DESIGN INTENT

THE LANDSCAPE IS DESIGNED TO COMPLY WITH THE PRESCRIPTIVE COMPLIANCE OPTION OF THE LOCALLY ADOPTED AND ENFORCED STORMWATER RUN-OFF REDUCTION ("TURFLESS") CODE, COMPLIANT WITH MANDATORY ELEMENTS OF WELD MUST BE DOCUMENTED ON LANDSCAPE PLANS.

THE PLANTS ARE DESIGNED TO ENHANCE THE WATER QUALITY LANDSCAPING APPROACHES WITH LOW/MED MOSSY PLANTS CLOSE TO BUILDINGS, AND TREES POSITIONED TO ALLOW MAINTENANCE OF BRANCHES 10' AWAY FROM BUILDINGS.

LOW IMPACT DEVELOPMENT (LID) ELEMENTS SUCH AS PERMEABLE PAVING, AND DOWNSPOUTS DISCONNECTED FROM STORM SEWER DRAINAGE AND ORGANIC TO NONORGANIC LANDSCAPE STRIPS, ARE PROVIDED TO HELP TREAT MORE STORMWATER RUNOFF ON SITE, INCREASE GROUNDWATER RECHARGE AND INCREASE TURFLESS (") COVERED!

PROVIDED TO INFILTRATE MORE STORMWATER RUN-OFF ON SITE, INCREASE GROUNDWATER RECHARGE WOODY PLANTS CLOSE TO BUILDINGS, AND TREES POSITIONED TO ALLOW MAINTENANCE OF BRANCHES 10' AWAY FROM BUILDINGS.

LANDSCAPE DESIGN REQUIREMENTS

THE PLANTING ARE DESIGNED TO COMPLY WITH THE APPENDIX "F": PRESCRIPTIVE COMPLIANCE OPTION OF WELD.

1. MEDIUM WATER USE PLANTING DO NOT EXCEED 25 PERCENT OF THE TOTAL PLANTED AND IRRIGATED AREA.
2. LOW WATER USE OR CLIMATE-ADAPTED SPECIES THAT REQUIRE LITTLE OR NO SUMMER WATER ARE SELECTED TO EXTEND THE LIFE OF PLANTS AND IRRIGATION.
3. PLANTED LANDSCAPE AREA MUST BE SMALLER THAN 2000 SF PLANTED AND IRRIGATED AREA.

ADDITIONAL GUIDELINES FOR THE PLANTING:

A. FIRE-WATER PLANTINGS ARE INDICATED ON PLANT LISTS AND USED IN THE FUTURE SHAPES OF TRENDS AND BUILDING STRUCTURES SO THAT BRANCHES ARE TRIMMED TO ALLOW THE FLOW OF HUMANS.
B. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARDS ARE FACING AND NORTH AREAS ARE INDICATED ON PLANS.
C. TREES ARE LOCATED FOR SHADE ON GARDEN AREAS AND TO PROVIDE SOLAR ACCESS FOR SOLAR PANELS ON ROOFS. TREES ARE LOCATED AWAY FROM BUILDING STRUCTURES SO THAT BRANCHES ARE TRIMMED TO ALLOW THE FLOW OF HUMANS.
D. PLANTS ARE GROUPED IN IRRIGATION ZONES ("HYDROZONES") BASED ON SIMILAR WATER NEEDS AS PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARDS ARE FACING AND NORTH AREAS ARE INDICATED ON PLANS.

SOIL MANAGEMENT REQUIREMENTS

A. CLIMATE ADEPT: NON-NATIVE PLANTS WHICH ARE ADAPTED TO LOCAL MICROCLIMATES.
B. ENVIRONMENTAL PLANTS: CALIFORNIA IN-DOMESTIC USE AND ARE ASSIGNED PLANTS AS PLANTS THAT ARE NATIVE TO AN ENVIRONMENT, AND ONCE INTRODUCED, THEY ESTABLISH, QUICKLY REPRODUCE AND SPREAD, AND CAUSE HARM TO THE ENVIRONMENTAL ECOLOGY OR HUMANITY.
C. VEGETATION MANAGEMENT PLANTS WITH SIMILAR WATER NEEDS AND ROOTING DEPTHS ARE GROUPED IN THE SAME MICRO-CLIMATE.
D. PLANTS ARE SELECTED TO ENHANCE THE WATER QUALITY LANDSCAPE APPROACHES WITH LOW/MED MOSSY PLANTS CLOSE TO BUILDINGS, AND TREES POSITIONED TO ALLOW MAINTENANCE OF BRANCHES 10' AWAY FROM BUILDINGS.
E. THE CALIFORNIA MODEL WATERTIGHT LANDSCAPE ORDINANCES THAT REQUIRE WATER CONSERVATION MEASURES TO BE ENFORCED AND MAINTAIN CONTROLLER SYSTEMS.
F. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARDS ARE FACING AND NORTH AREAS ARE INDICATED ON PLANS.

SYMBOLS & DEFINITIONS

1. CLIMATE ADEPT: NON-NATIVE PLANTS WHICH ARE ADAPTED TO LOCAL MICROCLIMATES.
2. ENVIRONMENTAL PLANTS: CALIFORNIA IN-DOMESTIC USE AND ARE ASSIGNED PLANTS AS PLANTS THAT ARE NATIVE TO AN ENVIRONMENT, AND ONCE INTRODUCED, THEY ESTABLISH, QUICKLY REPRODUCE AND SPREAD, AND CAUSE HARM TO THE ENVIRONMENTAL ECOLOGY OR HUMANITY.
3. VEGETATION MANAGEMENT PLANTS WITH SIMILAR WATER NEEDS AND ROOTING DEPTHS ARE GROUPED IN THE SAME MICRO-CLIMATE.
4. THE CALIFORNIA MODEL WATERTIGHT LANDSCAPE ORDINANCES THAT REQUIRE WATER CONSERVATION MEASURES TO BE ENFORCED AND MAINTAIN CONTROLLER SYSTEMS.
5. PLANTS ARE PLACED IN APPROPRIATE MICROCLIMATES BY EVALUATING THE DIRECTION THE FRONT YARDS ARE FACING AND NORTH AREAS ARE INDICATED ON PLANS.
6. TURF: GROUND COVER TYPE OR MEASURED SURFACE COVERS OF GRASSES."
MEASURE ENTIRE FRONT YARD AREA. SUBTRACT HARDSCAPE AREAS TO GET THE TOTAL SQUARE FEET OF PLANTED AND IRRIGATED AREA. ENTER THIS NUMBER IN THE PLANT WATER USE TABLE ON THIS SHEET.

1. MEASURE ENTIRE FRONT YARD AREA. SUBTRACT HARDSCAPE AREAS TO GET THE TOTAL SQUARE FEET OF PLANTED AND IRRIGATED AREA. ENTER THIS NUMBER IN THE PLANT WATER USE TABLE ON THIS SHEET.

2. IF NEEDED USE A RED PEN TO ADJUST THE LAYOUT OF DRIVEWAY, PATIOS AND PLANTING AREAS TO FIT YOUR YARD. ADJUST DIRECTIONS OF NORTH ARROWS TO SITE CONDITION.

3. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

4. ASSURE TREE LOCATIONS WILL NOT LIMIT CONSTRUCTION OR LOCATION OF HOUSE OR ADJACENT STRUCTURE.

5. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

6. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

7. REVIEW PLANT WATER USE TABLES AND INSTALL SLEEVES UNDER PAVING SURFACES IN THEIR CORRECT LOCATION.

8. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

9. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

10. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

PLANTING WATER USE TABLE

<table>
<thead>
<tr>
<th>WATER USE</th>
<th>PLAN (SF)</th>
<th>PERTAIN %</th>
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<th>PERTAIN %</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>1,400</td>
<td>107 (37%)</td>
<td>107 (37%)</td>
<td>107 (37%)</td>
</tr>
<tr>
<td>MED</td>
<td>127 (9%)</td>
<td>127 (9%)</td>
<td>127 (9%)</td>
<td>127 (9%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,527</td>
<td>119 (7%)</td>
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APPLICANT INSTRUCTIONS:

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9. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.

10. PLANTING DESIGN FOR FULL COVER WITHIN 3 YEARS.
1. ADJUST LAYOUT OF PLANTING BEDS IF CHANGED ON LAYOUT SHEET.
2. REVIEW IRRIGATION VALVE TABLE TO ADJUST SF AREAS OF VALVE ZONES.
3. IF AREAS EXCEED MAX SUBZONE FLOW (3 GPM) DIVIDE INTO ADDITIONAL SUBZONES AND ENTER
   NEW SUBZONE/VALVE ZONE AREA ON PLAN IN NEW COLOR.
4. DRAW OUT NEW SUBZONE/VALVE ZONE AREA ON PLAN IN NEW COLOR.
5. TRANSFER TUBING ISOLATION LEGEND KEEP TUBING 3' BACK FROM TREE, TYP.
6. ADD VALVE AS NEEDED TO VALVE MANIFOLD.
7. REVIEW IRRIGATION LEGEND AND CHECK OFF THAT ALL COMPONENTS ARE SHOWN ON
   ADJUSTED PLAN.
8. NOTE ANY EQUIPMENT SUBSTITUTIONS.

Irrigation System

Controller: Hunter Pro-C Indoor

Sleeve: PVC SCH 40

Mainline: With PVC SCH 40 Solvent Fittings

Lateral: PVC SCH 40 with PVC SCH 40 Solvent Fittings

Drain Irrigation Control Valve Assembly to Include:

- Ace 675-43 Deep Control Zone Kit
- Hunter Pqui-Avi Included Kit
- R20 Mesh Stainless Steel Screen
- R20 Mesh Stainless Steel Screen

Filter: PVC Schedule 80

Pressure Regulator: PVC Schedule 80

Transition to Driveway See Detail

Deep Layout

Planting Beds

Trees: Net/Net Flow 0.75 Emitter Flow 0.6 GPM Emitter Spacing 12" (Loom)

Clay Soil: Emitter Flow 0.6 GPM Emitter Spacing 18" (Loom)

Sandy Soil: Emitter Flow 0.6 GPM Emitter Spacing 12" (Loom)

Drip Irrigation Table

APPLICATION INSTRUCTIONS:

- Verify Location with Owner
- PROVIDE MANUAL SHUT-OFF VALVE WITH OWNER
- PROVIDE STATIC PRESSURE DEVICE
- VERIFY LOCATION
- PROVIDE BACKFLOW PREVENTION
- SCREEN REGULATORS
- INCLUDES ALL- IN- ONE KIT TLCV4-1801, TLCV6-1201
- INCLUDES PGV-ASV, PVC SCH 40 WITH SCH 40 SOLVENT WELD FITTINGS
- INCLUDES PGV-ASV, PVC SCH 40 WITH SCH 40 SOLVENT WELD FITTINGS
- INSTALL SLEEVES PRIOR TO SHOVELING CONCRETE
- PRODUCE CONCRETE EQUIPMENT WITH PLUMBER.

PLANT WATER USE TABLE

| Plant Name | Plan SF | Percent of Plan SF | Percent of Per Valve
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>LOW</td>
<td>1275 SF</td>
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</tr>
<tr>
<td>MEDIUM</td>
<td>189 SF</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,464 SF</td>
<td>100%</td>
<td>100%</td>
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</table>

Irrigation Valve Table

<table>
<thead>
<tr>
<th>Valve</th>
<th>Plan SF</th>
<th>Sub Zones</th>
<th>Water Use</th>
<th>Plant SF</th>
<th>Sub Zones</th>
<th>Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LOW</td>
<td>1</td>
<td>100%</td>
<td>1</td>
<td>100%</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>MEDIUM</td>
<td>1</td>
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</tr>
<tr>
<td>4</td>
<td>MEDIUM</td>
<td>1</td>
<td>100%</td>
<td>4</td>
<td>100%</td>
<td>4</td>
</tr>
</tbody>
</table>

Irrigation Valve Table

- LOW SOIL: Do not exceed 150 SF per Subzone. If total area of zone exceeds 250 SF, add a Valve.
- MEDIUM SOIL: Do not exceed 100 SF per Subzone. If total area of zone exceeds 200 SF, add a Valve.
- HIGH SOIL: Do not exceed 75 SF per Subzone. If total area of zone exceeds 150 SF, add a Valve.
- SANDY SOIL: Do not exceed 75 SF per Subzone. If total area of zone exceeds 200 SF, add a Valve.

Applicant: PANORAMIC DESIGN GROUP

Phone: (707) 772-5062
Email: landarches@gmail.com

Site Address: ____________________________

POD

Site Design:

PAMAR

Drip Irrigation Layout:

Date: November 13, 2014

Sheets: 17

Sonoma-Marin Saving Water Partnership

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For information contained in this drawing or this plan is the property of the Sonoma-Marin Saving Water Partnership and its affiliates and suppliers, the original plan must be shown in the following manner:

- All pipe sizes and designations for graphic clarity, coordinate locations of equipment with plan.
- All valve sizes are for graphic clarity, coordinate locations of equipment with plan.
- All other components may not be shown in the plans as listed above.

Sonoma-Marin Saving Water Partnership and its affiliates and suppliers, the original plan must be shown in the following manner:

- All pipe sizes and designations for graphic clarity, coordinate locations of equipment with plan.
- All valve sizes are for graphic clarity, coordinate locations of equipment with plan.
- All other components may not be shown in the plans as listed above.
IRRIGATION NOTES

1. INSTALLATION TO BE CONTRACTED WITH A VALID CURRENT CALIFORNIA C-7 LICENSED GREY HOUSERWITICH WITH REHABILITATION KNOWLEDGE, WILDLIFE EXPERIENCE.

2. THE IRRIGATION PLAN IS DIAGRAMATIC AND ILLUSTRATIVE OF THE WORK TO BE COMPLETED. IRRIGATION EQUIPMENT OR PIPING MAY BE SHOWN IN PRINCIPAL AREAS FOR GRAPHIC CLARITY. ADJUST SCHEDULE AS NEEDED, BASED ON LOCAL CODES.

3. VERIFY LOCATION OF SUBSURFACE UTILITIES, PIPES AND STRUCTURES. NOTIFY OWNERS AND CONTRACTORS PRIOR TO FINAL INSTALLATION.

4. CAREFULLY INVESTIGATE EXISTING FIELD CONDITIONS AND NOTIFY OWNER’S REPRESENTATIVE PRIOR TO FINAL INSTALLATION.

5. MAKE IRRIGATION POINT OF CONNECTION AS INDICATED ON PLAN AND COORDINATE WITH CONCRETE CONTRACTOR INSTALL SLEEVES PRIOR TO POURING CONCRETE. EXTEND SLEEVE 6 INCHES BEYOND EDGE OF PAVING.

6. INSTALL ISOLATION VALVE AT POC UPSTREAM OF BACKFLOW PREVENTER. ADJUST OUTLET PRESSURE TO 55 PSI.

7. VERIFY SOIL TYPE AND USE APPROPRIATE EMMITTER SIZE AND SPACING.

8. INSTALL A WEIKENS PRESSURE REGULATOR DOWNSTREAM OF BACKFLOW PREVENTER. ADJUST #600 PRESSURE REGULATOR DOWNSTREAM OF BACKFLOW PREVENTER. ADJUST TO 75 PSI. INSTALL ISOLATION VALVE AT POC UPSTREAM OF BACKFLOW PREVENTER. ADJUST OUTLET PRESSURE TO 55 PSI.

9. MOUNT WEATHER SENSOR ON EXTERIOR WALL OR GUTTER WHERE IT WILL BE EXPOSED TO U.V. RADIATION. INSTALL IN RECOMMENDED ENTRANCE. INSTALL IN MANUFACTURERS INSTRUCTIONS.

10. MOUNT WEATHER SENSOR ON EXTERIOR WALL OR GUTTER WHERE IT WILL BE EXPOSED TO U.V. RADIATION. INSTALL IN RECOMMENDED ENTRANCE. INSTALL IN MANUFACTURERS INSTRUCTIONS.

11. BACKFLOW PREVENTION IS REQUIRED. IF STATIC PRESSURE IS HIGHER THAN 75 PSI, INSTALL A WILKINS (ANTI-SIPHON VALVES) REQUIRED. IF STATIC PRESSURE IS HIGHER THAN 75 PSI, INSTALL A WILKINS (ANTI-SIPHON VALVES) REQUIRED. IF STATIC PRESSURE IS HIGHER THAN 75 PSI, INSTALL A WILKINS (ANTI-SIPHON VALVES) REQUIRED. IF STATIC PRESSURE IS HIGHER THAN 75 PSI, INSTALL A WILKINS (ANTI-SIPHON VALVES) REQUIRED. IF STATIC PRESSURE IS HIGHER THAN 75 PSI, INSTALL A WILKINS (ANTI-SIPHON VALVES)

12. INSTALL ISOLATION VALVE AT POC UPSTREAM OF BACKFLOW PREVENTER. ADJUST OUTLET PRESSURE TO 55 PSI.

13. ENSURE THAT ALL COMPONENTS ARE CONNECTED AND OPERATIONAL.

14. PROVIDE PVC SCH 40 SLEEVES FOR ALL PIPING AND WIRE UNDER PAVING.

15. ENSURE THAT ALL EQUIPMENT IS SIZED CORRECTLY BASED ON EXISTING SITE CONDITIONS.

16. OPEN LINE ENDS AND FLUSH THOROUGHLY BEFORE INSTALLATION OF END CAPS.

17. PIPE SIZE: 0-6 GPM: 3/4" PIPE; 7-12 GPM: 1" PIPE; 13-25 GPM: 1 1/2" PIPE; 26-60 GPM: 2" PIPE; 61-120 GPM: 3" PIPE; 121-240 GPM: 4" PIPE;

18. PROVIDE VALVE BOXES FOR: ISOLATION VALVE, DRIP TRANSITION AND RECONNECTING TO VALVES.

19. PROVIDE VALVE BOXES FOR: ISOLATION VALVE, DRIP TRANSITION AND RECONNECTING TO VALVES.

20. VALVE BOXES: SET PARALLEL TO EACH OTHER AND PERPENDICULAR TO TRENCHES.

21. INSTALL AIR RELEASE VALVES IN LINE NEAR THE CONNECTING POINTS TO THE MAINLINE.

22. USE COPPER WIRE WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND. USE INSULATING JACKET OF COLOR OTHER THAN WHITE FOR CONTROL WIRE, TAP AND BUNDLE WIRING AT 10 FOOT INTERVALS. USE COPPER WIRE WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND. USE INSULATING JACKET OF COLOR OTHER THAN WHITE FOR CONTROL WIRE, TAP AND BUNDLE WIRING AT 10 FOOT INTERVALS. USE COPPER WIRE WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND. USE INSULATING JACKET OF COLOR OTHER THAN WHITE FOR CONTROL WIRE, TAP AND BUNDLE WIRING AT 10 FOOT INTERVALS.

23. INSTALL CHECK VALVES ON LATERAL LINES AS REQUIRED TO PREVENT LOW HEAD DRAINAGE. ENSURE THAT IN-LINE DRIP TUBING HAS CHECK VALVES EMBEDDED INTO EMMITTERS.

24. PROVIDE SIZING CORRECTLY BASED ON EXISTING SITE CONDITIONS AND HYDRAULIC.

25. OPEN LINE ENDS AND FLUSH THOROUGHLY BEFORE INSTALLATION OF END CAPS.

26. INSTALL DRIP TUBING AS SHOWN IN PLAN AND CONFORM TO LOCAL CODES.

27. DO NOT USE SMALL DIAMETER DISTRIBUTION TUBING.

28. DO NOT INSTALL POST MANUFACTURED BUTTON EMMITTERS INTO IN-LINE TUBING.

29. CHECK VALVES: INSTALL CHECK VALVES ON LATERAL LINES AS REQUIRED TO PREVENT LOW HEAD DRAINAGE. ENSURE THAT IN-LINE DRIP TUBING HAS CHECK VALVES EMBEDDED INTO EMMITTERS.

30. STAKE DRIP TUBING IN PLACE 2’ 27’ C.C. MAX.

31. MAINTAIN A 3" DEPTH OF MULCH COVER OVER DRIP TUBING.

32. OPEN LINE ENDS AND FLUSH THOROUGHLY BEFORE INSTALLATION OF END CAPS.

33. ENSURE THAT ALL EQUIPMENT IS SIZED CORRECTLY BASED ON EXISTING SITE CONDITIONS.

34. FLUSH MAINLINES AFTER INSTALLING RISERS AND PRIOR TO INSTALLING OR RECONNECTING TO VALVES.

35. FLUSH LATERALS AFTER INSTALLING RISERS AND PRIOR TO INSTALLING TUBING.

36. DO NOT INSTALL POST MANUFACTURED BUTTON EMMITTERS INTO IN-LINE TUBING.

37. FILL ALL EXCAVATIONS WITH COMPACTED BACKFILL, IN TWO MECHANICALLY COMPACTED LIFTS. REPAIR ALL SETTLED TRENCHES.

38. PERFORM COVERAGE TEST. ADJUST SYSTEM AS NEEDED TO PROVIDE FULL COVERAGE.

39. AFTER COMPLETION PROVIDE AS-BUILT PLANS.

40. PROVIDE CONTROLLER SCHEDULE.

41. SCHEDULE THE TREE ZONE TO RUN AT A LOW FREQUENCY AND LONG DURATION TO PROVIDE DEEP WATERING FOR THE TREES. ADJUST SCHEDULE AS NEEDED TO PROVIDE DEEP WATERING FOR THE TREES.

42. THE DESIGN INTENT IS TO PROVIDE THE MINIMUM AMOUNT OF WATER TO SUSTAIN HEALTHY PLANT GROWTH AND TO AVOID RUN-OFF, LOW HEAD DRAINAGE AND OVERWATERING.

43. SCHEDULE THE SHORE ZONES TO RUN AT A HIGH FREQUENCY AND SHORT DURATION TO ESTABLISH THE NEW SHRUBS. ADJUST THE SCHEDULE AS THE SHRUBS BECOME ESTABLISHED AND PER WEATHER AND SEASON.

44. THE DESIGN INTENT IS TO PROVIDE THE MINIMUM AMOUNT OF WATER TO SUSTAIN HEALTHY PLANT GROWTH AND TO AVOID RUN-OFF, LOW HEAD DRAINAGE AND OVERWATERING.

45. RUN SYSTEM TO CHECK FOR LEAKS AND REPAIR THEM SEASONALLY AT A MINIMUM.

46. PROVIDE CONTROLLER SCHEDULE.

47. SCHEDULE THE SHORE ZONES TO RUN AT A HIGH FREQUENCY AND SHORT DURATION TO ESTABLISH THE NEW SHRUBS. ADJUST THE SCHEDULE AS THE SHRUBS BECOME ESTABLISHED AND PER WEATHER AND SEASON.

48. THE DESIGN INTENT IS TO PROVIDE THE MINIMUM AMOUNT OF WATER TO SUSTAIN HEALTHY PLANT GROWTH AND TO AVOID RUN-OFF, LOW HEAD DRAINAGE AND OVERWATERING.

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PERMEABLE AGGREGATE PAVING - PATH OR PATIO

SCALE: 1"=1'-0"

1. FOR CLAY SOILS, HOLD 10' AWAY FROM FOUNDATION, AND PROVIDE AMENDED SOIL OF ADJACENT PLANTING; SLOPE AWAY FROM PATH 2% MIN. (OPTIONAL) SEE DETAIL #1 THIS PAGE AND SECTION VIEW IN DETAIL #1.

2. DRIVEWAY ENGINEERING BY OTHERS TO INSURE PROPER PERFORMANCE IN CLAY SOILS AND NEED FOR SUBDRAINS.

3. PAVING DEPTH, DEPTH OF BASE GRAVEL, SUB-BASE PREPARATION AND CONCRETE STABILIZATION 3/8"-3" AGGREGATE, STABILIZER: ECO-PAVE OR PATHWAY PAVING MATERIAL, PROVIDE 2" SURFACING OR EQUAL. REFER TO MANUFACTURER'S LATEST WARRANTIES, WHETHER WRITTEN OR ORAL, OR EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, BY ANY OTHER PARTY.SONOMA-MARIN SAVING WATER PARTNERSHIP, ITS MEMBERS, EMPLOYEES AND LANDSCAPE DESIGN CONSULTANTS BY USING THESE PLANS, I AGREE TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE FOLLOWING Entities: PETALUMA, CA 94952, DISTRICT, NORTH MARIN WATER DISTRICT, CITY OF ROHNERT PARK, CITY OF SANTA ROSA, MARIN MUNICIPAL WATER DISTRICT AND THE CONTRACTOR.

4. PERVIOUS PAVERS OR PERMEABLE AGGREGATE

STABLED AGGREGATE - PATH OR PATIO

SCALE: 1"=1'-0"

1. FILTER FABRIC (OPTIONAL)

2. PERVIOUS CLASS A AGGREGATE BASE ROCK, COMPACTED TO 95%.

3. FILTER FABRIC (OPTIONAL)

4. CONCRETE UNIT PAVER: SELECT PERVIOUS PAVERS OR PERMEABLE PAVERS.

CONCRETE - VEHICLE - TRENCH DRAIN

SCALE: 1"=1'-0"

1. FILTER FABRIC (OPTIONAL)

2. FILTER FABRIC (OPTIONAL)

3. FILTER FABRIC (OPTIONAL)

4. PERVIOUS CLASS A AGGREGATE BASE ROCK, COMPACTED TO 95%.

AGGREGATE PAVING - PEDESTRIAN

SCALE: 1"=1'-0"

1. CONCRETE PAVING - PEDESTRIAN

2. PERMEABLE INFILTRATION - PEDESTRIAN

3. STABILIZED AGGREGATE - PEDESTRIAN

4. PERMEABLE PAVERS - PATH OR PATIO

5. STABILIZED AGGREGATE - PATH OR PATIO

6. PERMEABLE PAVERS - PATH OR PATIO

7. PAVED STUDY AREA - GRAVEL DRAINAGE SEAMS

8. CONCRETE - VEHICLE - TRENCH DRAIN

9. CONCRETE - VEHICLE - GRAVEL DRAINAGE SEAMS

10. STABILIZED AGGREGATE - VEHICLE

11. RECTANGULAR DRAINAGE SLEEVE IN PATHS

SCALE: 1"=1'-0"

1. DRAINING DEPTH, DEPTH OF BASE GRAVEL, SUB-BASE PREPARATION AND CONCRETE REINFORCEMENT SHOULD ALL BE EVALUATED AND ADJUSTED AS NEEDED BY A GEOTECHNICAL ENGINEER.

2. SOIL TYPE AFFECTS THE PERFORMANCE OF THESE DETAILS. CLAY SOILS DO NOT INFILTRATE WELL, SO THERE IS A NEED TO EVALUATE WHETHER THE PERMEABLE/PERVIOUS PAVING DETAILS AND APPROPRIATE FOR SPECIFIC SITES AND ADJUST THEM AS APPROPRIATE TO PROTECT BUILDINGS AND OTHER IMPROVEMENTS.

3. ACCESSIBLE PAVING IS SMOOTH, RAMP, AND HAS A CROSS SLOPE NOT TO EXCEED 2%. RAMPED SLAB SHOULD BE 2" X 3" OR LESS DANCED RAMP, RAMP WITH HANDRANS. SEE TITLE 24 OF CALIFORNIA CODE FOR ACCESSIBILITY REQUIREMENTS AND STANDARDS

GENERAL NOTES:

1. DESIGN STRATEGY: THESE DETAILS ARE PROVIDED TO CREATE OPTIONS FOR PERMEABLE PAVING, INTEGRATING STRATEGIES THAT PROMOTE INFILLRATE IN FILLING LAKESPACE DRAINAGE. USE THESE STRATEGIES HELP INFILLRATE INFILLRATE AIR, RETAINING RUN OFF IN HOSP span, AND PROVIDE MORE SOIL MOISTURE AVAILIABILITY FOR LANDSCAPE PLANTING.

2. THESE DETAILS SHOULD BE EVALUATED BY THE SITE ENGINEER AND ADJUSTED TO SITE CONDITIONS.

3. DRAINING DEPTH, DEPTH OF BASE GRAVEL, SUB-BASE PREPARATION AND CONCRETE REINFORCEMENT SHOULD ALL BE EVALUATED AND ADJUSTED AS NEEDED BY A GEOTECHNICAL ENGINEER.

4. SOIL TYPE AFFECTS THE PERFORMANCE OF THESE DETAILS. CLAY SOILS DO NOT INFILTRATE WELL, SO THERE IS A NEED TO EVALUATE WHETHER THE PERMEABLE/PERVIOUS PAVING DETAILS AND APPROPRIATE FOR SPECIFIC SITES AND ADJUST THEM AS APPROPRIATE TO PROTECT BUILDINGS AND OTHER IMPROVEMENTS.

5. ACCESSIBLE PAVING IS SMOOTH, RAMP, AND HAS A CROSS SLOPE NOT TO EXCEED 2%. RAMPED SLAB SHOULD BE 2" X 3" OR LESS DANCED RAMP, RAMP WITH HANDRANS. SEE TITLE 24 OF CALIFORNIA CODE FOR ACCESSIBILITY REQUIREMENTS AND STANDARDS

6. CONCRETE OR BRICK PAVING - L" X W" X THK"  VARIES.

7. CONCRETE OR BRICK PAVING (L" X W" X THK")  VARIES.

8. CONCRETE OR BRICK PAVING (L" X W" X THK")  VARIES.

9. CONCRETE OR BRICK PAVING (L" X W" X THK")  VARIES.

10. CONCRETE OR BRICK PAVING (L" X W" X THK")  VARIES.
1. **Tree Planting**
   - Not to Scale
   - **Tree Central Leader**
   - Synthetic strapping, loop around central leader below first branch, one strap per stake, attach to stakes w/ sheet metal screws.
   - Wood stakes (3 per tree), set 1 foot in soil, outside of rootball, only weimplicitly protect from wind, not establishment.
   - Synthetic straps do not touch stakes; stakes shall be spaced enough to be obtained from the central leader.
   - **Watering Berm, 3'H**
   - Topsoil, native, use design form to remove compaction, do not till.
   - Crown of rootball, set 3' above finish grade.
   - **Planting Pit Baseline, Per Specs**
   - Planting pit, scarpify edges, insure root ball rests on firm soil, will not sink over time.
   - **Watering Basin**
   - Mulch, per specs, 2 layers, keep 4' away from trunk.
   - Sheet mulch, 2 layers (cardboard), or 3 layers recycled newspaper, 6" of compost under paper.
   - Direction of prevailing wind.
   - Rootball, scarify outer 1".

2. **Planting - Shrubs, Perennials, Grasses**
   - Not to Scale
   - **Finished Grade**
   - 3" soil/4" rock or 2" mulch, keep 4" away from trunk.
   - Root crown, plant crown 1" above finished grade.
   - 1" high berm of amended site soil/straw, mulch/border, 1" outer berm 3" to 4" high of materials.
   - Sheet mulch, layer of (1) to (2) recycled newspapers or .5 slices of corrugated cardboards.
   - **Layer of Amendments Under Sheet Mulch**
   - amended site soil, w/ 1 cup, mixed, compact far 100 psi.
   - 3" deep, best plant in firm soil, scarpify edges of hole to promote root.
   - **Plant Pit & Watering Berm Table**

3. **Plug Planting**
   - Not to Scale
   - **Plug if** for grass plug, 7" wide, backfilled with amended soil layer 3" deep.
   - 2 plugs or 1 stellar, plant crown 3" above finished grade.
   - 6" amended soil, mixed with mulch.
   - Planting hole useable to create a hole berm to larger than plug, place berm crown of amendments above height of surrounding soil. Leave no more than plug, amended soil mixed with hole used to create final grade.
   - Holes plug plugs straight of plug, not at an angle to the slope.
   - Grass plugs planted so better is established to不留插头2" of less soil/berm.

4. **Groundcover Planting - Tri-spacing**
   - Not to Scale
   - **Section A**
   - **Section B**
   - **Note**

5. **Sheet Mulch**
   - Not to Scale
   - **Plan**
   - **Sheet mulch: Cardboard, or (5) layers corrugated cardboard, or (5) layers recycled newspapers, 5-6" of compost under paper.
   - Direction of prevailing wind.
   - Rootball, scarify outer 1".

6. **Plant Pit and Watering Berm**
   - Not to Scale
   - **Finished Grade**
   - 3" soil/4" rock or 2" mulch, keep 4" away from trunk.
   - Root crown, plant crown 1" above finished grade.
   - 1" high berm of amended site soil/straw, mulch/border, 1" outer berm 3" to 4" high of materials.
   - Sheet mulch, layer of (1) to (2) recycled newspapers or .5 slices of corrugated cardboards.
   - **Layer of Amendments Under Sheet Mulch**
   - amended site soil, w/ 1 cup, mixed, compact far 100 psi.
   - 3" deep, best plant in firm soil, scarpify edges of hole to promote root.
   - **Plant Pit & Watering Berm Table**

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**Diagram Notes:**
- **Container Size:** 1 gal can, 5 gal can, 15 gal can, 24" box.
- **Plant Pit Diameter:** 1/8" min, 3" min, 5" min.
- **Watering Berm Height:** 3" min, 4" min, 6" min.
- **Watering Berm Diameter:** 3" min, 4" min, 5" min.
**Laundry to Landscape: Graywater System Example**

**Laundry to Landscape System Overview:**
- A laundry-to-landscape graywater system can be installed quickly using either a discharge hose from the washing machine or a dedicated sink. This system is typically designed to irrigate uphill from the washing machine, but in some cases, downhill irrigation may be permissible. Depending on the design, the distance to the irrigation area can vary.

**Design and Installation Considerations:**
- For uphill irrigation, the distance between the discharge point and the irrigation area should be reduced to 30-50 feet to ensure efficient water use. For downhill irrigation, the distance can be adjusted based on the local code requirements.

**Graywater Requirements to Comply with California Plumbing Code (CPC):**
- **Installers** should ensure that the system is designed and installed according to the CPC Table 1502.4, which outlines the required components for a proper graywater system. Key components include:
  - On-site water service line: Used for delivering water to the graywater system from a source outside the building.
  - Septic tank: Essential for managing wastewater from the washing machine.
  - Water supply wells: Provide additional water supply options in case of severe drought conditions.

**Evapotranspiration Rates, Plant Watering Needs, and Existing Canopy:**
- The following list of commercial detergents is recommended for use with laundry to landscape graywater systems:
  - **Ecover Laundry Wash (Some Salt)**
  - **BioKleen Laundry Liquid**
  - **Bio Pac Laundry Liquid**

**ADDITIONAL INFORMATION:**
- **Determine Minimum Mulch Basin Size:** This can be calculated using the formula:
  \[
  \text{Minimum Mulch Basin Size} = \left( \frac{\text{Weekly Water Needs} \times 4 \text{ weeks}}{\text{Maximum Absorption Capacity}} \right) \times 100
  \]
- For **Sandy Clay**, the minimum basin size is approximately 20 gallons per day per wash load. For **Sandy Loam**, it is around 50 gallons per day, and for **Clay with small amounts of sand or gravel**, it is about 100 gallons per day.

**Sewer Disposal Areas:**
- **Sewer disposal areas may include:**
  - Pressurized public water main
  - Septic tank
  - Water supply wells

**Additional Considerations:**
- **Certain plants** can thrive with graywater irrigation, such as blueberries and rhododendrons, which prefer acidic soils (low pH). **Avoid** using graywater on plants that do not tolerate high boron levels, such as tomatoes and lettuce.

**Application:**
- When designing a laundry-to-landscape system, it is crucial to consult with professionals such as landscape architects (to determine the most suitable plants for irrigation), civil engineers (for stormwater drainage considerations), and local water authorities (for compliance with CPC requirements). The system must be properly designed, installed, and maintained to ensure its effectiveness and compliance with local regulations.

**Reproduced with permission from the Santa Clara Valley Water District**
LANDSCAPE VIA MULCH BASIN OUTLETS. PLUMBING FOR GRAYWATER SOURCES MUST BE
BRANCHED DRAIN SYSTEM OVERVIEW:
PERENNIAL PLANTS. THIS IS A SIMPLE SYSTEM AND DOES NOT REQUIRE ELECTRICITY OR A PUMP.
DRAIN SYSTEM IS BEST SUITED FOR IRRIGATING TREES, BUSHES, SHRUBS, AND OTHER LARGER
PUMP OR ANY OTHER PUMP. AS THIS SYSTEM REQUIRES CUTTING INTO EXISTING SEWER PIPES
HOWEVER, THE LANDSCAPE AREA MUST BE LOWER IN ELEVATION THAN THE GRAYWATER SOURCE,
PROXIMITY, A LAUNDRY MACHINE CAN ALSO BE ADDED INTO THE DISTRIBUTION PIPING. THIS
SEPERATED PLUMBING IN PLAN SETS AND STUB OUT PIPING FOR EXTERIOR GRAYWATER SYSTEM
COMPONENTS DURING BUILDING CONSTRUCTION.
GRAYWATER DIVERTED TO LANDSCAPE SHALL NOT CONTAIN HAZARDOUS CHEMICALS
MINIMIZE CONTACT WITH HUMANS AND ANIMALS
OUTLETS COVERED BY AT LEAST 2-INCHES OF MULCH, ROCK, OR A SHIELD (E.G. VALVE BOX LID)
BE ABLE TO REDIRECT TO SEWER
NO POTABLE WATER CONNECTION

INSTALLATION & DESIGN CONSIDERATIONS:
WITH A HIGHER POTENTIAL VOLUME OF WATER COMING FROM A SHOWER AND SINK, A BRANCHED
GRAYWATER SUPPLY USING THE CALCULATION SECTION THIS SHEET.
GRAYWATER BASIN SIZES, AREA AND VOLUME USING TABLE 3.
DEVELOP A GRAYWATER SITE PLAN SHOWING ALL THE PERMIT APPLICATION. SHOW ALL THE PLAN ELEMENTS LISTED IN #4-GRAYWATER PLAN BELOW.
REVIEW THE SAMPLE PLAN SHOWN IN DETAIL #1 THIS SHEET. SHOW TREE AND PLANT
LOCATIONS TO BENEFIT FROM GREYWATER.
SUBMIT FOR BUILDING PERMIT EITHER WITH FULL SITE DRAWINGS OR AS A SEPARATE
PLAN. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE
APPLICANT INSTRUCTIONS:
1. ESTIMATE YOUR GRAYWATER SUPPLY USING THE CALCULATION SECTION THIS SHEET.
2. ESTIMATE MULCH BASIN SIZES, AREA AND VOLUME USING TABLE 3.
GRAYWATER DIVERTED TO LANDSCAPE SHALL NOT CONTAIN HAZARDOUS CHEMICALS
FOLLOW ALL APPLICABLE CODE OR LAWS
POST OPERATION AND MAINTENANCE MANUAL
THE SYSTEM SHALL HAVE A DISCHARGE CAPACITY OF 250 GALLONS PER DAY OR LESS

APPLICATION INFORMATION:
A BRANCHED DRAIN SYSTEM DISTRIBUTES GRAYWATER FROM SHOWERS AND/OR BATHROOM
SINKS THROUGH A SERIES OF BRANCHING 1 1/2-INCH OR 2-INCH PIPES AND IS DISPERSED INTO THE
LANDSCAPES VIA MULCH BASIN OUTLETS. PLUMBING FOR GRAYWATER SOURCES MUST BE
SEPARATED FROM BLACK WATER SOURCES (TOILET, KITCHEN SINK). IF POSSIBLE DUE TO CLOSE
PROXIMITY, A LAUNDRY MACHINE CAN ALSO BE ADDED INTO THE DISTRIBUTION PIPING. THIS
SYSTEM IS DRIVEN BY GRAVITY FLOW AS NO PRESSURE IS PROVIDED BY A WASHING MACHINE
PUMP OR ANY OTHER PUMP AS THIS SYSTEM REQUIRES CUTTING INTO EXISTING SEWER PIPES
FROM SHOWER OR SINKS. IT DOES NOT REQUIRE A SIMPLE OVER THE COUNTER PLUMBING
PERMIT, IF INSTALLING AS PART OF NEW BUILDING CONSTRUCTION OR REMODEL, SHOW
SEPARATED PLUMBING IN PLAN SETS AND STUB OUT PIPING FOR EXTERIOR GRAYWATER SYSTEM
COMPONENTS DURING BUILDING CONSTRUCTION.

BRANCHED DRAIN GRAYWATER REQUIREMENTS TO COMPLY WITH CALIFORNIA PLUMBING CODE (CPC) STANDARDS:
O NOTIFY ENFORCING AGENCY AND SECURE PERMIT FOR INTERIOR PLUMBING COMPONENTS
O BE ABLE TO REDIRECT TO SEWER
O NO POTABLE WATER CONNECTION
O CONTAIN GRAYWATER ON SITE
O DIRECT AND CONTAIN GRAYWATER WITHIN MULCH BASINS (IRRIGATION OR DISPOSAL FIELD)
BELOW THE GROUND SURFACE
O NO PONDOING OR RUNOFF
O OUTLETS COVERED AT LEAST 2 INCHES OF MULCH, ROCK, OR A SHIELD (E.G. VALVE BOX LID)
O MINIMIZE CONTACT WITH HUMANS AND ANIMALS
O DIVERT WATER TO THE SEWER IF IT CONTAINS DIAPERS, OIL, OTHER CHEMICALS
O GRAYWATER DIVERTED TO LANDSCAPE SHALL NOT CONTAIN HAZARDOUS CHEMICALS
O FOLLOW ALL APPLICABLE CODE OR LAWS
O POST OPERATION AND MAINTENANCE MANUAL
O THE SYSTEM SHALL HAVE A DISCHARGE CAPACITY OF 250 GALLONS PER DAY OR LESS

CALCULATIONS SECTION
1. Estimate Daily Componet Production

<table>
<thead>
<tr>
<th>Componet</th>
<th>Calculations Method and Values (see table and diagram)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shower</td>
<td>x x xgal/day * 0.17</td>
</tr>
<tr>
<td>Laundry</td>
<td>x x xgal/day * 0.17</td>
</tr>
<tr>
<td>Total</td>
<td>x x xgal/day * 0.17</td>
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2. Estimate Minimum Muth Basin Size

<table>
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<tr>
<th>Minimum Muth Basin Size</th>
<th>Calculations Method and Values (see table and diagram)</th>
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</thead>
<tbody>
<tr>
<td>Diameter (in.)</td>
<td>x x xgal/day * 0.17</td>
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<tr>
<td>Total Diameter (in.)</td>
<td>x x xgal/day * 0.17</td>
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</table>

3. Determine the Size of Graywater Outlet (see table above)

<table>
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<th>Graywater Outlet (in.)</th>
<th>Calculations Method and Values (see table and diagram)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
<tr>
<td>Total Size (in.)</td>
<td>x x xgal/day * 0.17</td>
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</table>

4. Cooperate Plan

<table>
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<th>Cooperate Plan</th>
<th>Calculations Method and Values (see table and diagram)</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Total Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
</tbody>
</table>

5. Determine Total Graywater System

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<th>Total Graywater System</th>
<th>Calculations Method and Values (see table and diagram)</th>
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<tbody>
<tr>
<td>Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
<tr>
<td>Total Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
</tbody>
</table>

6. Brachned Drain System

<table>
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<th>Brachned Drain System</th>
<th>Calculations Method and Values (see table and diagram)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
<tr>
<td>Total Size (in.)</td>
<td>x x xgal/day * 0.17</td>
</tr>
</tbody>
</table>

Note: All calculations and diagrams are based on standard, typical conditions and may require adjustments for specific site conditions.
ALL OTHER RAINWATER CATCHMENT SYSTEMS MUST BE SUBMITTED FOR BUILDING PERMIT.

4. TANKS CAN BE DAISY CHAINED AT POINT "D" USING FLEXIBLE PIPE ONLY TO REDUCE CHANCE OF LEAKAGE IN EARTHQUAKES.

- WATER WILL BE USED FOR OUTDOOR NON-SPRAY IRRIGATION

3. IF CITY WATER PLUMBED TO TANK FOR MAKE UP USING FLOAT VALVE OR MANUALLY OPERATED VALVE, THEN A PERMIT IS REQUIRED AND AN AIR GAP IS REQUIRED

- DOES NOT REQUIRE ELECTRICAL POWER OR MAKEUP WATER SUPPLY CONNECTION (SEE NOTE 2 AND 3)
- RATIO OF HEIGHT TO DIAMETER OR WIDTH DOES NOT EXCEED 2 TO 1
- TANK IS SUPPORTED DIRECTLY UPON GRADE

5. THERE ARE NO REQUIRED SETBACKS FROM BUILDINGS OR SIDE/BACK PROPERTY LINES, THOUGH A CONVERSATION WITH YOUR NEIGHBOR COULD BE HELPFUL.

- MAXIMUM STORAGE CAPACITY OF 5,000 GALLONS

NOTES:
- PUMP AND PRESSURE TANK LIKELY REQUIRE INEXPENSIVE, OVER-THE-COUNTER, ELECTRICAL PERMIT.
- THERE ARE NO REQUIRED SETBACKS FROM BUILDINGS OR SIDE/BACK PROPERTY LINES, THOUGH A CONVERSATION WITH YOUR NEIGHBOR COULD BE HELPFUL.
- B. OVERFLOW: 3 IN. DRAINAGE PIPE: SLOPED 2 PERCENT FOR HORIZONTAL SECTIONS
- C. 530 GALLON BUSHMAN SLIMLINE RAIN HARVESTING TANK OR EQUIVALENT
- D. HOSE BIB OR OPTIONAL CONNECTION TO PUMP AND PRESSURE TANK (SEE NOTE 2)
- E. RESTRICTED TO PUMPING OR DISTRIBUTION AFTER 8PM UNTIL 6AM THE NEXT DAY
- F. OVERFLOW TO RAINGARDEN (SHOWN)/SWALE/SPLASHBLOCK
- G. BUSHMAN FLOAT BALL
- H. 12 INCHES AMENDED SOIL: 1/2 COMPOST, 1/2 NATIVE SOIL
- I. UNDISTURBED NATIVE SOIL
- J. FIRE SAFER LEAF GUARD
- K. GUTTER
- L. NORMAL DOWNSPOUT
- M. OPTIONAL BUSHMAN LEAF DIVERTER (WITH 20X20 SCREEN IF USING WET CONVEYANCE) (REDUNDANT WITH LEAF GUARD ON GUTTERS)
- N. 3 IN. PVC DRAINAGE TRAP
- O. 4 IN. TO 3 IN. PVC DRAINAGE REDUCER
- P. BUSHMAN FIRST FLUSH FILTERS (TO KEEP EMITTER FROM CLOGGING)
- Q. BUSHMAN FIRST FLUSH FILTER (TO KEEP EMITTER FROM CLOGGING)
- R. BUSHMAN DRIP EMITTER TO DRAIN DIRTY WATER BETWEEN STORMS
- S. BUSHMAN DRIP EMITTER TO DRAIN DIRTY WATER BETWEEN STORMS
- T. "WET" CONVEYANCE 3 IN. DRAINAGE PIPE (WATER STAYS IN PIPE BETWEEN STORMS)
- U. THREE SEPARATE 3/32 INCH HOLES TO DRAIN WATER FOR MOSQUITO CONTROL
- V. CLEAN GRAVEL TO IMPROVE DRAINAGE FROM DRILLED HOLES

PAGE DIMENSIONS: 2592.0 X 1728.0