01-C-1-B	DMON_1010	BR	0.097	0.000	0.097	0.340	0.213
M-03-00	M-03-C-1	DMON_1011	BR	0.092	0.027	0.065	0.288	0.121
M-03-00	M-03-C-1	DMON_1012	BR	0.017	0.001	0.016	0.019	0.000
M-04-00	M-04-S-1	DMON_1013	BR	0.049	0.029	0.020	0.057	0.027
M-04-00	M-04-S-1	DMON_1014	BR	0.015	0.002	0.013	0.020	0.012

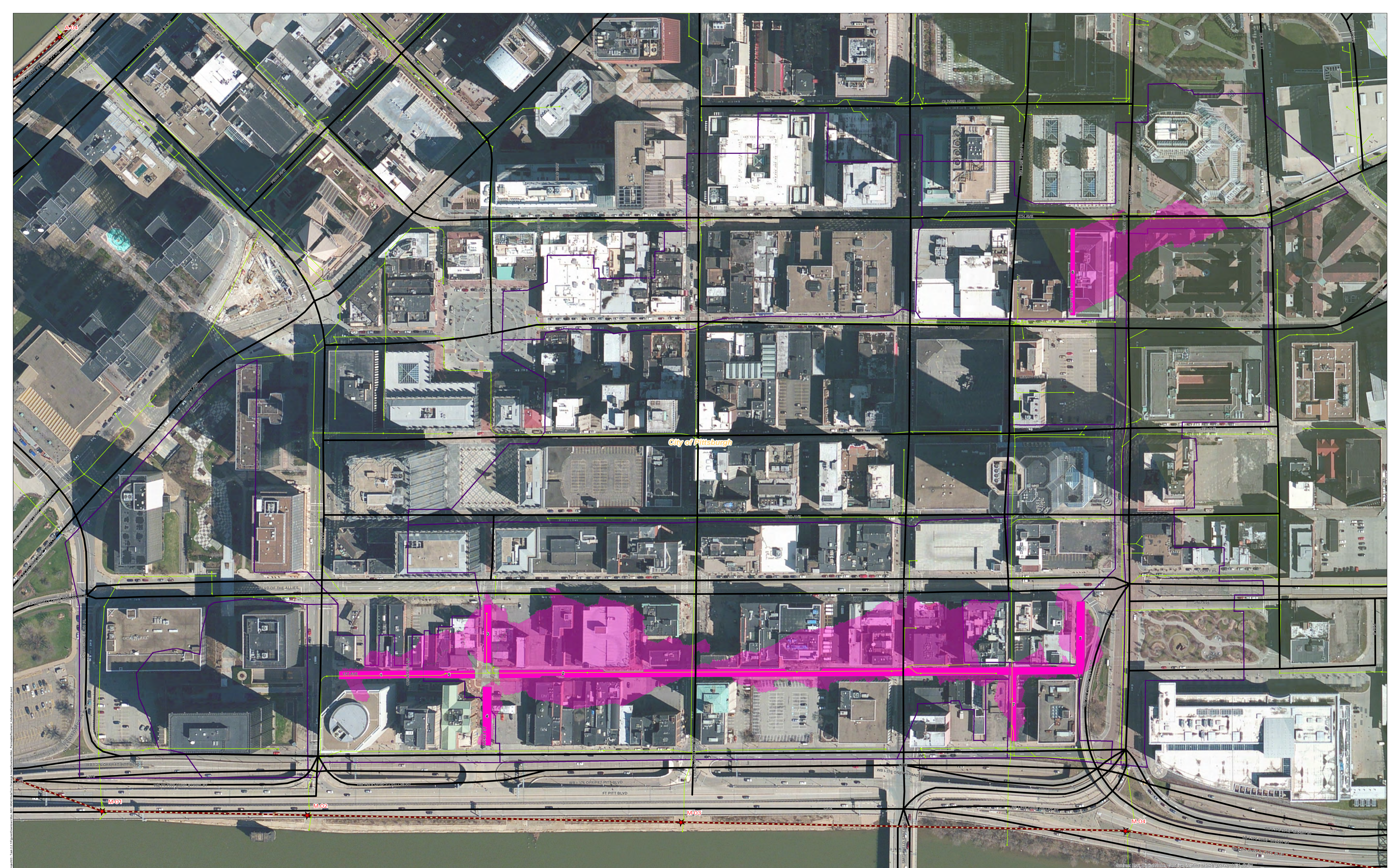


City of Pittsburgh

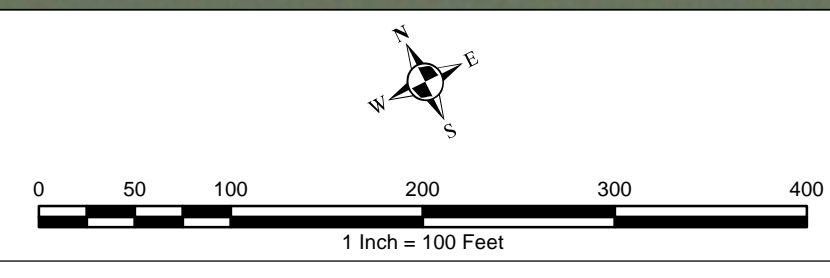
- ★ ALCOSAN Structures
- ALCOSAN Shallow-Cut Interceptor
- ALCOSAN Deep Tunnel Interceptor
- One Overall Manholes
- One Overall Sewerlines
- Municipal Projects**
- Bioretention
- Permeable Pavement
- State Roads
- Combined Sewer Subcatchment
- Municipal Boundaries



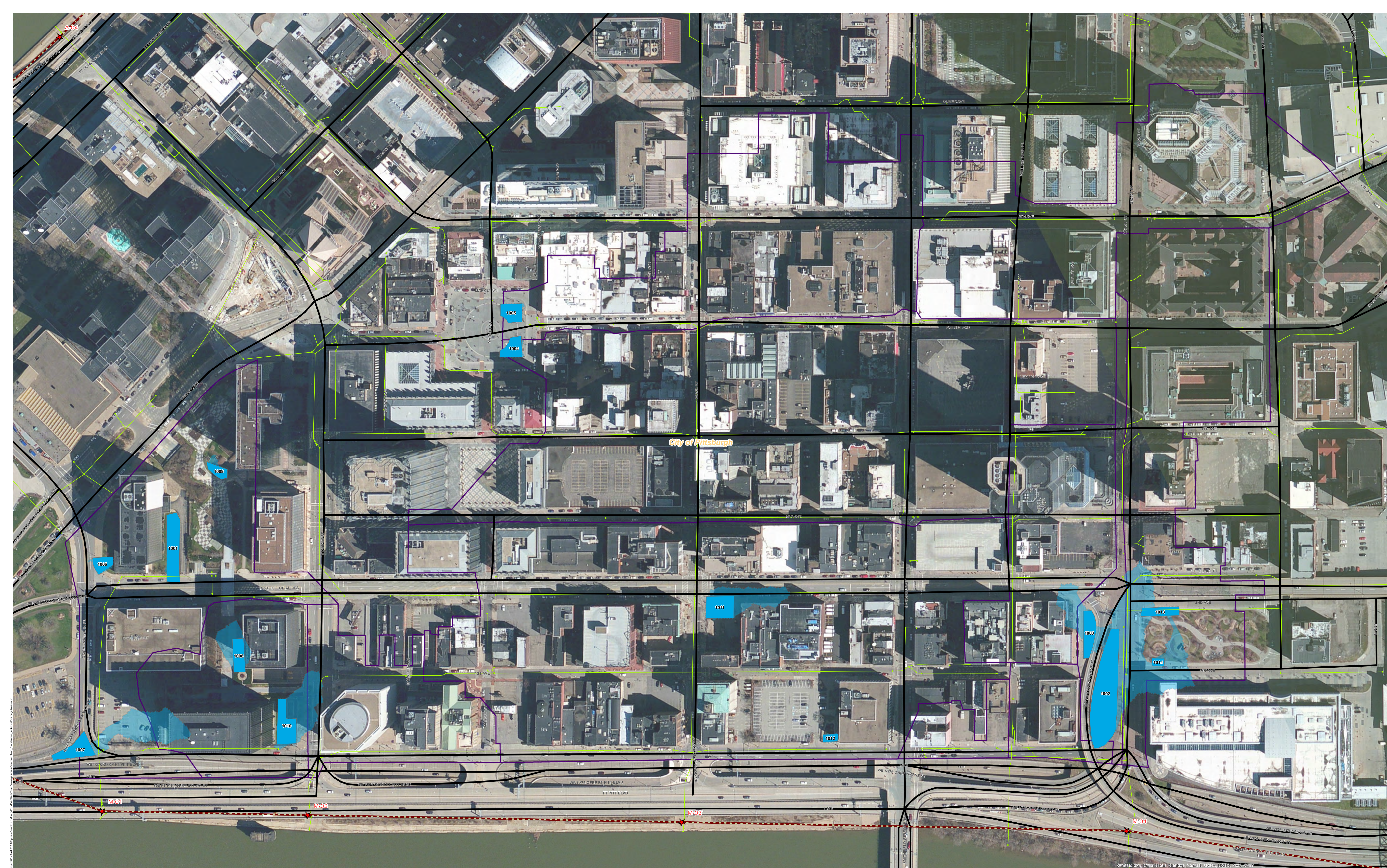
ALCOSAN GSI Project
 M-01 through M-04
 Concept Municipal GSI Projects



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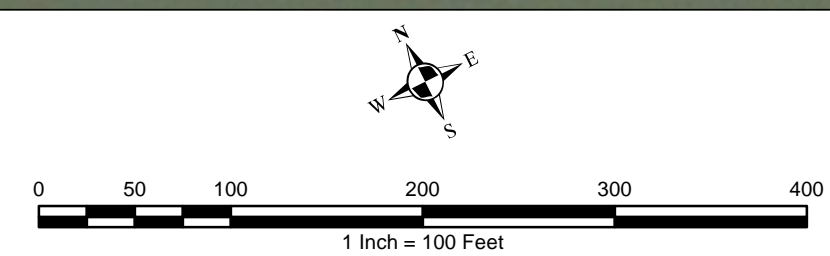


ALCOSAN GSI Project
 Downtown Mon (M-01 thru M-04)
 Concept Municipal Permeable Pavement GSI Projects
 Individual Project Drainage Areas



City of Pittsburgh

- ★ ALCOSAN Structures
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ALCOSAN GSI Project
 Downtown Mon (M-01 thru M-04)
 Concept Municipal Bioretention GSI Projects
 Individual Project Drainage Areas

**Downtown Mon Concept Commercial / Institutional Permeable Pavement, Green Roof, and Special Case GSI Projects:
Summary Table**

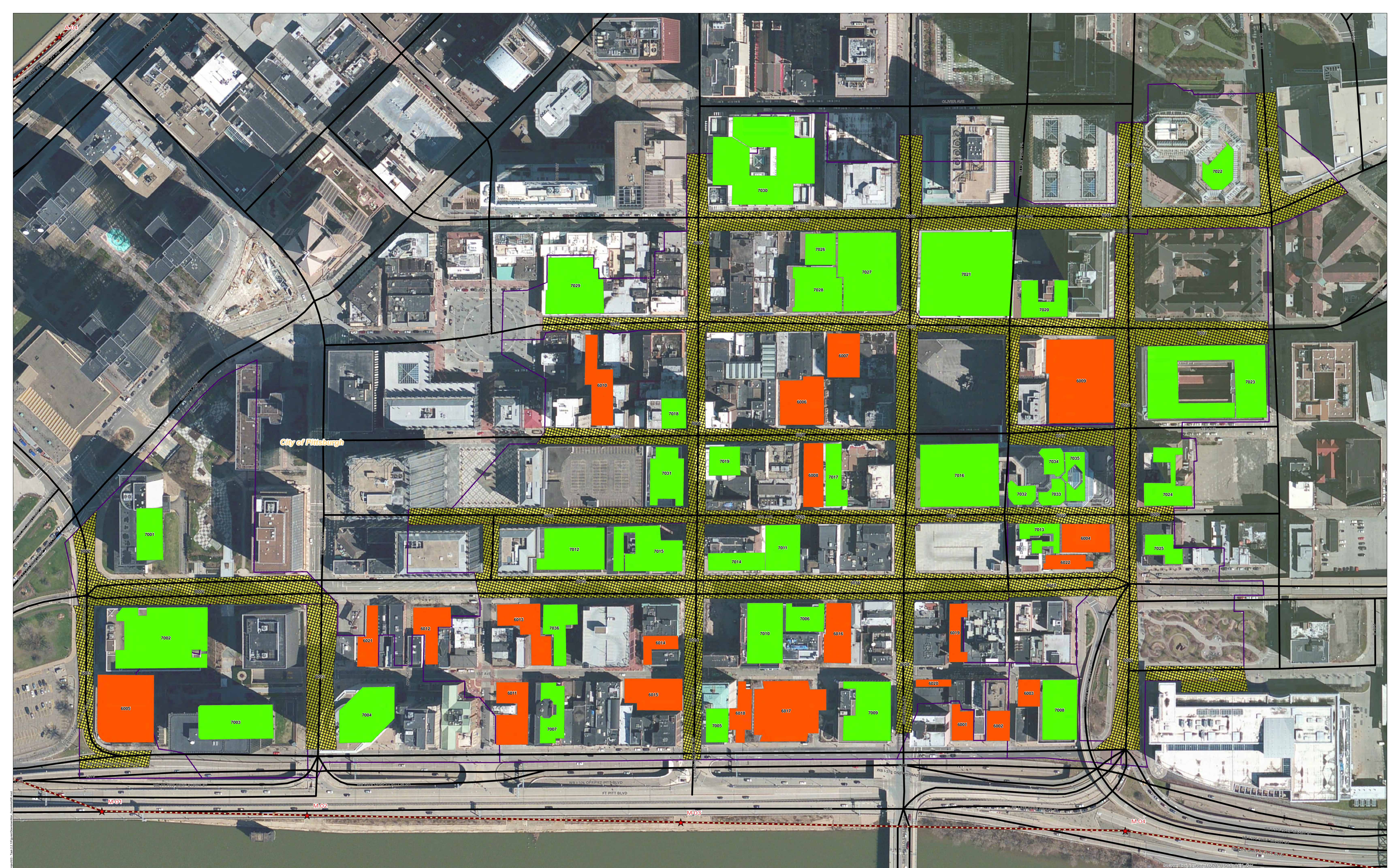
February 21, 2014
Revised October 10, 2014

ALCOSAN POC	Model Subcatchment	Concept Comm / Inst Project UID	BMP Type	Concept Municipal Project Area (acres)	Taxable (acres)	Exempt (acres)	Provisionally Exempt (acres)	Public ROW (acres)
M-04A-00	M-04A-DWF-1/M-04A-C-1	DMON_6001	CPP	0.104	0.104	0.000	0.000	0.000
M-04A-00	M-04A-DWF-1/M-04A-C-1	DMON_6002	CPP	0.106	0.106	0.000	0.000	0.000
M-04D-00	M-04A-DWF-2/M-04A-C-2	DMON_6003	CPP	0.090	0.042	0.000	0.000	0.048
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_6004	CPP	0.205	0.033	0.009	0.000	0.163
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_6005	CPP	0.575	0.519	0.000	0.000	0.056
M-03-00	M-03-DWF-2/M-03-C-2	DMON_6006	CPP	0.312	0.150	0.161	0.000	0.001
M-03-00	M-03-DWF-2/M-03-C-2	DMON_6007	CPP	0.218	0.218	0.000	0.000	0.000
M-03-00	M-03-DWF-2/M-03-C-2	DMON_6008	CPP	0.193	0.193	0.000	0.000	0.000
M-03-00	M-03-DWF-2/M-03-C-2	DMON_6009	CPP	0.836	0.833	0.000	0.000	0.003
M-03-00	M-03-DWF-2/M-03-C-2	DMON_6010	CPP	0.265	0.000	0.264	0.000	0.001
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6011	CPP	0.266	0.051	0.000	0.000	0.215
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6012	CPP	0.197	0.060	0.000	0.000	0.137
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6013	CPP	0.261	0.019	0.000	0.000	0.242
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6014	CPP	0.092	0.086	0.001	0.000	0.005
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6015	CPP	0.265	0.057	0.000	0.000	0.208
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6016	CPP	0.238	0.000	0.008	0.000	0.230
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6017	CPP	0.576	0.013	0.000	0.000	0.563
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6018	CPP	0.141	0.000	0.141	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6019	CPP	0.127	0.127	0.000	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_6020	CPP	0.039	0.035	0.000	0.000	0.004
M-02-00	M-02-DWF-1/M-02-C-1	DMON_6021	CPP	0.149	0.032	0.000	0.000	0.117
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_6022	CPP	0.097	0.000	0.000	0.000	0.097
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_7001	GR	0.209	0.209	0.000	0.000	0.000
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_7002	GR	0.783	0.783	0.000	0.000	0.000
M-01-00	M-01-DWF-1/M-01-C-1-B	DMON_7003	GR	0.387	0.387	0.000	0.000	0.000

ALCOSAN POC	Model Subcatchment	Concept Comm / Inst Project UID	BMP Type	Concept Municipal Project Area (acres)	Taxable (acres)	Exempt (acres)	Provisionally Exempt (acres)	Public ROW (acres)
M-02-00	M-02-DWF-1/M-02-C-1	DMON_7004	GR	0.382	0.382	0.000	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7005	GR	0.115	0.000	0.114	0.000	0.001
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7006	GR	0.149	0.000	0.012	0.000	0.137
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7007	GR	0.172	0.012	0.000	0.000	0.160
M-04D-00	M-04A-DWF-2/M-04A-C-2	DMON_7008	GR	0.315	0.315	0.000	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7009	GR	0.379	0.379	0.000	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7010	GR	0.328	0.000	0.306	0.000	0.022
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7011	GR	0.240	0.000	0.236	0.000	0.004
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7012	GR	0.395	0.235	0.159	0.000	0.001
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_7013	GR	0.127	0.000	0.117	0.000	0.010
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7014	GR	0.150	0.000	0.149	0.000	0.001
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7015	GR	0.387	0.000	0.386	0.000	0.001
M-03-00	M-03-DWF-2/M-03-C-2	DMON_7016	GR	0.748	0.748	0.000	0.000	0.000
M-03-00	M-03-DWF-2/M-03-C-2	DMON_7017	GR	0.167	0.001	0.000	0.000	0.166
M-03-00	M-03-DWF-2/M-03-C-2	DMON_7018	GR	0.113	0.093	0.000	0.000	0.020
M-03-00	M-03-DWF-2/M-03-C-2	DMON_7019	GR	0.136	0.003	0.000	0.000	0.133
M-03-00	M-03-DWF-3/M-03-C-4	DMON_7020	GR	0.207	0.009	0.000	0.000	0.198
M-03-00	M-03-DWF-3/M-03-C-4	DMON_7021	GR	1.171	1.168	0.000	0.000	0.003
M-03-00	M-03-DWF-3/M-03-C-4	DMON_7022	GR	0.149	0.149	0.000	0.000	0.000
M-04-00	M-04-DWF-1/M-04-S-1	DMON_7023	GR	0.931	0.000	0.460	0.000	0.471
M-04-00	M-04-DWF-1/M-04-S-1	DMON_7024	GR	0.233	0.227	0.000	0.000	0.006
M-04-00	M-04-DWF-1/M-04-S-1	DMON_7025	GR	0.122	0.117	0.000	0.000	0.005
M-03-00	M-03-DWF-2/M-03-C-3	DMON_7026	GR	0.146	0.145	0.000	0.000	0.001
M-03-00	M-03-DWF-2/M-03-C-3	DMON_7027	GR	0.669	0.138	0.000	0.000	0.531
M-03-00	M-03-DWF-2/M-03-C-3	DMON_7028	GR	0.318	0.317	0.000	0.000	0.001
M-03-00	M-03-DWF-2/M-03-C-3	DMON_7029	GR	0.459	0.458	0.000	0.000	0.001
M-03-00	M-03-DWF-2/M-03-C-3	DMON_7030	GR	0.992	0.019	0.003	0.000	0.970
M-03-00	M-03-DWF-2/M-03-C-2	DMON_7031	GR	0.263	0.000	0.187	0.000	0.076
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_7032	GR	0.080	0.080	0.000	0.000	0.000
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_7033	GR	0.077	0.077	0.000	0.000	0.000

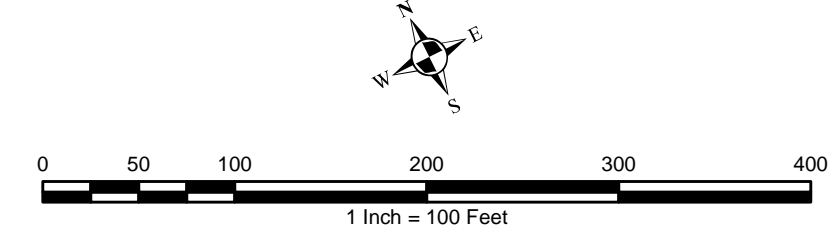
ALCOSAN POC	Model Subcatchment	Concept Comm / Inst Project UID	BMP Type	Concept Municipal Project Area (acres)	Taxable (acres)	Exempt (acres)	Provisionally Exempt (acres)	Public ROW (acres)
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_7034	GR	0.086	0.086	0.000	0.000	0.000
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_7035	GR	0.107	0.107	0.000	0.000	0.000
M-03-00	M-03-DWF-1/M-03-C-1	DMON_7036	GR	0.199	0.057	0.000	0.000	0.142
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_8001	SRPP	1.002	0.000	0.000	0.000	1.002
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_8002	SRPP	0.182	0.000	0.000	0.000	0.182
M-01-00	M-01-DWF-1/M-01-C-1-A	DMON_8003	SRPP	0.509	0.000	0.000	0.000	0.509
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8004	SRPP	0.350	0.000	0.000	0.000	0.350
M-03-00	M-03-DWF-2/M-03-C-3	DMON_8005	SRPP	0.564	0.000	0.000	0.000	0.564
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8006	SRPP	0.527	0.000	0.000	0.000	0.527
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8007	SRPP	0.355	0.000	0.000	0.000	0.355
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8008	SRPP	0.686	0.015	0.327	0.000	0.344
M-03-00	M-03-DWF-2/M-03-C-3	DMON_8009	SRPP	0.515	0.003	0.000	0.000	0.512
M-03-00	M-03-DWF-2/M-03-C-3	DMON_8010	SRPP	0.275	0.000	0.000	0.000	0.275
M-03-00	M-03-DWF-3/M-03-C-4	DMON_8011	SRPP	1.403	0.003	0.000	0.000	1.400
M-03-00	M-03-DWF-3/M-03-C-4	DMON_8012	SRPP	0.307	0.000	0.000	0.000	0.307
M-03-00	M-03-DWF-3/M-03-C-4	DMON_8013	SRPP	0.350	0.105	0.105	0.000	0.140
M-03-00	M-03-DWF-1/M-03-C-1	DMON_8014	SRPP	0.656	0.000	0.000	0.000	0.656
M-03-00	M-03-DWF-1/M-03-C-1	DMON_8015	SRPP	0.821	0.008	0.107	0.000	0.706
M-03-00	M-03-DWF-1/M-03-C-1	DMON_8016	SRPP	1.294	0.000	0.000	0.000	1.294
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_8017	SRPP	0.304	0.000	0.000	0.000	0.304
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_8018	SRPP	0.319	0.000	0.000	0.000	0.319
M-04-00	M-04-DWF-1/M-04-S-1	DMON_8019	SRPP	0.331	0.114	0.000	0.000	0.217
M-04-00	M-04-DWF-1/M-04-S-1	DMON_8020	SRPP	0.085	0.007	0.000	0.000	0.078
M-04-00	M-04-DWF-1/M-04-S-1	DMON_8021	SRPP	0.481	0.000	0.070	0.000	0.411
M-04-00	M-04-DWF-1/M-04-S-2	DMON_8022	SRPP	0.703	0.000	0.000	0.000	0.703
M-02-00	M-02-DWF-1/M-02-C-1	DMON_8023	SRPP	0.635	0.002	0.000	0.000	0.633
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8025	SRPP	0.794	0.000	0.000	0.000	0.794
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8026	SRPP	0.393	0.001	0.004	0.000	0.388
M-03-00	M-03-DWF-2/M-03-C-3	DMON_8027	SRPP	0.587	0.000	0.000	0.000	0.587
M-03-00	M-03-DWF-1/M-03-C-1	DMON_8028	SRPP	0.342	0.000	0.000	0.000	0.342

ALCOSAN POC	Model Subcatchment	Concept Comm / Inst Project UID	BMP Type	Concept Municipal Project Area (acres)	Taxable (acres)	Exempt (acres)	Provisionally Exempt (acres)	Public ROW (acres)
M-04B-00	M-04A-DWF-3/M-04A-C-3	DMON_8029	SRPP	0.267	0.009	0.000	0.000	0.258
M-04-00	M-04-DWF-1/M-04-S-1	DMON_8030	SRPP	1.059	0.001	0.000	0.000	1.058
M-03-00	M-03-DWF-2/M-03-C-2	DMON_8031	SRPP	1.167	0.000	0.000	0.000	1.167



City of Pittsburgh

- ★ ALCOSAN Structures
- ALCOSAN Shallow-Cut Interceptor
- - - ALCOSAN Deep Tunnel Interceptor
- Special Case
- Concept Commercial / Institutional Permeable Pavement Projects
- Concept Green Roof Projects
- State Roads
- Combined Sewer Subcatchment
- Municipal Boundaries



ALCOSAN GSI Project
 Downtown Mon (M-01 thru M-04)
 Concept Commercial / Institutional,
 Green Roof, and Special Case GSI Projects