File No. EA2020-121

CITY OF RICHLAND
Determination of Non-Significance

Description of Proposal: Meadow Springs Stormwater Retrofit Project: Installation of new stormwater infiltration trenches in conjunction with the existing stormwater system to provide treatment to the stormwater before discharge.

Proponent: City of Richland Public Works Dept.
Attn: Brian Olle
625 Swift Blvd.
Richland, WA 99352

Location of Proposal: The proposed project will occur at multiple locations within Blalock Court, Meadows Drive South, Carner Court West, Carner Street, Carner Court East, Richland, WA 99352.

Lead Agency: City of Richland

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

( ) There is no comment for the DNS.

(**X**) This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for fourteen days from the date of issuance.

( ) This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

Responsible Official: Mike Stevens
Position/Title: Planning Manager
Address: 625 Swift Blvd., MS #35, Richland, WA 99352
Date: September 1, 2020
Signature_____

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [HELP]

1. Name of proposed project, if applicable:
   Meadow Springs Stormwater Retrofits
2. Name of applicant:
   City of Richland
3. Address and phone number of applicant and contact person: Brian Olle: (509) 942-7791 625 Swift Blvd. Richland, WA 99352

4. Date checklist prepared: 8/26/2020

5. Agency requesting checklist:
City of Richland, Public Works Department

6. Proposed timing or schedule (including phasing, if applicable):
Design Complete Fall 2020. Construction not yet determined.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. No.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. N/A

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
No

10. List any government approvals or permits that will be needed for your proposal, if known.
None

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) To install infiltration trenches in conjunction with the existing stormwater system to provide treatment to the stormwater before discharge.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. The project work will take place in Richland Washington. More specifically in the central part of town in the Meadow Springs neighborhood just east of Bellerive drive.

B. Environmental Elements [HELP]

1. *Earth* [help]

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other hilly

b. What is the steepest slope on the site (approximate percent slope)?
10%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. Sand, silt, silty-sand

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. No

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
No filling will take place. Excavation of existing will be replaced to match existing.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
No.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? No new impervious. Existing impervious will be removed and replaced.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Temporary and permenent BMPS will be implemented to stablize the site during any post construction.

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. Vehicle and equipment use

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
There is no known measures to reduce or control emissions from heavy equipment necessary to construct the project. Heavy equipment used will be the repsonsibility of the contractor.

3. Water [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
Nearby golfcourse pond, the pond has no name. That pond has an overflow when needed that flows into the nearby Amon Wasteway.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
No

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
N/A

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
No

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
No

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
No

b. Ground Water: [help]

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
N/A

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
This will not generate any new additional runoff. Water will be captured in gutterline and conveyed to catch basins. Water will be infiltrated into the ground.

2) Could waste materials enter ground or surface waters? If so, generally describe. No

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
No

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
Water runoff generated during construction will be controlled through the implementation of standard best management practices (BMP's).

4. Plants [help]

a. Check the types of vegetation found on the site:

____deciduous tree: alder, maple, aspen, other
____evergreen tree: fir, cedar, pine, other
____shrubs
_X_grass
____pasture
____crop or grain
____ Orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
____other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
Some lawn grass may be disturbed during construction, work is primarily in roadway though.

c. List threatened and endangered species known to be on or near the site.
None

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Any disturbance outside of roadway will be restored to existing conditions

e. List all noxious weeds and invasive species known to be on or near the site.
None

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. None

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.
None

c. Is the site part of a migration route? If so, explain.
No

d. Proposed measures to preserve or enhance wildlife, if any:
None

e. List any invasive animal species known to be on or near the site.
None

6. Energy and Natural Resources [help]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
None

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
None

7. Environmental Health [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. No

1) Describe any known or possible contamination at the site from present or past uses.
None known

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
None known

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
None known

4) Describe special emergency services that might be required.
None

5) Proposed measures to reduce or control environmental health hazards, if any:
The Contractor will be required to provide all personnel with personal protective equipment (PPE) and comply with all work-site safety requirements.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
Traffic noise is existing in the area and will not affect the project. Project is located in a residential area.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
The construction of the project will generate temporary noise increase through the use of heavy equipment. Noise will be generated from construction noise during work hours typically Monday through Friday from 7:00 a.m. to 6:00 p.m.

3) Proposed measures to reduce or control noise impacts, if any:
No measures are proposed to reduce noise impacts.

8. Land and Shoreline Use [help]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
The current use of the land is residential roads. There will be no affect to nearby properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? No

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: N/A

c. Describe any structures on the site.
None

d. Will any structures be demolished? If so, what?
N/A

e. What is the current zoning classification of the site?
Residential

f. What is the current comprehensive plan designation of the site?
City owned Right of Way

g. If applicable, what is the current shoreline master program designation of the site?
N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
No

i. Approximately how many people would reside or work in the completed project?
None

j. Approximately how many people would the completed project displace?
None

k. Proposed measures to avoid or reduce displacement impacts, if any:
N/A

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: This project is consistent with the City's Stormwater Management Plan

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any: N/A

9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. None

c. Proposed measures to reduce or control housing impacts, if any: N/A

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? Underground infrastructure only

b. What views in the immediate vicinity would be altered or obstructed? None

b. Proposed measures to reduce or control aesthetic impacts, if any: N/A

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? None

b. Could light or glare from the finished project be a safety hazard or interfere with views? No

c. What existing off-site sources of light or glare may affect your proposal? None

d. Proposed measures to reduce or control light and glare impacts, if any: N/A

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?
Golf Course

b. Would the proposed project displace any existing recreational uses? If so, describe.
No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
Project will not cause interruptions to recreation.

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe. No

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. No

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
GIS Data

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
N/A

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
The site encompasses several local streets (Meadows Drive, Whitworth, Ave, and Carner St.)

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
No

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
None

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). No

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. No

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? None

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. No

h. Proposed measures to reduce or control transportation impacts, if any:
Advanced signage will be used to notify public of traffic impacts.

15. Public Services [help]

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.
No

b. Proposed measures to reduce or control direct impacts on public services, if any.
None

16. Utilities [help]

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

c. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. None

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee Brian Olle

Position and Agency/Organization Civil Engineer II City of Richland

Date Submitted: 8/30/20

D. Supplemental sheet for nonproject actions [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks,

wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

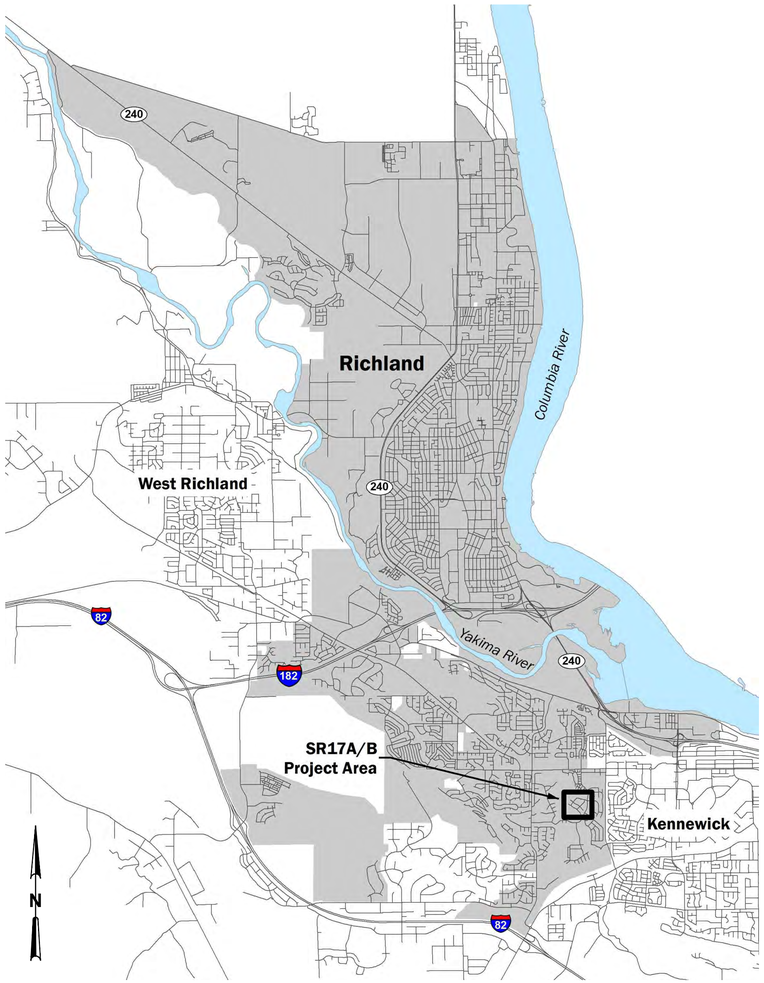
7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

CITY OF RICHLAND

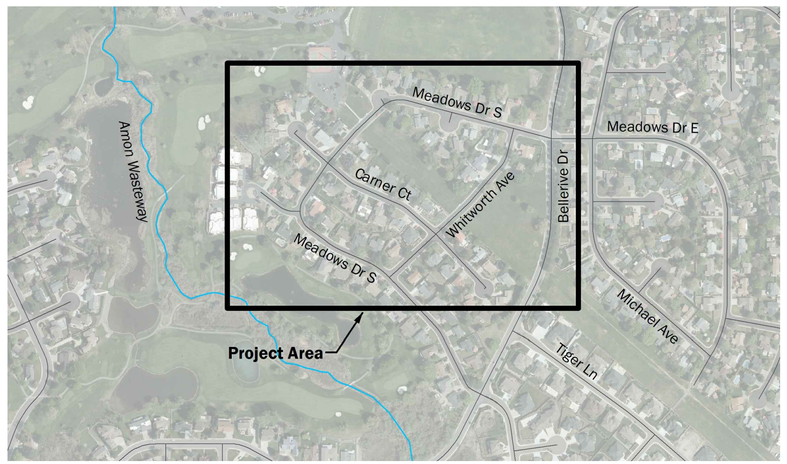
STORMWATER RETROFITS - SR17A/B

CONSTRUCTION PLANS - C.O.R CONTRACT PW NO. XX-XXXX

FUNDED IN PART BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY



VICINITY MAP
NOT TO SCALE



SR17A/B PROJECT AREA
NOT TO SCALE

SHEET INDEX

CONTACTS

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811 Know what's below. Call before you dig.

90% DESIGN
NOT FOR CONSTRUCTION

ERIK BRIAN PRUNEDA — STATE OF WASHINGTON — 24320 — REGISTERED PROFESSIONAL ENGINEER
GREENLINE

REV.	DESCRIPTION	DATE	APPR.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

COVER SHEET
—
STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **1**

SHEET **1** OF **10**

GENERAL NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS & SEQUENCES OF CONSTRUCTION INCLUDING THE SAFETY OF ALL WORKERS & THE GENERAL PUBLIC.
2. NO PUBLIC WATER VALVES OR HYDRANTS SHALL BE OPENED OR CLOSED (OPERATED) BY ANYONE BUT CITY OF RICHLAND STAFF.
3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE & MUNICIPAL CONSTRUCTION.
4. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS" (MUTCD).
5. THE LOCATIONS OF ALL KNOWN EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. LOCATIONS ARE BASED ON INFORMATION OBTAINED FROM THE SITE, INFORMATION OF RECORD DRAWINGS & INFORMATION PROVIDED TO ENGINEER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
6. THE CONTRACTOR SHALL BE REQUIRED TO CALL 811 OR 1-800-424-5555 (WEBSITE: WWW.WASHINGTON811.COM) TWO BUSINESS DAYS PRIOR TO COMMENCING ANY EXCAVATION ACTIVITIES TO DETERMINE FIELD LOCATIONS OF ALL UNDERGROUND UTILITIES, AS REQUIRED BY LAW.
7. ANY CHANGES OR MODIFICATIONS TO THE PROJECT PLANS SHALL FIRST BE APPROVED BY THE CITY ENGINEER OR HIS/HER REPRESENTATIVE.
8. METHODS OF DUST & EROSION CONTROL PROPOSED TO BE USED BY THE CONTRACTOR SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITIES.
9. THE CONTRACTOR SHALL TAKE ANY NECESSARY MEANS TO KEEP FROM TRACKING MUD & DEBRIS OUT ONTO THE EXISTING STREETS, & SHALL ALSO KEEP MUD & ANY OTHER DEBRIS FROM HIS/HER SITE FROM ENTERING THE EXISTING PUBLIC STORM DRAINAGE SYSTEM.
10. CONTRACTOR SHALL PROVIDE DETAILED "AS-BUILT" RECORDS SHOWING LOCATION, DEPTH, SIZE, & MATERIAL TYPE OF ALL PIPING INSTALLED OR ENCOUNTERED DURING CONSTRUCTION OF IMPROVEMENTS.
11. CONTRACTOR SHALL COORDINATE SCHEDULED WORK WITH ACTIVITIES TO BE PERFORMED BY UTILITIES & WORK SHOWN TO BE COMPLETED BY "CITY FORCES".
12. CONTRACTOR SHALL INVESTIGATE GROUNDWATER CONDITIONS AND ADDRESS DEWATERING AS NEEDED TO COMPLETE CONSTRUCTION. DISPOSAL OF DEWATERING WATER, IF NECESSARY, SHALL BE APPROVED BY THE CITY.

SURVEY NOTES

1. TOPOGRAPHIC SURVEY PREPARED BY CITY OF RICHLAND
2. VERTICAL DATUM: NAVD88
   HORIZONTAL DATUM: WGS84
   BENCHMARKS ARE CONTROL MONUMENTS: SEE PLAN SHEETS

PROTECTION OF THE ENVIRONMENT

1. NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO THE STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

TESC NOTES

1. THE IMPLEMENTATION OF THE EROSION/SEDIMENTATION CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
2. THE ESC BMPS SHOWN IN THIS PLAN AND DESCRIBED IN THE CSWPPP SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR LAND CLEARING ACTIVITY. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED ON THE PAVEMENT PRIOR TO CONSTRUCTION.
3. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE MARKED CLEARING LIMITS SHALL BE PERMITTED.
4. THE ESC FACILITIES SHOWN IN THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, INFILTRATION TRENCHES, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS. TESC BMPS SHALL BE KEPT IN PLACE UNTIL THE SITE IS COMPLETELY STABILIZED. CLEAN ALL SEDIMENT FROM ROADWAY AND EXISTING AND NEW INLETS AND MANHOLES PRIOR TO PUTTING INFILTRATION TRENCHES INTO SERVICE.
5. THE CONTRACTOR SHALL TAKE ANY NECESSARY MEANS TO KEEP FROM TRACKING MUD & DEBRIS OUT ONTO THE EXISTING STREETS, & SHALL ALSO KEEP MUD & ANY OTHER DEBRIS FROM HIS/HER SITE FROM ENTERING THE EXISTING PUBLIC STORM DRAINAGE SYSTEM.
6. METHODS OF DUST & EROSION CONTROL PROPOSED TO BE USED BY THE CONTRACTOR SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITIES.
7. THE ESC FACILITIES SHOWN IN THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
8. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
9. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.
10. BY THE END OF EACH WORK DAY, SWEEP OR SCRAPE UP SOIL TRACKED ONTO THE STREET. DO NOT HOSE INTO STORM DRAIN SYSTEM.
11. NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN 30 DAYS DURING THE DRY SEASON (JULY 1 THROUGH SEPTEMBER 30) OR 15 DAYS DURING THE WET SEASON (OCTOBER 1 THROUGH JUNE 30) TO PREVENT WIND AND WATER EROSION. THIS STABILIZATION REQUIREMENT APPLIES TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. SOIL STABILIZATION BMPS MAY INCLUDE BIODEGRADABLE EROSION CONTROL BLANKETS (PER WSDOT STANDARD PLAN I-60.20-01) OR MULCHING.
12. TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMPS OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

90% DESIGN
NOT FOR CONSTRUCTION

ERIK BRIAN PRUNEDA — STATE OF WASHINGTON — 24320 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

REV.	DESCRIPTION	DATE	APPR.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

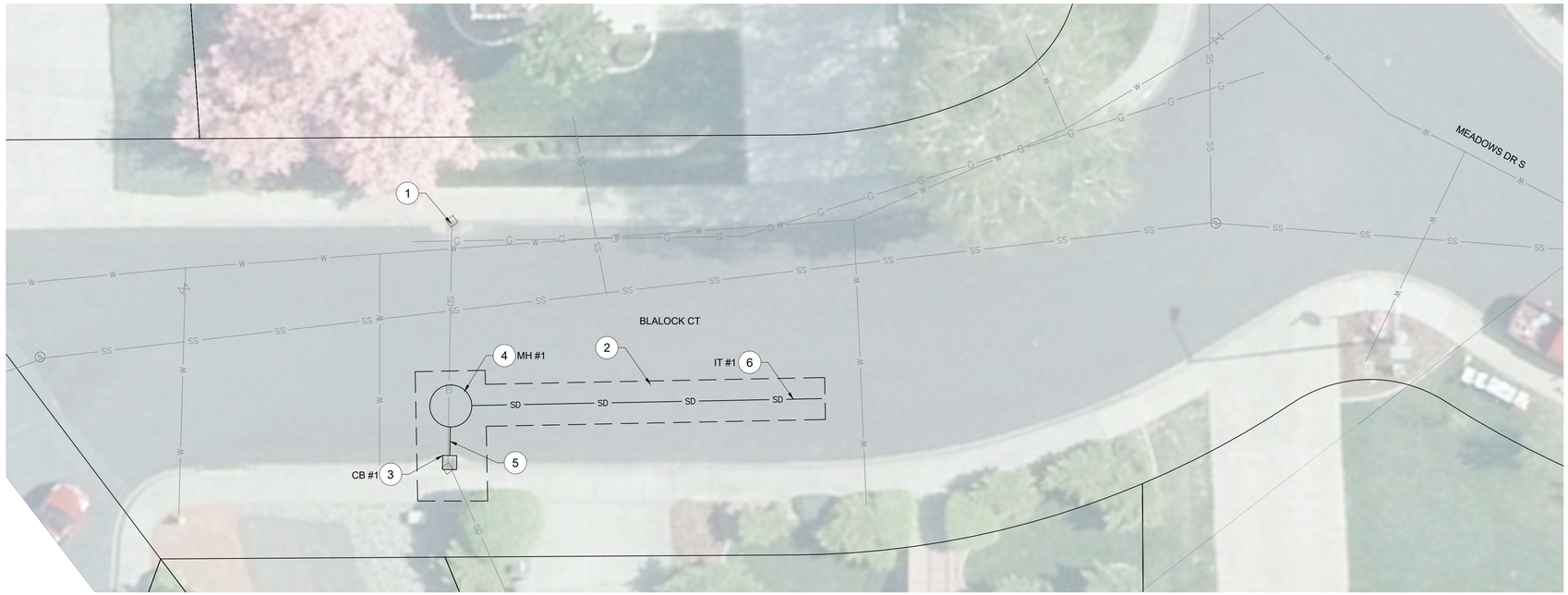
GENERAL NOTES AND LEGEND

STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **2**

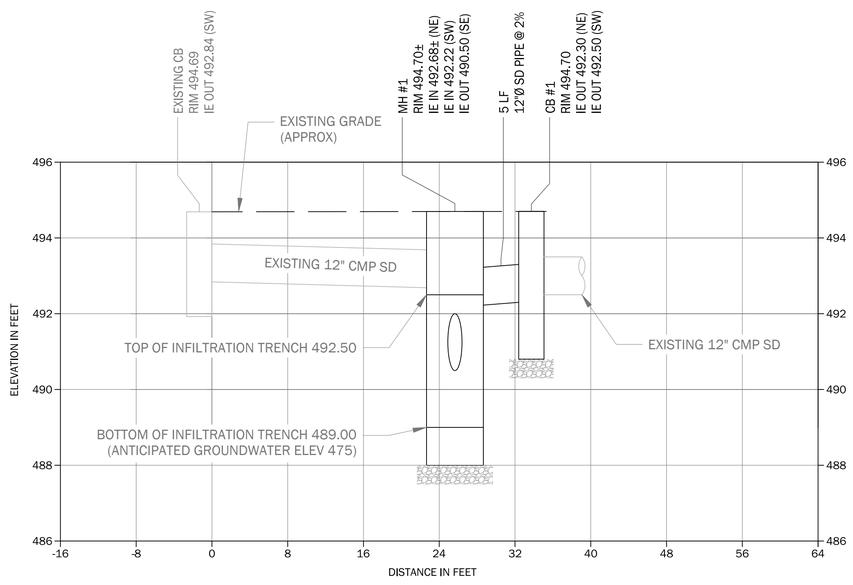
SHEET **2** OF **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 02-GeneralNotes || Date Saved: Jun 24, 2020 12:13pm || User: epruneda



DRAINAGE PLAN
SCALE: 1" = 10'

0 10 20 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet

CONSTRUCTION NOTES

1. RETAIN AND PROTECT EXISTING SD CB. INSTALL TEMPORARY CATCH BASIN FILTER PER WSDOT STANDARD PLAN I-40.20-00.
2. SAWCUT, REMOVE, AND REPLACE 48± SY EXISTING HMA ROADWAY, 10 LF CURB & GUTTER, AND 4.5 SY SIDEWALK TO THE NEAREST JOINT BEYOND THE LOCATION CALLED OUT ON THE PLANS (MATCH EXISTING).
3. REMOVE AND DISPOSE EXISTING SD CB AND INSTALL TYPE 1 STORM DRAIN CATCH BASIN (CB#1) PER CITY STD DRAWING ON SHEET 9.
4. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #1 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 325919.24
   EASTING 1955679.37
5. REMOVE 5± LF EXISTING SD PIPE AND INSTALL 5 LF 12"Ø SD PIPE @ 2%.
6. INSTALL 5' WIDE BY 3.5' DEEP BY 50 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#1), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #1 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.

LEGEND

- SAWCUT LINE / EXCAVATION LIMIT
- SD — PROPOSED STORM DRAIN PIPE
- G G — EXISTING GAS PIPE
- SD — EXISTING STORM DRAIN PIPE
- SS — EXISTING SANITARY SEWER PIPE
- E — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER PIPE
- PARCEL BOUNDARY
- EXISTING SSMH
- EXISTING CATCH BASIN
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING LIGHT POST

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STATE OF WASHINGTON
24320
REGISTERED
PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	APPR.
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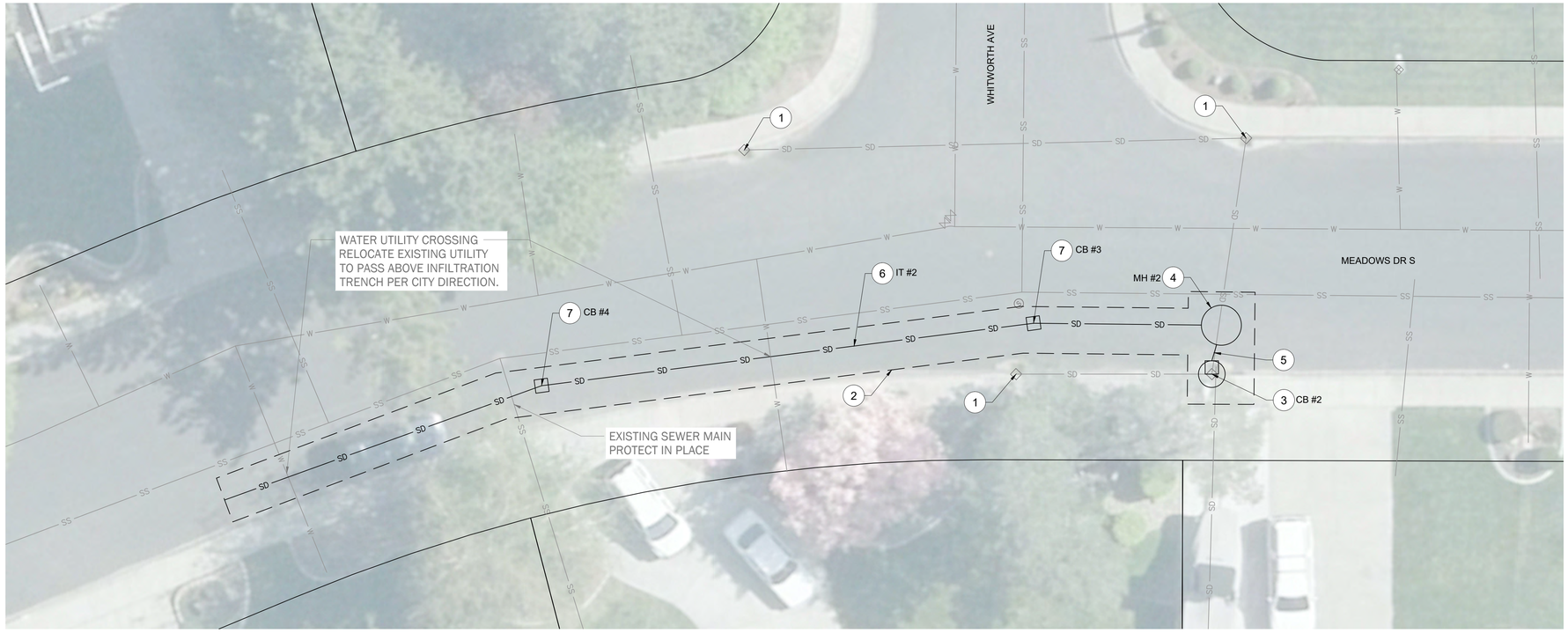
REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

DRAINAGE PLAN
—
STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **3**

SHEET **3** OF **10**

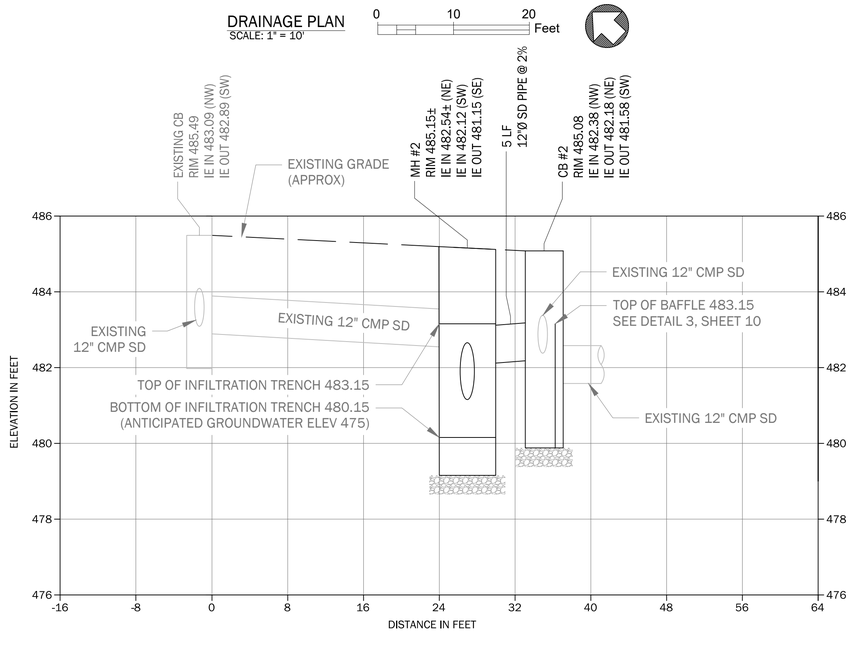


DRAINAGE PLAN
SCALE: 1" = 10'

0 10 20 Feet

CONSTRUCTION NOTES

1. RETAIN AND PROTECT EXISTING SD CB. INSTALL TEMPORARY CATCH BASIN FILTER PER WSDOT STANDARD PLAN I-40.20-00.
2. SAWCUT, REMOVE, AND REPLACE 129± SY EXISTING HMA ROADWAY, 10 LF CURB & GUTTER, AND 4.5 SY SIDEWALK TO THE NEAREST JOINT BEYOND THE LOCATION CALLED OUT ON THE PLANS (MATCH EXISTING).
3. REMOVE AND DISPOSE EXISTING SD CB AND INSTALL BAFFLE CATCH BASIN (CB#2) PER DETAIL 3 ON SHEET 10.
4. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #2 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 325540.70
   EASTING 1956241.78
5. REMOVE 5± LF EXISTING SD PIPE AND INSTALL 5 LF 12"Ø SD PIPE @ 2%.
6. INSTALL 6' WIDE BY 3' DEEP BY 150± LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#2), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #2 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.
7. INSTALL TYPE 1 STORM DRAIN CATCH BASIN WITH SOLID LID PER CITY STD DRAWING ON SHEET 9.
   CB #3
   NORTHING 325561.37
   EASTING 1956222.65
   CB #4
   NORTHING 325608.53
   EASTING 1956165.19



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet

LEGEND

- SAWCUT LINE / EXCAVATION LIMIT
- SD — PROPOSED STORM DRAIN PIPE
- G — G — EXISTING GAS PIPE
- SD — EXISTING STORM DRAIN PIPE
- SS — EXISTING SANITARY SEWER PIPE
- E — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER PIPE
- PARCEL BOUNDARY
- Ⓢ EXISTING SSMH
- EXISTING CATCH BASIN
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING LIGHT POST

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STATE OF WASHINGTON
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PROFESSIONAL ENGINEER
PRELIMINARY

REV.	DESCRIPTION	DATE	APPR.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

DRAINAGE PLAN

STORMWATER RETROFITS
RICHLAND, WA

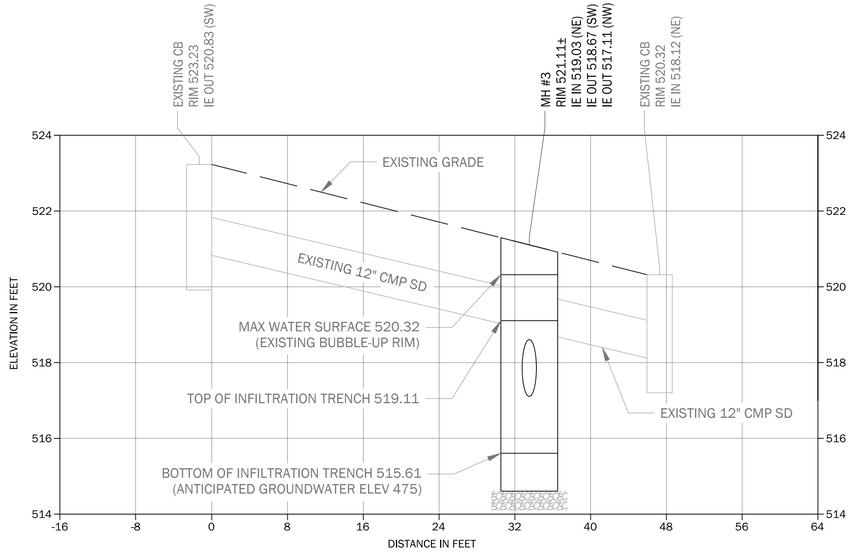
SHEET REFERENCE NUMBER:
4

SHEET **4** *OF* **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 04- DrainagePlanMeadows2 || Date Saved: Jun 24, 2020 12:10pm || User: epruneda

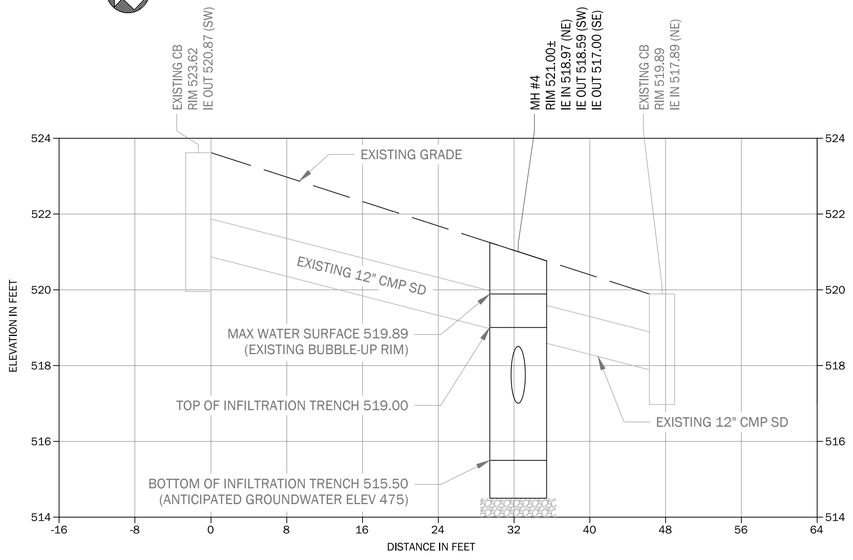
DRAINAGE PLAN
SCALE: 1" = 10'

0 10 20 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet

CONSTRUCTION NOTES

1. RETAIN AND PROTECT EXISTING SD CB. INSTALL TEMPORARY CATCH BASIN FILTER PER WSDOT STANDARD PLAN I-40.20-00.
2. SAWCUT, REMOVE, AND REPLACE 47± SY EXISTING HMA ROADWAY (MATCH EXISTING).
3. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #3 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 326103.83
   EASTING 1955920.81
4. INSTALL 5' WIDE BY 3.5' DEEP BY 55 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#3), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #3 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.
5. SAWCUT, REMOVE, AND REPLACE 60± SY EXISTING HMA ROADWAY (MATCH EXISTING).
6. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #4 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 326072.50
   EASTING 1955956.4
7. INSTALL 6.5' WIDE BY 3.5' DEEP BY 60 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#4), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #4 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.

LEGEND

- SAWCUT LINE / EXCAVATION LIMIT
- PROPOSED STORM DRAIN PIPE
- EXISTING GAS PIPE
- EXISTING STORM DRAIN PIPE
- EXISTING SANITARY SEWER PIPE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING WATER PIPE
- PARCEL BOUNDARY
- EXISTING SSMH
- EXISTING CATCH BASIN
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING LIGHT POST

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ERIK BRIAN PRUNDAT
STATE OF WASHINGTON
22320
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

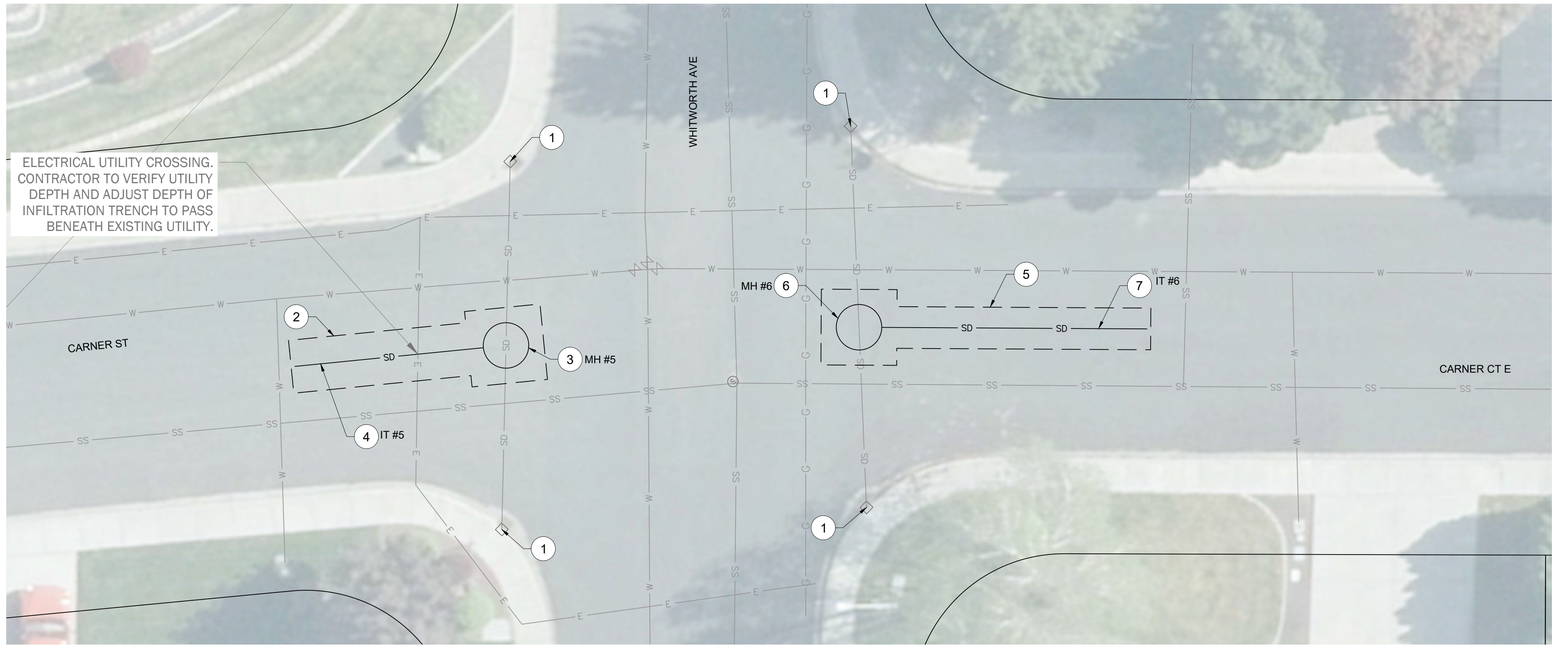
DRAINAGE PLAN

STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **5**

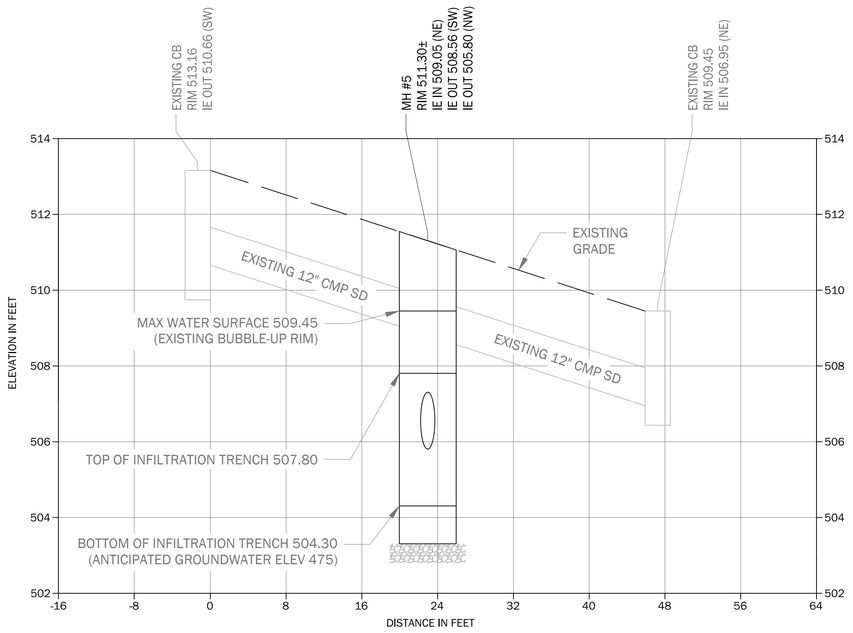
SHEET **5** OF **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 05- DrainagePlanMeadows3 || Date Saved: Jun 24, 2020 12:08pm || User: epruneda



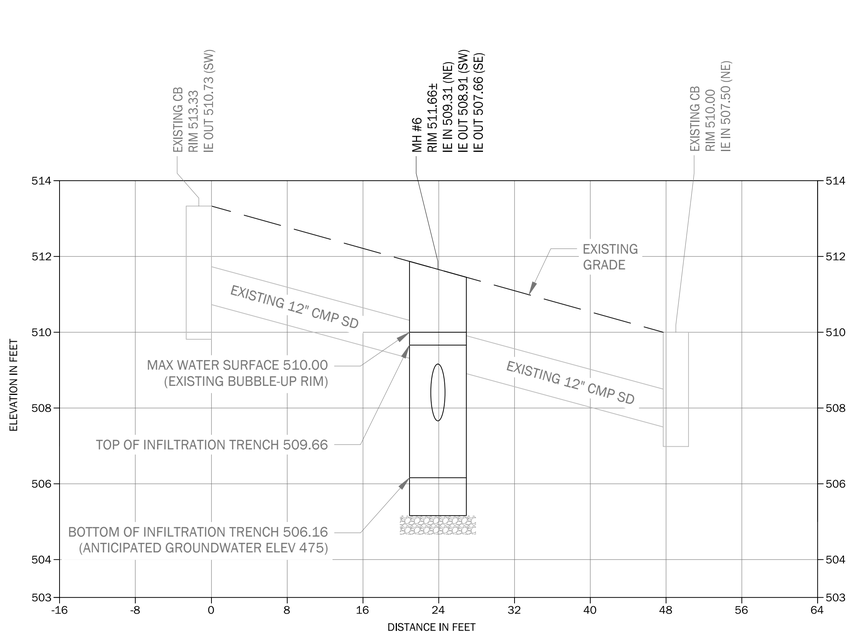
DRAINAGE PLAN
SCALE: 1" = 10'

0 10 20 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet

CONSTRUCTION NOTES

1. RETAIN AND PROTECT EXISTING SD CB. INSTALL TEMPORARY CATCH BASIN FILTER PER WSDOT STANDARD PLAN I-40.20-00.
2. SAWCUT, REMOVE, AND REPLACE 30± SY EXISTING HMA ROADWAY (MATCH EXISTING).
3. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #5 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 325786.73
   EASTING 1956418.16
4. INSTALL 6' WIDE BY 3.5' DEEP BY 25 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#5), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #5 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.
5. SAWCUT, REMOVE, AND REPLACE 32± SY EXISTING HMA ROADWAY (MATCH EXISTING).
6. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #6 PER DETAIL 2 ON SHEET 10, CONNECT TO EXISTING 12"Ø STORM PIPE.
   NORTHING 325754.52
   EASTING 1956451.9
7. INSTALL 4.5' WIDE BY 3.5' DEEP BY 35 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#6), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #6 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.

LEGEND

- SAWCUT LINE / EXCAVATION LIMIT
- SD — PROPOSED STORM DRAIN PIPE
- G — G — EXISTING GAS PIPE
- SD — EXISTING STORM DRAIN PIPE
- SS — EXISTING SANITARY SEWER PIPE
- E — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER PIPE
- PARCEL BOUNDARY
- Ⓢ EXISTING SSMH
- EXISTING CATCH BASIN
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING LIGHT POST

90% DESIGN
NOT FOR CONSTRUCTION

ERIK BRIAN PRUNEDA
STATE OF WASHINGTON
24320
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

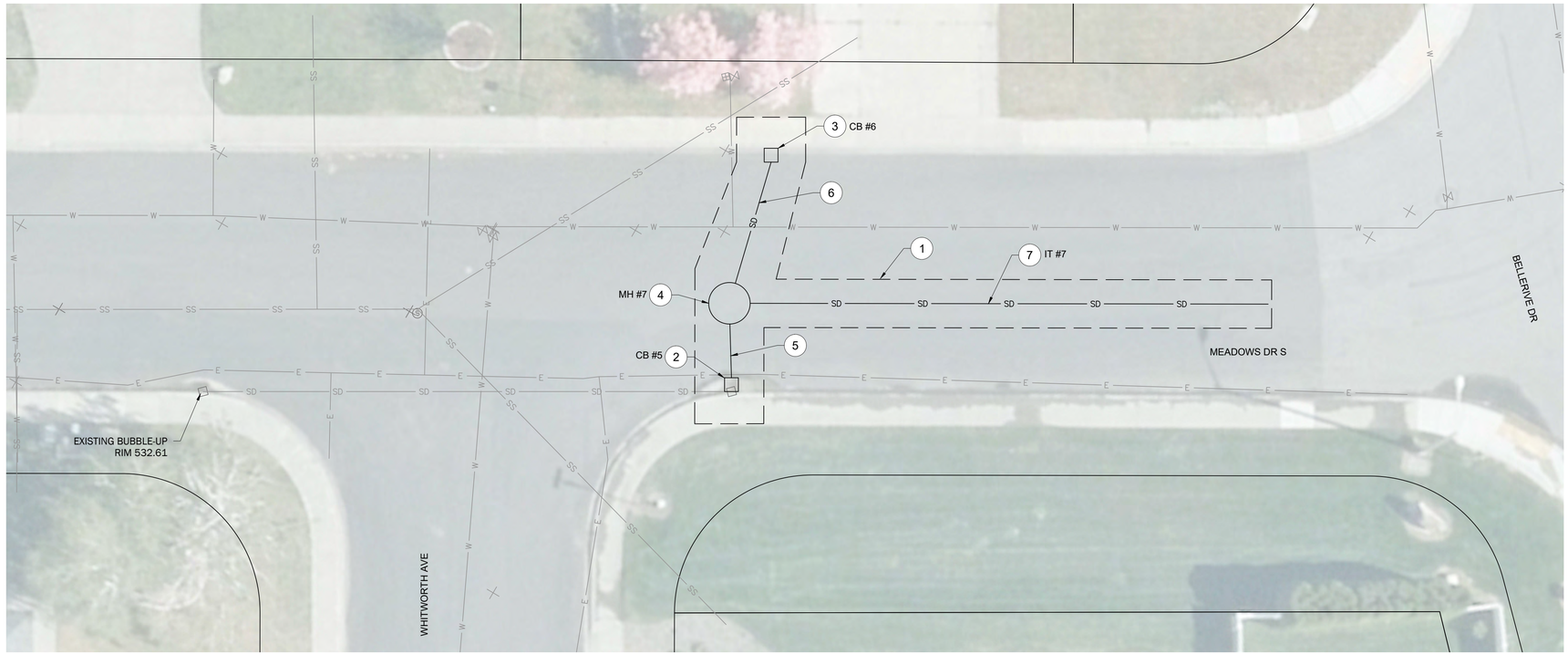
DRAINAGE PLAN

STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **6**

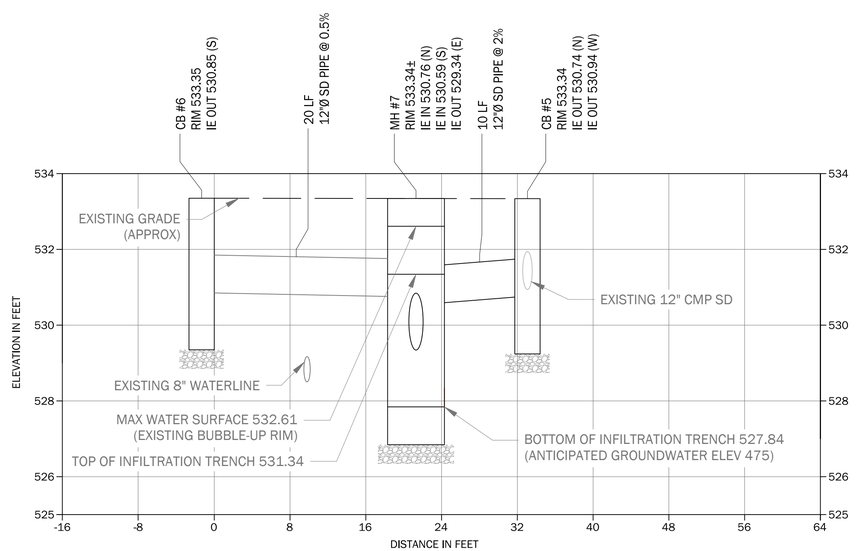
SHEET **6** *OF* **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 06- DrainagePlanMeadows4 || Date Saved: Jun 24, 2020 12:05pm || User: epruneda



DRAINAGE PLAN
SCALE: 1" = 10'

0 10 20 Feet



PROFILE VIEW
HORIZONTAL SCALE: 1" = 8'
VERTICAL SCALE: 1" = 2'
VERTICAL EXAGGERATION: 4X

0 8 16 Feet

CONSTRUCTION NOTES

1. SAWCUT, REMOVE, AND REPLACE 99± SY EXISTING HMA ROADWAY, 20 LF CURB & GUTTER, AND 9 SY SIDEWALK TO THE NEAREST JOINT BEYOND THE LOCATION CALLED OUT ON THE PLANS (MATCH EXISTING).
2. REMOVE AND DISPOSE EXISTING SD CB AND INSTALL TYPE 1 STORM DRAIN CATCH BASIN (CB#5) PER CITY STD DRAWING ON SHEET 9.
3. INSTALL TYPE 1 STORM DRAIN CATCH BASIN (CB#6) PER CITY STD DRAWING ON SHEET 9.
   NORTHING 326260.01
   EASTING 1956840.62
4. INSTALL PRESETTLING/SEDIMENTATION MANHOLE #7 PER DETAIL 2 ON SHEET 10.
   NORTHING 326240.80
   EASTING 1956829.39
5. INSTALL 10 LF 12"Ø SD PIPE @ 2%.
6. INSTALL 20 LF 12"Ø SD PIPE @ 0.5%.
7. INSTALL 6' WIDE BY 3.5' DEEP BY 75 LF INFILTRATION TRENCH WITH 18"Ø PVC PERFORATED PIPE (IT#7), PER DETAIL 1, SHEET 10.
   CAP OR PLUG INFILTRATION TRENCH INLET PIPE IN MH #7 UNTIL CONSTRUCTION SITE IS CLEAN AND STABILIZED AND TRENCH IS READY TO BE PUT INTO SERVICE.

LEGEND

- SAWCUT LINE / EXCAVATION LIMIT
- SD — PROPOSED STORM DRAIN PIPE
- G G — EXISTING GAS PIPE
- SD — EXISTING STORM DRAIN PIPE
- SS — EXISTING SANITARY SEWER PIPE
- E — EXISTING UNDERGROUND ELECTRIC LINE
- W — EXISTING WATER PIPE
- PARCEL BOUNDARY
- (S) EXISTING SSMH
- EXISTING CATCH BASIN
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING LIGHT POST

90% DESIGN
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ERIK BRIAN PRUNEDA
STATE OF WASHINGTON
24320
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.
-	-	-	-

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE-2020

Aspect CONSULTING

DRAINAGE PLAN

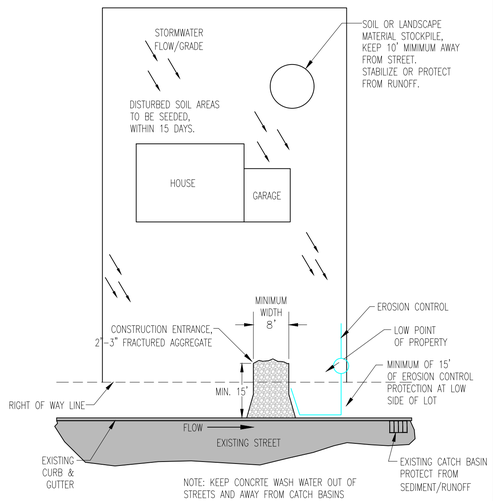
STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER:
7

SHEET **7** *OF* **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 07- DrainagePlanMeadows5 || Date Saved: Jun 24, 2020 12:02pm || User: epruneda

EXAMPLE EROSION CONTROL PLAN



NOTE: KEEP CONCRTE WASH WATER OUT OF STREETS AND AWAY FROM CATCH BASINS

EROSION CONTROL MEASURES

KEEP RUNOFF OUT OF THE STREET WITH ONE OF THE FOLLOWING METHODS:

1. SILT FENCING OR
2. EXCAVATE 5-FEET x 6-INCH DEEP BEHIND CURB AND STABILIZE WITH HYDRO SEED, ROCK OR MULCH. (SEE DETAIL AT RIGHT)

DETAIL

EROSION CONTROL PLAN CONSTRUCTION BMP'S SHEET 1 of 3	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 05.14
	DRAWN BY: JG	DWG: S16
	CAD FILE: 2014_S16-1_05_2014	

SUGGESTED BMP'S FOR RESIDENTIAL CONSTRUCTION SITES

NOTE: PUBLIC WORKS WILL INSPECT THE SITE FOR SOIL/SEDIMENT STABILIZATION.

WARNING! EXTRA MEASURES (Beyond the BMP's) MAY BE NEEDED IF YOUR SITE:

- IS WITHIN 300-FEET OF A STREAM OR STORM DRAIN INLET THAT LEADS TO A STREAM.
- IS STEEPLY GRADED (SLOPES OF 5% OR MORE).
- RECEIVES RUNOFF FROM ADJACENT LAND.
- HAS MORE THAN AN ACRE OF DISTURBED GROUND.

Soil/Landscaping Piles:

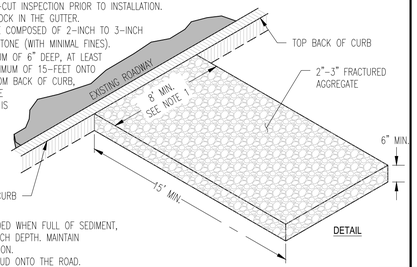
1. DO NOT STOCKPILE SOIL OR LANDSCAPING MATERIALS IN THE STREET.
2. LOCATE AWAY FROM ANY DOWNSLOPE STREET, DRIVEWAY, STREAM, WETLAND, DITCH OR DRAINAGE WAY. COVER WITH PLASTIC OR HYDROSEED.
3. TEMPORARY DROUGHT-TOLERANT SEEDING OR TACKIFIER IS RECOMMENDED FOR TOPSOIL PILES.

Storm Drain Inlet Protection:

1. PROTECT THE NEAREST DOWNSTREAM STORM DRAIN INLET IN THE CITY STREET WITH SILT FENCES, SILT FABRIC OR EQUIVALENT MEASURES.
2. INSPECT, REPAIR AND REMOVE SEDIMENT DEPOSITS FROM LOW AREAS AND STREET AFTER EVERY STORM OR RUNOFF EVENT.

Stabilized Construction Entrances (See Detail):

1. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED BEHIND THE CURB AT THE FUTURE DRIVEWAY LOCATION. CALL 942-7500 FOR A CURB-CUT INSPECTION PRIOR TO INSTALLATION. DO NOT PILE SOIL OR ROCK IN THE GUTTER.
2. THE ENTRANCE SHALL BE COMPOSED OF 2-INCH TO 3-INCH FRACTURED AGGREGATE STONE (WITH MINIMAL FINES). LAY THE STONE A MINIMUM OF 6" DEEP, AT LEAST 8-FEET WIDE AND A MINIMUM OF 15-FEET ONTO THE SITE, MEASURED FROM BACK OF CURB, OR THE DISTANCE TO THE FOUNDATION, WHICHEVER IS LESS.



DETAIL

3. REPLACE STONE AS NEEDED WHEN FULL OF SEDIMENT, AND TO MAINTAIN A 6-INCH DEPTH. MAINTAIN THROUGHOUT CONSTRUCTION.
4. PREVENT TRACKING OF MUD ONTO THE ROAD.

Sediment Cleanup :

1. BY THE END OF EACH WORK DAY, SWEEP OR SCRAPE UP SOIL TRACKED ONTO THE ROAD. DO NOT HOSE INTO STORM DRAIN SYSTEM.
2. BY THE END OF THE NEXT WORK DAY AFTER A STORM, CLEAN UP SOIL WASHED OFF-SITE.
3. REMEMBER TO CONTROL YOUR DUST, BUT TOO MUCH WATERING CAN LEAD TO RUNOFF OF SEDIMENT-LADEN WATER INTO THE STREET OR NEIGHBORING LOT.

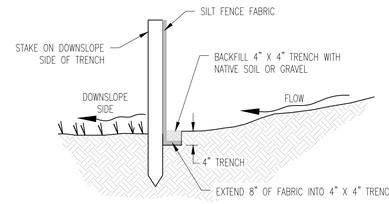
Vegetation/Revegetation :

1. WHEREVER POSSIBLE, PRESERVE EXISTING TREES, SHRUBS, GRASSES AND OTHER VEGETATION.
2. SEED, SOD OR MULCH BARE SOIL AS SOON AS POSSIBLE. VEGETATION IS THE MOST EFFECTIVE WAY TO CONTROL EROSION.

EROSION CONTROL PLAN CONSTRUCTION BMP'S SHEET 2 of 3	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 11.15
	DRAWN BY: LD	DWG: S16
	CAD FILE: 2014_S16-2_11_2015	

Silt Fences :*

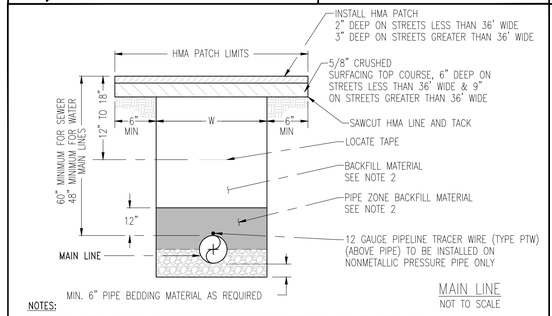
1. INSTALL PRIOR TO LAND DISTURBANCE.
2. INSTALL ON DOWNSLOPE SIDES OF SITE, PARALLEL TO CONTOUR OF THE LAND.
3. EXTEND ENDS UPSLOPE ENOUGH TO KEEP PONDING WATER BEHIND FENCE.
4. LEAVE NO GAPS. OVERLAP SECTIONS OF SILT FENCE, OR TWIST ENDS OF SILT FENCE TOGETHER.
5. INSPECT AND REPAIR ONCE A WEEK AND AFTER ANY RAIN/SNOWMELT EVENTS. REMOVE SEDIMENT IF DEPOSITS REACH HALF THE FENCE HEIGHT.
6. MAINTAIN UNTIL LANDSCAPING OR HYDROSEED IS ESTABLISHED.



SILT FENCE INSTALLATION CROSS SECTION

*ALTERNATIVELY, IF THE STREET IS ON THE LOW SIDE OF THE LOT, GRADE THE LOT 5' BEHIND THE CURB, THEN STABILIZE WITH 2-INCH TO 3-INCH FRACTURED AGGREGATE (6" DEEP). THIS CAN BE ALLOWED IN LIEU OF SILT FENCE.

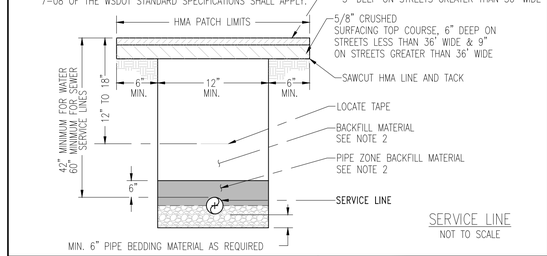
EROSION CONTROL PLAN CONSTRUCTION BMP'S SHEET 3 of 3	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 05.14
	DRAWN BY: LD	DWG: S16
	CAD FILE: 2014_S16-3_05_2014	



MAIN LINE
NOT TO SCALE

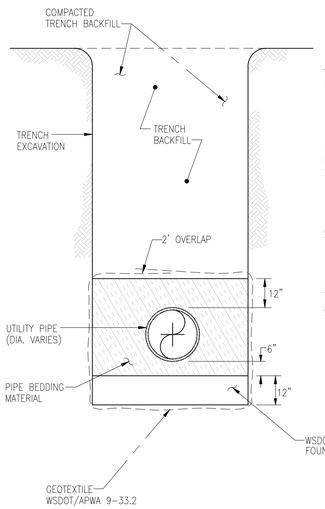
NOTES:

1. TRENCH WIDTH "W" SHALL BE 40" MINIMUM FOR 15" DIAMETER AND SMALLER PIPES AND 1 1/2 TIMES THE INSIDE DIAMETER PLUS 18" MINIMUM FOR 18" AND LARGER PIPES.
2. 5/8" CRUSHED SURFACING TOP COURSE BACKFILL MATERIAL REQUIRED ON SMALL TRENCH REPAIR UTILITY PROJECTS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. FOR CITY OF RICHLAND CAPITAL IMPROVEMENT PROJECTS AND SUBDIVISIONS SECTION 7-08 OF THE WSDOT STANDARD SPECIFICATIONS SHALL APPLY.



SERVICE LINE
NOT TO SCALE

TRENCH DETAIL	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 05.14
	DRAWN BY: LD	DWG: U2
	CAD FILE: 2014_U2_05_2014	

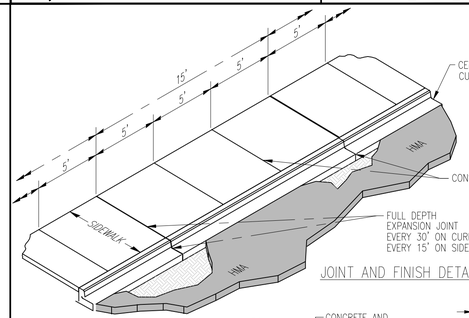


THE ON-SITE SOILS MAY BE USED FOR COMPACTED TRENCH BACKFILL.

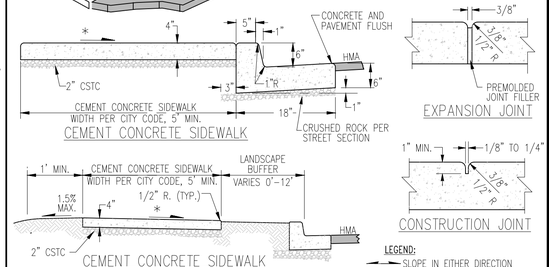
PIPE BEDDING MATERIAL SHALL CONFORM TO THE WSDOT/APWA STANDARD SPECIFICATIONS 9-03.9(3) TOP COURSE

ALL PIPE BEDDING SHOULD BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC. THE GEOTEXTILE SHALL HAVE A NOMINAL WEIGHT OF AT LEAST 6 OUNCES PER SQUARE YARD. THE GEOTEXTILE SHALL EXTEND ACROSS THE BOTTOM OF THE TRENCH, UP THE SIDES OF THE TRENCH, AND SHALL OVERLAP AT LEAST 2 FEET ON THE TOP OF THE TRENCH.

GROUND WATER TRENCH DETAIL	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 12.2010
	DRAWN BY: LD	DWG: U3
	CAD FILE: 2012_U3_12_2010	



JOINT AND FINISH DETAIL



CEMENT CONCRETE SIDEWALK

LEGEND:
SLOPE IN EITHER DIRECTION
* 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX)

NOTES:

1. SEE STANDARD DETAIL ST7 FOR CURB, GUTTER AND SIDEWALK NOTES.
2. INSTALL 3/8" FULL EXPANSION JOINTS IN CURB AT ALL PC'S, PT'S AND CURB RETURNS.
3. ALL FILETS 1/2" UNLESS OTHERWISE NOTED.
4. FINISHED GRADE ADJACENT TO SIDEWALK OR CURB SHALL BE 1" BELOW TOP OF CONCRETE SURFACE.

CURB, GUTTER & SIDEWALK	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 05.18
	DRAWN BY: EY	DWG: ST1
	CAD FILE: 2013_ST1_05_2018	

CONSTRUCTION NOTES FOR PEDESTRIAN FACILITIES

1. ASPHALT PATCHING – SAWCUT A MINIMUM OF 24" OF ASPHALT BEYOND THE FACE OF NEW GUTTER, REMOVE ALL DEBRIS AND ADD CRUSHED SURFACE TOP COURSE (CSTC) AS NEEDED. COMPACT AREA, PLACE HMA AND COMPACT AS REQUIRED.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI FOR SIDEWALKS. CONCRETE FOR CURB, GUTTER AND DRIVEWAYS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
3. CONTRACTOR SHALL CALL FOR CITY INSPECTION PRIOR TO CUTTING AND/OR REMOVING CURB, GUTTER, AND SIDEWALK. THE INSPECTOR WILL MARK AREA TO BE CUT OR REMOVED. CONTRACTOR'S PRESENCE IS ADVISABLE.
4. CONTRACTOR SHALL CALL FOR INSPECTION OF ALL FORMS PRIOR TO POURING CONCRETE FOR CURB, GUTTER, SIDEWALK AND DRIVEWAYS. ALL EXPANSION JOINTS SHALL BE IN PLACE AT TIME OF INSPECTION. ("WET SET" MASTIC IS NOT ALLOWED)
5. THE INSPECTOR SHALL CHECK ALL JOINT LOCATIONS. ALL EXPANSION JOINTS SHALL BE MARKED WITH AN "M".
6. CONTRACTOR SHALL NOT POUR ANY CONCRETE UNTIL ALL JOINTS HAVE BEEN CHECKED AND GIVEN VERBAL OR WRITTEN APPROVAL BY INSPECTOR.
7. THE FACE OF CURB SHALL BE STAMPED AT ALL UTILITY CROSSINGS, MAIN LINES AND SERVICE LINES AS FOLLOWS: "S"-SANITARY SEWER, "W"-WATER, "I"-IRRIGATION, "C"-CONDUITS
8. CURB, GUTTER, AND SIDEWALK SURFACES SHALL HAVE A LIGHT BROOM FINISH. SIDEWALK SHALL BE BROOMED PERPENDICULAR TO CURB LINE IN A UNIFORM AND CONSISTENT MANNER.
9. A MINIMUM OF 2" OF CSTC SHALL BE PLACED AND COMPACTED UNDER ALL CURB, GUTTER AND SIDEWALK.
10. JOINT SPACING SHALL BE NO LESS THAN 2.5' AND NO GREATER THAN 5'.
11. SIDEWALKS SHALL BE A MINIMUM OF 5 FEET WIDE. IN COMMERCIAL ZONED C-2, C-3, AND CBD AREAS THE SIDEWALKS SHALL BE 8 FEET WIDE.
12. WHEN UTILITY METERS, VAULTS, TRANSFORMERS, ETC. EXIST IN THE AREA BETWEEN THE LOT LINE AND THE DRIVEWAY, THE DRIVEWAY MUST BE CONSTRUCTED AT LEAST 10' FROM THE LOT LINE.
13. IF A CONCRETE DRIVEWAY IS TO BE EXTENDED PAST THE R/W LINE A 3/8" MASTIC EXPANSION JOINT SHALL BE INSTALLED FULL LENGTH OF DRIVEWAY AND FULL DEPTH OF DRIVEWAY AT THE BACK OF SIDEWALK. DRIVEWAY SHALL LINE UP WITH THE BOTTOM OF THE DRIVEWAY TRANSITIONS IN THE CURB AND GUTTER.
14. MAINTAIN 4' MINIMUM CLEARANCE FROM ANY OBSTRUCTION ON SIDEWALK AND SIDEWALK RAMP.
15. AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF DRIVEWAY ENTRANCES.
16. AT NO TIME SHALL ANY SLOPES EXCEED CURRENT ADA STANDARDS.

CURB, GUTTER & SIDEWALK NOTES	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 09.13
	DRAWN BY: LD	DWG: ST7
	CAD FILE: 2013_ST7_09_2013	

90% DESIGN
NOT FOR CONSTRUCTION

ERIK BRIAN PRUNEDA — STATE OF WASHINGTON — 24320 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

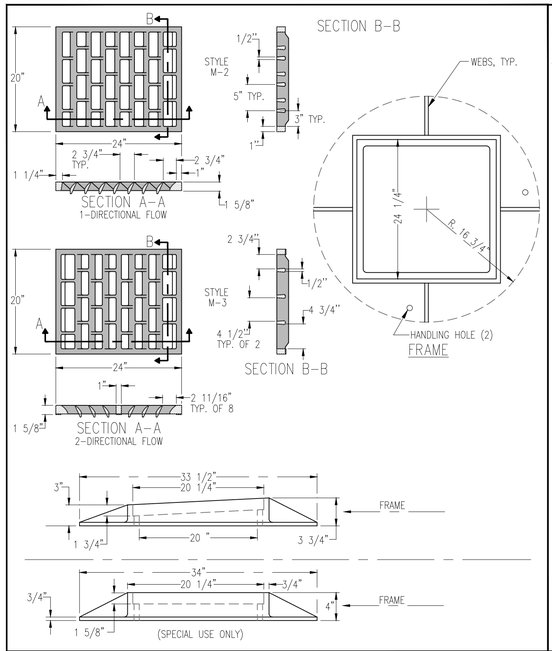
Aspect CONSULTING

DETAILS
STORMWATER RETROFITS
RICHLAND, WA

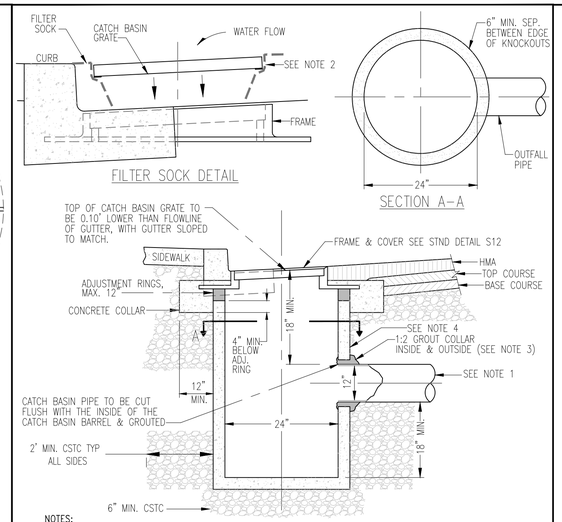
SHEET REFERENCE NUMBER: **8**

SHEET **8** OF **10**

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 08-Details || Date Saved: Jun 24, 2020 12:17pm || User: epruneda



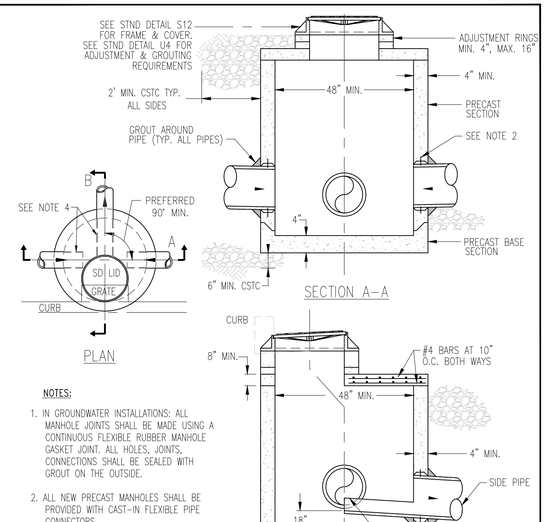
STORM DRAIN CATCH BASIN FRAME & COVER	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 12.2010
	DRAWN BY: LD	DWG: S12
	CAD FILE: 2012_S12_12_2010	



NOTES:

1. C900 PIPE TO BE USED WHEN PIPE COVER IS LESS THAN 18". MAXIMUM NUMBER AND SIZE OF PIPE CONNECTING TO CATCH BASIN SHALL NOT EXCEED 3–12" PIPES.
2. FILTER SOCK TO BE INSTALLED OVER TOP OF CATCH BASIN GRATE PER DETAIL. REMOVE ONLY WHEN DIRECTED BY CITY ENGINEER.
3. 1:2 GROUT BETWEEN CATCH BASIN RING AND CONCRETE TILE, BOTH INSIDE, OUTSIDE AND INSTALL A 12" CONCRETE COLLAR A MINIMUM 4" BELOW ADJUSTMENT RINGS. ADJUSTMENTS 2" AND GREATER TO BE MADE WITH PRECAST CONCRETE RINGS.
4. WIRE REINFORCED PRECAST CATCH BASIN SHALL BE REQUIRED WHEN 3–12" PIPES ARE TO BE CONNECTED.
5. A STORM DRAIN CATCH BASIN MANHOLE SHALL BE USED WHEN ITS DEPTH IS 4.5' OR MORE FROM INVERT TO TOP OF RIM, AND OR MORE THAN 3–12" PIPES ARE CONNECTED.

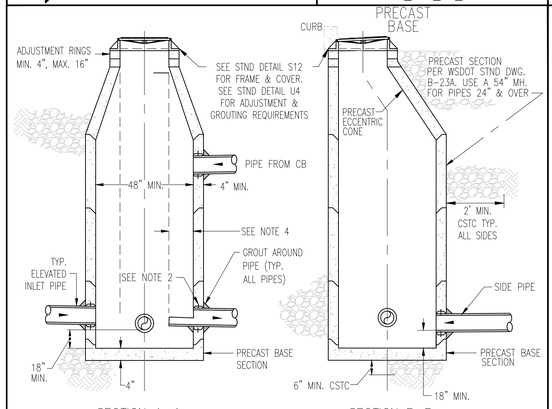
TYPE 1 STORM DRAIN CATCH BASIN	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 03.16
	DRAWN BY: JLC	DWG: S11
	CAD FILE: 2016_S11_03_2016	



NOTES:

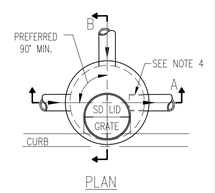
1. IN GROUNDWATER INSTALLATIONS: ALL MANHOLE JOINTS SHALL BE MADE USING A CONTINUOUS FLEXIBLE RUBBER MANHOLE GASKET JOINT. ALL HOLES, JOINTS, CONNECTIONS SHALL BE SEALED WITH GROUT ON THE OUTSIDE.
2. ALL NEW PRECAST MANHOLES SHALL BE PROVIDED WITH CAST–IN FLEXIBLE PIPE CONNECTORS.
3. A STANDARD MANHOLE SHALL BE USED WHEN IT'S DEPTH IS 5.5' OR MORE FROM INVERT TO TOP OF RIM.
4. EXTEND THE OUTLET PIPE INVERTS SO THEY ARE AT THE VERTICAL EDGE OF THE MANHOLE OPENING. CUT PIPE BELOW SPRING LINE.

SHALLOW STORM DRAIN CATCH BASIN MANHOLE	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 03.2018
	DRAWN BY: EY	DWG: S14
	CAD FILE: 2013_S14_03_2018	

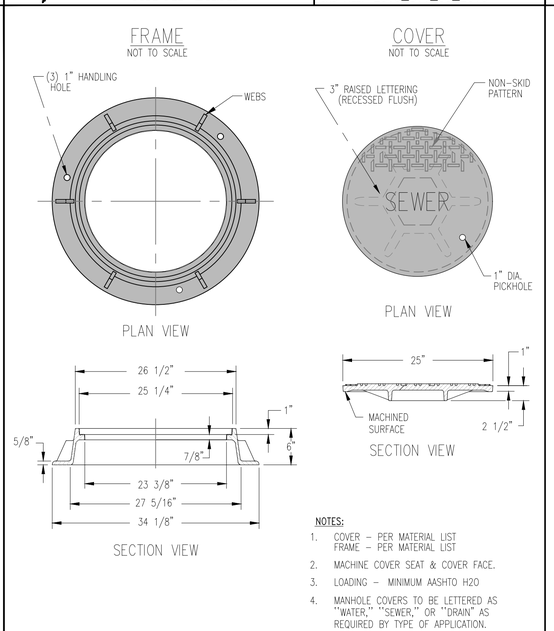


NOTES:

1. IN GROUNDWATER INSTALLATIONS: ALL MANHOLE JOINTS SHALL BE MADE USING A CONTINUOUS FLEXIBLE RUBBER MANHOLE GASKET JOINT. ALL HOLES, JOINTS, CONNECTIONS SHALL BE SEALED WITH GROUT ON THE OUTSIDE.
2. ALL NEW PRECAST MANHOLES SHALL BE PROVIDED WITH CAST–IN FLEXIBLE PIPE CONNECTORS. NO PIPE PENETRATIONS ALLOWED INTO PRECAST CONE SECTIONS.
3. A SHALLOW MANHOLE SHALL BE USED WHEN IT'S DEPTH IS 5.5' OR LESS FROM INVERT TO TOP OF RIM.
4. EXTEND THE OUTLET PIPE INVERTS SO THEY ARE AT THE VERTICAL EDGE OF THE MANHOLE OPENING. CUT PIPES BELOW SPRING LINE.



STORM DRAIN CATCH BASIN MANHOLE	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 03.2018
	DRAWN BY: EY	DWG: S13
	CAD FILE: 2013_S13_03_2018	



NOTES:

1. COVER – PER MATERIAL LIST
   FRAME – PER MATERIAL LIST
2. MACHINE COVER SEAT & COVER FACE.
3. LOADING – MINIMUM AASHTO H20
4. MANHOLE COVERS TO BE LETTERED AS "WATER," "SEWER," OR "DRAIN" AS REQUIRED BY TYPE OF APPLICATION.

MANHOLE FRAME AND COVER	CIVIL & UTILITY ENGINEERING	
	APPR. BY: PKR	DATE: 03.2018
	DRAWN BY: EY	DWG: S8
	CAD FILE: 2012_S8_03_2018	

90% DESIGN
NOT FOR CONSTRUCTION

ERIK BRIAN PRUNDAT — STATE OF WASHINGTON — 24320 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE 2020

Aspect CONSULTING

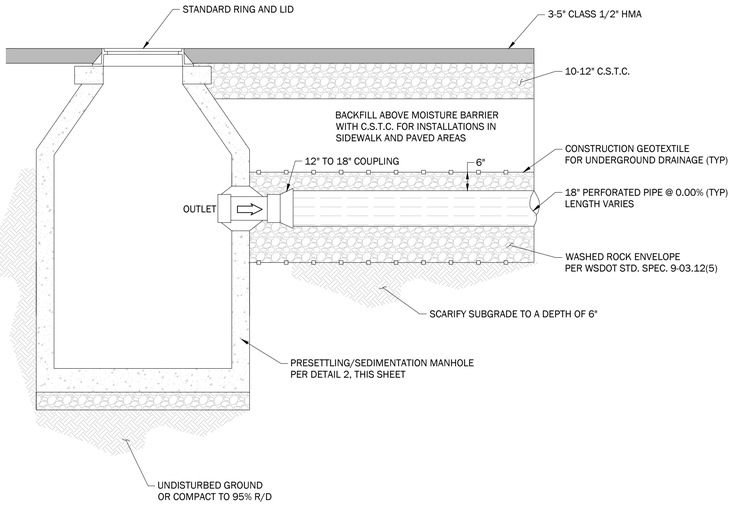
DETAILS

STORMWATER RETROFITS
RICHLAND, WA

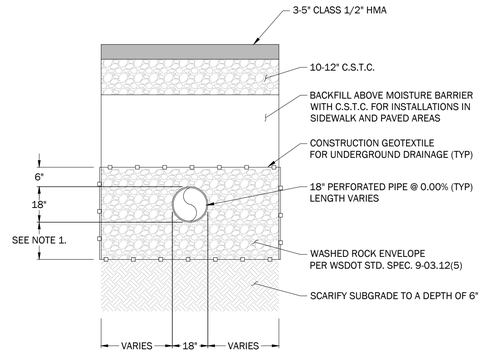
SHEET REFERENCE NUMBER: 9

SHEET 9 OF 10

CAD Path: Q:\City of Richland\190032 Richland SW Retrofits\Task 1\2020-XX 90 Design\190032 Task 1 Plan Set.dwg 09-Details || Date Saved: Jun 24, 2020 12:18pm || User: epruneda



INFILTRATION TRENCH DETAIL 1/10
SCALE: NTS



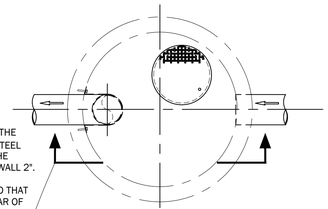
NOTES:

1. WASHED ROCK ENVELOPE THICKNESS BELOW PERFORATED PIPE INVERT SHALL BE 18" FOR IT #1, IT #3, IT #4, IT #5, IT #6, IT #7, AND 12" FOR IT #2.

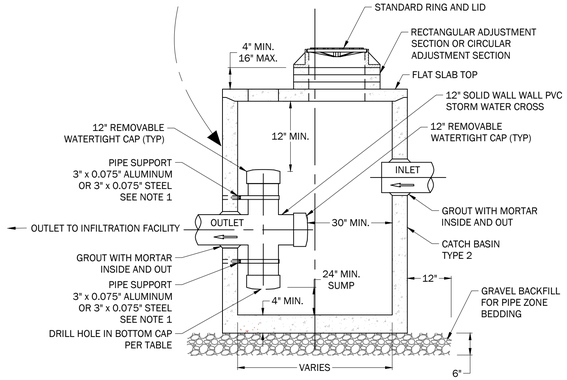
STRUCTURE ID	BOTTOM CAP HOLE DIAMETER
MH #1	2.00"
MH #2	3.25"
MH #3	2.00"
MH #4	2.00"
MH #5	2.00"
MH #6	2.00"
MH #7	2.00"

NOTES:

1. ATTACH THE PIPE SUPPORTS TO THE MANHOLE WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2".
2. THE FRAME SHALL BE OFFSET SO THAT THE CLIMB-DOWN SPACE IS CLEAR OF THE RISER.

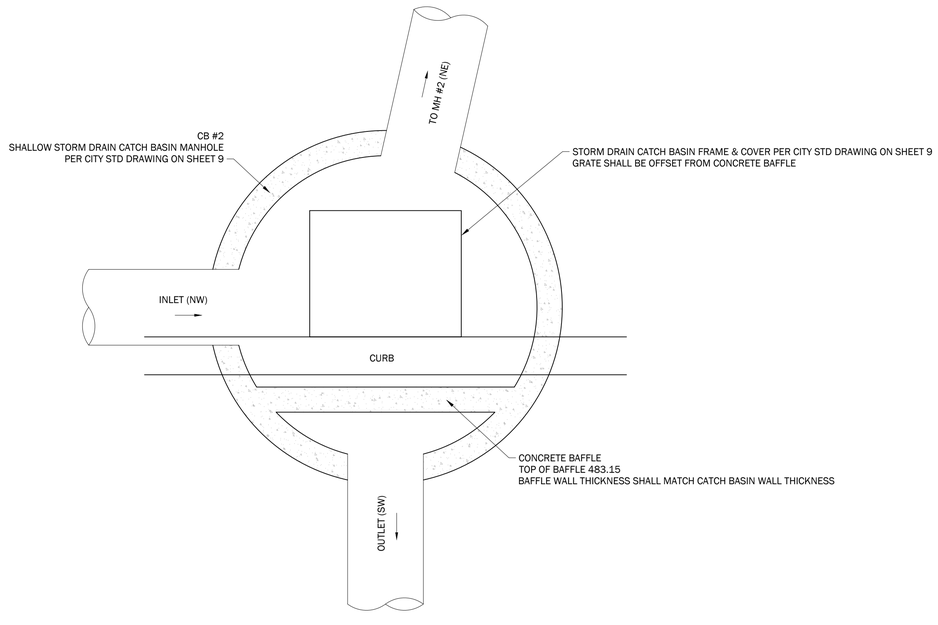


PLAN



SECTION

PRESETTLING/SEDIMENTATION MANHOLE DETAIL 2/10
SCALE: NTS



BAFFLE CATCH BASIN (CB #2) DETAIL 3/10
SCALE: NTS

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ERIK BRIAN PRUNEDA — STATE OF WASHINGTON — 24820 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

APPR.	DATE	DESCRIPTION	REV.

REVISED BY: -
DRAWN BY: CMV
DESIGNED BY: EBP/JHK
PROJECT NUMBER: 190032
REVISION: 0
DATE: JUNE-2020

Aspect CONSULTING

DETAILS

STORMWATER RETROFITS
RICHLAND, WA

SHEET REFERENCE NUMBER: **10**

SHEET **10** OF **10**