GI Site Assessment
Guidance - **LID Parcel Project**

Prior to site visits

- ☐ Assemble site map
- ☐ Compile site specific data
- ☐ Consider important GI design criteria

What to bring to a site visit

- ☐ Field Equipment
- ☐ Site map
- ☐ GI Site Assessment Field Form

Assemble a **site map** with the following data:

- ☐ right-of-way and/or parcel boundaries
- ☐ contours (2017 LiDAR)
- ☐ aerial imagery
- ☐ storm drain network (inlets, catch basins, manholes)
- ☐ utilities as available (water, sewer, laterals, gas, power, telec
- ☐ building footprints
- ☐ well heads
- ☐ labeled streets
- ☐ water system network
- ☐ north arrow

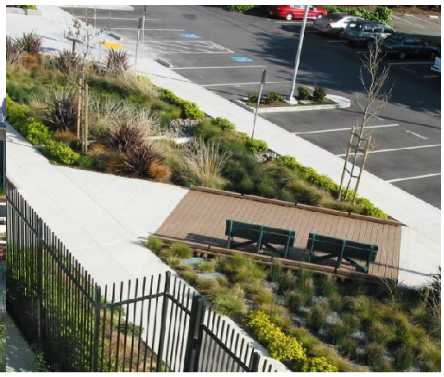
Compile the following **site specific data**:

Parcel Land Use:	Low Density Res, Commercial, Industrial, etc.
Parcel Owner:	City, County, Private (name)
Soil Type:	HSG A, B, C/D
Depth to GW:	feet
Groundwater Recharge Area:	Yes/No
Known Contaminated Area:	Yes/No
Upstream of Flood Prone Stream:	Yes/No
Upstream of TMDL water(s):	Yes/No
PCB Area of Interest:	Yes/No
Co-Located Project/Plan:	Project name, status
Sea Level Rise Inundation Area:	Yes/No

Consider GI **design criteria**:

Typical GI Facility Types	stormwater planter, rain garden, infiltration system, green roof, pervious pavement, rainwater harvesting, tree wells
Typical Sizing Ratios (% of DMA - Drainage Management Area)	4% for stormwater planters, 50% for pervious pavement, 100% for green roof, 0.005% tree wells
Setback & Design Requirements	18' or 1:1 slope from bottom of building foundation 100' from water supply wells 3' horizontal setback from edge of GI facility to water assets 5' from centerline of trees to water assets no encroachment on hydrant access 12" vertical separation between facility bottom and lateral pipes 10' separation from seasonal high groundwater when infiltrating





GI Site Assessment
Field Form - **LID Parcel Project**

Project Site Name _____ Field Staff _____

Site Contact _____ Date _____

Field Equipment measuring tape clipboard and pen safety vest/appropriate PPE
manhole hook camera GPS

Field Assessment Steps

1. verify site map data, e.g., impervious areas, storm inlet locations, surface flow direction
2. draw and label surface features not on the site map, e.g., downspouts (internal and external), area drains, tree trunk diameters, hydrants
3. draw subsurface features that can be determined, e.g., water supply network based on utility markers/valves/meters, storm network based on manhole locations, etc.
4. identify potential GI facility location(s) based on existing drainage, e.g., at existing low points, near existing drain inlets, within existing vegetated space
5. draw potential GI facility footprints and connections on the site map, i.e., document maximum footprint available and bypass/overflow connection to storm main, cross-check setback guidance
6. outline drainage management area (DMA) to each potential GI locations, indicate surface flow direction
7. measure important dimensions and features, e.g., available planter dimensions, pipe inverts at potential facility outlet connection
8. take photos of potential facility locations, e.g., panoramas to use as a "before" or for a rendering

Concept Opportunities and Constraints

Anticipated **site challenges** and potential high cost items, e.g., land acquisition, utility conflicts, permitting, difficult O&M, steep slopes. **Alterations** required for feasibility, e.g., regrading, downspout or conveyance modifications	
Indication of localized **drainage problems**, e.g., standing water, clogged inlets, cracked pavement, signs of sediment, trash present	
Anticipated **additional benefits and synergies** e.g., habitat, groundwater recharge, community enhancement, synergy with planned improvement	
Predominant **current use** and potential **loss of use** e.g., parking, play field, mature trees	
Irrigation and re-use demand and sources, e.g., presence of dry weather flow	
Stakeholder involvement based on previous or planned projects	
Follow up tasks	

GI Site Assessment
Guidance - **Regional Project**

(for sites located within unincorporated San Mateo County or parcels owned by the County)

Prior to site visits

- ☐ Assemble site map
- ☐ Compile site specific data
- ☐ Consider important GI design criteria

What to bring to a site visit

- ☐ Field Equipment
- ☐ Site map
- ☐ GI Site Assessment Field Form

Assemble a **site map** with the following data:

- ☐ right-of-way and/or parcel boundaries
- ☐ contours (2017 LiDAR)
- ☐ storm drain network (inlets, catch basins, manholes)
- ☐ storm inverts and sizes at inlet and outlet to parcel
- ☐ water system network
- ☐ utilities as available (water, sewer, laterals, gas, power, telecom)
- ☐ building footprints
- ☐ well heads
- ☐ north arrow
- ☐ labeled streets
- ☐ aerial imagery

Compile the following **site specific data**:

Regional Drainage Area (DMA):	acres
Predominant DMA Land Use:	Low Density Res, Commercial, Industrial, etc.
Parcel Owner:	County, Unincorporated
Soil Type:	HSG A, B, C/D
Depth to GW:	feet
Groundwater Recharge Area:	Yes/No
Known Contaminated Area:	Yes/No
Upstream of Flood Prone Stream:	Yes/No
Upstream of TMDL water(s):	Yes/No
PCB Area of Interest:	Yes/No
Co-Located Project/Plan:	Project name, status
Sea Level Rise Inundation Area:	Yes/No

Consider GI **design criteria**:

Typical GI Facility Types	infiltration and detention pond, subsurface infiltration system, stormwater planter, treatment filter, infiltration trench
Typical Sizing Ratios (% of DMA)	4% for stormwater planters, 0.005% tree well filters
Setback & Design Requirements	18' or 1:1 slope from bottom of building foundation
	100' from water supply wells
	3' horizontal setback from edge of GI facility to water assets
	5' from centerline of trees to water assets
	no encroachment on hydrant access
	12" vertical separation between facility bottom and lateral pipes
	10' separation from seasonal high groundwater when infiltrating



GI Site Assessment
Field Form - **Regional Project**

Project Site Name _____ Field Staff _____

Site Contact _____ Date _____

Field Equipment measuring tape clipboard and pen safety vest/appropriate PPE
manhole hook camera GPS

Field Assessment Steps

1. verify site map data, e.g., impervious areas, storm network location and invert elevations
2. draw and label surface features not on the site map, e.g., surface utilities, area drains, tree trunks
3. draw subsurface features that can be determined, e.g., water supply network based on utility markers/valves/meters, storm network based on manhole locations, etc.
4. identify potential GI facility location(s) based on inflow location from regional drainage network and available space, e.g., near existing storm drain network, within existing vegetated space
5. draw potential GI facility footprints and connections on the site map, i.e., document maximum footprint available and bypass/overflow connection to storm main, estimate if pumping is required based on surface elevations and pipe inverts, cross-check setback guidance
6. measure important dimensions and features, e.g., available space, pipe inverts at potential facility inlet and outlet connection, location of setbacks from utilities and structures
7. take photos of potential facility locations, e.g., panoramas to use as a "before" or for a rendering

Concept Opportunities and Constraints

Anticipated **site challenges** and potential high cost items, e.g., utility conflicts, permitting, pumping, high groundwater, deep excavation, land acquisition, difficult O&M, steep slopes. **Alterations** required for feasibility, e.g., regrading, conveyance modifications	
Indication of localized **drainage problems**, e.g., standing water, clogged inlets, cracked pavement, signs of sediment, trash present	
Anticipated **additional benefits and synergies**, e.g., habitat, groundwater recharge, community enhancement, synergy with planned improvement, manages CalTrans drainage	
Predominant **current use** and potential **loss of use**, e.g., parking, play field, mature trees.	
Irrigation and re-use demand and sources, e.g., dry weather flow	
Stakeholder involvement based on previous or planned projects	
Follow up tasks	

GI Site Assessment
Guidance - **Green Street Project**

Prior to site visits

- ☐ Assemble site map
- ☐ Compile site specific data
- ☐ Consider important GI design criteria

What to bring to a site visit

- ☐ Field Equipment
- ☐ Site map
- ☐ GI Site Assessment Field Form

Assemble a **site map** with the following data:

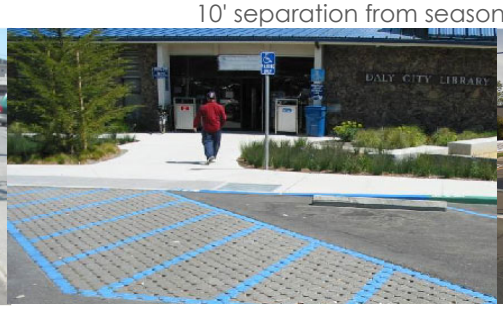
- ☐ right-of-way boundary
- ☐ transit stops
- ☐ contours (2017 LiDAR)
- ☐ storm drain network (inlets, catch basins, manholes)
- ☐ utilities as available (water, sewer, laterals, gas, power, telec
- ☐ well heads
- ☐ labeled streets
- ☐ aerial imagery
- ☐ water system network
- ☐ north arrow

Compile the following **site specific data**:

Street Class:	
Driving lanes:	
Parking:	Yes/No
Longitudinal Road Slope:	%
Soil Type:	HSG A, B, C/D
Depth to GW:	feet
Groundwater Recharge Area:	Yes/No
Known Contaminated Area:	Yes/No
Upstream of Flood Prone Stream:	Yes/No
Upstream of TMDL water(s):	Yes/No
PCB Area of Interest:	Yes/No
Co-Located Project/Plan:	Project name, status
Sea Level Rise Inundation Area:	Yes/No

Consider GI **design criteria**:

Typical GI Facility Types	stormwater planter, stormwater curb extensions, rain gardens, pervious pavement, tree wells
Typical Sizing Ratios (% of DMA - Drainage Management Area)	4% for stormwater planter, 50% for pervious pavement, 0.005% tree well
Setback & Design Requirements	Curb ramps must be compliant with accessibility standards 2-3' step out zone adjacent to street parking Minimum sidewalk width: 5.5' minimum, recommended 6'-16' Curb extensions & bulbouts cannot extend over potable water mains 100' from water supply wells 3' horizontal setback from edge of GI facility to water assets 5' from centerline of trees to water assets no encroachment on hydrant access 12" vertical separation between facility bottom and lateral pipes 10' separation from seasonal high groundwater when infiltrating



GI Site Assessment
Field Form - **Green Street Project**

Project Site Name _____ Field Staff _____

Site Contact _____ Date _____

Field Equipment measuring tape clipboard and pen safety vest/appropriate PPE
manhole hook camera GPS

Field Assessment Steps

1. verify site map data, e.g., impervious areas, storm inlet locations, parking, driving lanes
2. draw and label surface features not on the site map, e.g., driveways, hydrants, area drains, tree trunk diameters, utility poles and guy wires, hydrants
3. draw subsurface features that can be determined, e.g., water supply network based on utility markers/valves/meters, storm network based on manhole locations, etc.
4. identify potential GI facility location(s) based on existing drainage, e.g., at existing low points, near existing drain inlets, within existing vegetated space
5. draw potential GI facility footprints and connections on the site map, i.e., document maximum footprint available and downstream connection to storm main, identify curb extension potential, cross-check setback guidance
6. outline drainage management area (DMA) to each potential GI locations, indicate surface flow direction (crowned or thrown roadway) and impervious boundaries
7. measure important dimensions and features, e.g., available planter dimensions, pipe inverts at potential outlet connection, sidewalk width. consider feasibility of partial retrofit or enhancement if space constrained
8. take photos of potential facility locations, i.e., capture the area between the curb and ROW edge, take panoramas to use as a "before" or for a rendering

Concept Opportunities and Constraints

Anticipated **site challenges**, potential high cost items, e.g., utility conflicts, difficult O&M, steep slopes, poor soils. **Alterations** required for feasibility, e.g., conveyance modifications, pedestrian crossings, wheel stops	
Indication of localized **drainage problems**, e.g., standing water, clogged inlets, cracked pavement, signs of sediment, trash present	
Anticipated **additional benefits and synergies**, e.g., habitat, groundwater recharge, community enhancement, synergy with planned improvement, traffic calming, bike and ped safety, manages CalTrans drainage	
Predominant **current use** and potential **loss of use**, e.g., parking lane, bike lane, mature trees.	
Stakeholder involvement based on previous or planned projects.	
Follow up tasks.	

GI Site Assessment
Design Criteria Resources

Infiltration Setbacks and Design Requirements

- ☐ SMCWPPP C.3 Stormwater Technical Guidance Version 5.0, Chapter 6 (2016)
  https://www.flowstobay.org/sites/default/files/C3TG5/SMCWPPP_C3TG%20V.5.0.pdf

Utility Setback Requirements

- ☐ County of San Mateo Guidance Regarding the Protection of Public Utility Assets Near and/or Under Green Infrastructure Facilities (2019)

GI Sizing Guidelines

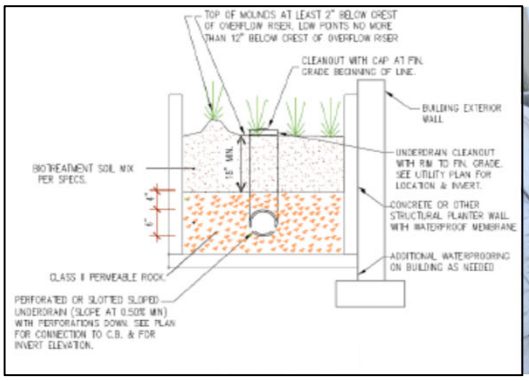
- ☐ SMCWPPP Green Infrastructure Design Guide (2019)
- ☐ SMCWPPP C.3 Stormwater Technical Guidance Version 5.0, Chapter 5 (2016)
  https://www.flowstobay.org/sites/default/files/C3TG5/SMCWPPP_C3TG%20V.5.0.pdf

Design in the Public Right-of-Way

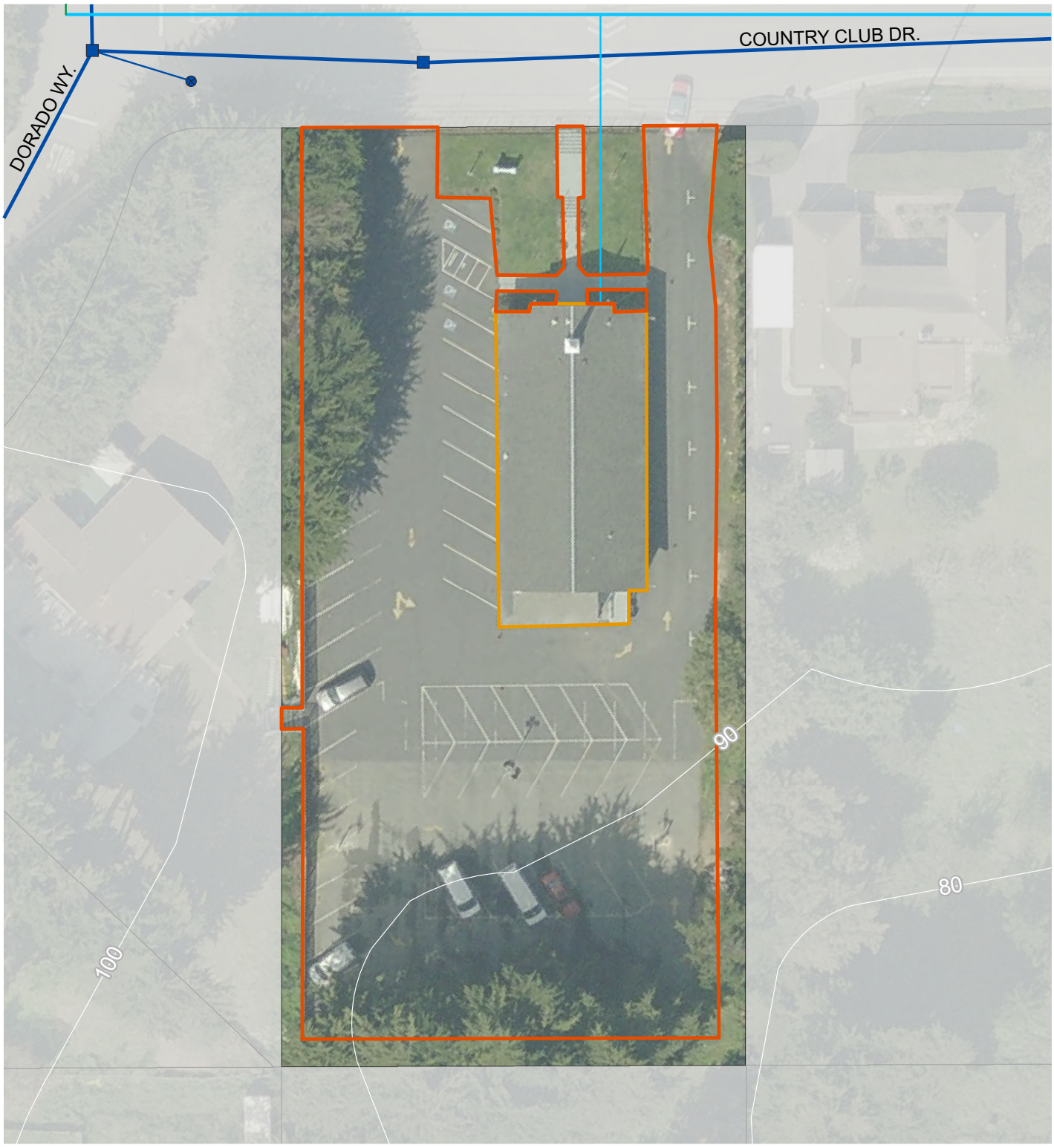
- ☐ San Mateo County Public Works Sidewalk Standard Drawings
  https://publicworks.smcgov.org/documents/sidewalk-standard-drawings
- ☐ California Governor's Office of Planning and Research Complete Streets Guidance (2010)
  http://opr.ca.gov/docs/Update_GP_Guidelines_Complete_Streets.pdf
- ☐ County of San Mateo Public Works Standard Drawings for Public Improvement (2008)
  https://publicworks.smcgov.org/documents/standard-details-book
- ☐ San Mateo County Comprehensive Bicycle and Pedestrian Plan (2011)
  http://ccag.ca.gov/wp-content/uploads/2014/07/CBPP_Main-Report-and-Appendix__Sept2011_FINAL.pdf

Septic Tank and Dispersal Field Setbacks

- ☐ San Mateo County Onsite Systems Manual, Table 3-1 (2016)
  https://www.smchealth.org/sites/main/files/file-attachments/201601_osm_complete.pdf




GI Site Assessment
Attachment A - **Site Map Example**



LEGEND

- Catch Basin
- Manhole
- Storm Drain
- Water Main
- Water Service
- Parcels
- Impervious Area
- Building Footprint
- 80 Contours

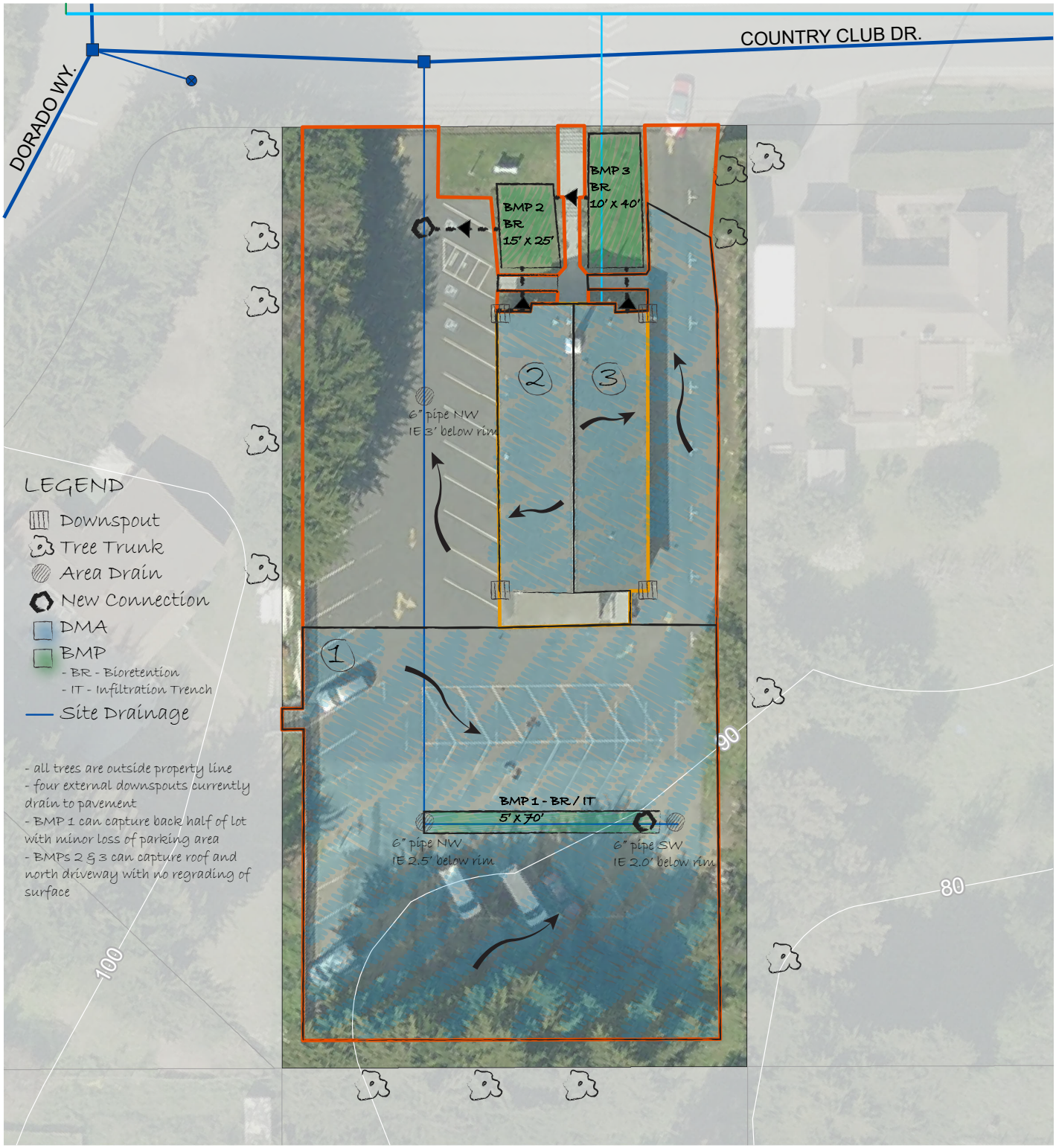
Parcel Data

Parcel Area: 39,700 sf
Parcel Land Use: Commercial & Services
Parcel Owner: County of Example
Soil Type: C/D
Depth to GW: 10-20 ft
Recharge Area: Y
Contaminated Area: N
Upstream of Flood Prone Stream: N
Upstream of TMDL Water(s): Y
PCB Area of Interest: N

N

0 40 80 Feet

GI Site Assessment
Attachment A - **Site Map Example**



LEGEND

- Catch Basin
- Manhole
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Parcel Data

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Recharge Area: Y
Contaminated Area: N
Upstream of Flood Prone Stream: N
Upstream of TMDL Water(s): Y
PCB Area of Interest: N

N

0 40 80 Feet