CITY OF ELK GROVE
DEPARTMENT OF PUBLIC WORKS
8401 LAGUNA PALMS WAY • ELK GROVE, CALIFORNIA 95758

IMPROVEMENT PLANS FOR:
DRY WELLS AS LOW IMPACT DEVELOPMENT
IMPROVEMENTS PROJECT
WDR019

To be Supplemented By:
City of Elk Grove Improvement Standards and Standard Drawings, Latest Edition
City of Elk Grove Standard Construction Specifications, Latest Edition
ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS, WHERE INCONSISTENCIES EXIST, THE LATEST EDITION SHALL TAKE PRECEDENCE.

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS, WHERE INCONSISTENCIES EXIST, THE LATEST EDITION SHALL TAKE PRECEDENCE.

2. PUBLIC SAFETY AND TRAFFIC CONTROL SHALL BE PROTOCOL IN ACCORDANCE WITH SECTION 6-13 OF THE STANDARD CONSTRUCTION SPECIFICATIONS AND AS DIRECTED BY THE CITY INSPECTOR. VEHICLE AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.

3. THE CONTRACTOR SHALL NOTIFY THE CITY OF ELK GROVE CONSTRUCTION INSPECTION OFFICE TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK; THE CONTRACTOR SHALL NOT START ANY WORK UNTIL THE CITY COMPLETES A CONSTRUCTION MEETING. PLEASE CALL (916) 478-2312 TO SCHEDULE A CONSTRUCTION MEETING.

4. THE CITY OF ELK GROVE IS A MEMBER OF THE UNDERGROUND SERVICE ALERT (USA) ONE-CALL PROGRAM. THE CONTRACTOR OR ANY SUB-CONTRACTOR FOR THIS CONTRACT SHALL NOTIFY USA TWO WORKING DAYS IN ADVANCE OF EXCAVATION AND EXCAVATION WORK BY CALLING 811-1-800-227-2600.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY, MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

6. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH SECTION 11 OF THE CITY OF ELK GROVE EROSION STANDARDS.

7. THE PIPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE DERIVED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE ACTUAL SIZE, DEPTHS, LOCATIONS AND/or OTHERS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND IDENTIFY ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, THE CONTRACTOR CAN HIMSELF NO RESPONSIBILITY FOR EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED. BUT ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXACT LOCATION, SIZE AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, WHICH MAY INCLUDE POISONING.

8. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS. WHERE INCONSISTENCIES EXIST, THE LATEST EDITION SHALL BE ADDED TO THE PLANS, TAKING PRECEDENCE OVER THE STANDARD CONSTRUCTION SPECIFICATIONS.

9. THE MINIMUM COVER REQUIREMENTS DURING CONSTRUCTION FOR TEMPORARY CONSTRUCTION SHALL BE 4- FEET FOR METAL AND PLASTIC PIPE AND 2- FEET FOR CONCRETE PIPE. THE MINIMUM COVER REQUIREMENTS DURING CONSTRUCTION SHALL BE REFLECTED ON THE PLANS, TAKING PRECEDENCE OVER THE STANDARD CONSTRUCTION SPECIFICATIONS.

10. THE CONTRACTOR SHALL PLACE THE PROPER STRONG PIPE IF TRENCH CONDITIONS ENCOUNTERED DIFFER FROM THE DESIGN TRENCH.

11. STORM DRAIN INLETS SHALL BE TESTED IN CONFORMANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS. ANY DRAINAGE PIPE MATERIAL SHALL CONFORM TO THE SPECIFICATIONS OF SECTION 36 AND SECTION 50 (EXCLUDING ST. 30. WHICH IS NOT ALLOWED). DRAINAGE PIPE MATERIAL SHALL CONFORM TO THE SPECIFICATIONS OF SECTION 36-4.0.3.

12. RESIDENTIAL CODES, IN CONFORMANCE WITH SECTION 39-2.01 AND STANDARD DESIGN (STD. DWG. 50-15) THE STANDARD CONSTRUCTION SPECIFICATIONS, ARE REQUIRED REFER TO THE PRE-CAST MANHOLE AND PIPE BETWEEN THE PRE-CAST DROP INLET AND PIPE. WATER STORM ARE WELDED FOR PIPE TO CAST-IN-PLACE MANHOLE / DROP INLET CONNECTIONS.

13. EROSION CONTROL MEASURES (STD. DWG. 90-20, 90-25, 90-32, 90-32.5 AND 90-28.4) SHALL BE CLASS B CONCRETE. NOT GROUTED COBBLE.

14. ALL DRAINAGE INLETS IN THE PUBLIC ROW AND EROSION DRAINAGE SHALL HAVE A PERMANENT DRAIN PIPE MATERIAL "NO STOPPING - FLOOD COUNTRY" OR OTHER APPROVED MESSAGE CONSISTENT WITH SECTION 14-15 AND STD. DWG. 90-10 AND 10.1-2.2 OF THE CITY OF ELK GROVE IMPROVEMENT STANDARDS.
NOTES:
1. CONTRACTOR TO VERIFY EXISTING UTILITIES PRIOR TO COMMENCEMENT OF WORK.
2. CONTRACT DESIGN ENGINEER TO DETERMINE EXACT LOCATION OF DRY WELL AND SEDIMENTATION WELL PRIOR TO CONSTRUCTION.
3. STAGING AREA TO BE DETERMINED DURING PRE-CONSTRUCTION MEETING.
4. ACCESS WATER QUALITY BASIN THROUGH ENHANCED EASEMENT FROM POWER INN ROAD.

SITE 1 - VICINITY MAP
STRAWBERRY CREEK WATER QUALITY BASIN

SITE 1 - AERIAL VIEW
STRAWBERRY CREEK WATER QUALITY BASIN

SITE 1 - LAYOUT PLAN
STRAWBERRY CREEK WATER QUALITY BASIN

STORMWATER HYDROLOGY INFORMATION
Watershed Size - 168 ac
Design Flow - 15 cfs
Peak Flow - 90 cfs
Average Depth - 1 ft
Peak Flow Depth - 2 ft
Average Velocity - 0.7 fps
Peak Velocity - 2 fps
Contact Time - 2 min
Channel Length - 75 ft

EXISTING UPGRADIENT DEEP WATER TABLE INVESTIGATION BORING

EXISTING OUTFALL STRUCTURE

EXISTING DEEP WATER TABLE INVESTIGATION BORING

EXISTING VADOSE ZONE INVESTIGATION BORING

EXISTING AB RAMP

EXISTING AS RAMP

EXISTING DRY WELLS AS LOW IMPACT DEVELOPMENT

DRY WELLS AS LOW IMPACT DEVELOPMENT IMPROVEMENTS PROJECT
SITE 1: STRAWBERRY CREEK WATER QUALITY BASIN VICINITY MAP, AERIAL VIEW & SITE LAYOUT PLAN

CITY OF ELK GROVE DEPARTMENT OF PUBLIC WORKS
9401 LAGUNA PALMS WAY
ELK GROVE, CALIFORNIA 95758
916.583.7111

DRAWS:)
CHECKED:)

DESIGNED:
DRAWN:
CHECKED:

9281 Office Park Circle - Suite 100
Elk Grove, CA 95758 916.478.6002

NOTE:

CITY OF ELK GROVE DEPARTMENT OF PUBLIC WORKS
9401 LAGUNA PALMS WAY
ELK GROVE, CALIFORNIA 95758
916.583.7111
NOTES:
1. CONTRACTOR TO VERIFY EXISTING UTILITIES PRIOR TO COMMENCEMENT OF WORK.
2. CONTACT DESIGN ENGINEER TO DETERMINE EXACT LOCATION OF DRY WELL AND SEDIMENTATION WELL PRIOR TO CONSTRUCTION.
3. PROTECT EXISTING IRRIGATION SYSTEM IN PLACE.
4. STAGING AREA & WORK ZONE TO BE DETERMINED DURING PRE-CONSTRUCTION MEETING.
5. EXISTING UPGRADIENT DEEP WATER TABLE INVESTIGATION BORING

STORMWATER HYDROLOGY INFORMATION
- Watershed Area: 0.64 ac
- Design Flow: 0.1 cfs
- Peak Flow: 0.5 cfs
- Average Depth: 1.5 in
- Peak Flow Depth: 3 in
- Average Velocity: 0.17 fps
- Peak Velocity: 0.5 fps
- Contact Time: 6.4 min
- Channel Length: 44 ft

EXISTING DEEP WATER TABLE INVESTIGATION BORING
EXISTING CONCRETE CURB (TYP)
EXISTING CURB CUT (TYP)
EXISTING VADOSE ZONE INVESTIGATION BORING

REMOVE EXISTING DRAINAGE INLET AND REPLACE WITH SEDIMENTATION WELL PER DETAILS ON SHEETS 6 & 7
SITE TO BE SECURED BY TEMPORARY FENCE DURING NON-WORKING HOURS

EXISTING ASPHALT PARKING LOT
SWALE SEE DETAILS ON SHEET 6

DRY WELLS AS LOW IMPACT DEVELOPMENT IMPROVEMENTS PROJECT
SITE 2: CITY OF ELK GROVE CORPORATION YARD VICINITY MAP, AERIAL VIEW & SITE LAYOUT PLAN
CONVERT EXISTING GRASSY FILTER STRIP INTO SWALE

EXISTING STORM DRAIN PIPE WILL BE EXPOSED CHECK PIPE COVER REQUIREMENTS

COVER EXISTING DRAINAGE W/ SOIL

SWALE AREA

SWALE - ELEVATION

SWALE - ELEVATION SEDIMENTATION WELL INLET

SWALE - ELEVATION SOUTHWEST VIEW

SWALE - ELEVATION NORTHWESTERN VIEW

NOTE:

1) PROTECT EXISTING IRRIGATION SYSTEM IN PLACE

FLOW

SIDE SLOPE PROTECTION AT CURB CUT OPENINGS (TYP) PER DETAIL

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**SEDIMENTATION WELL - PROFILE**

**NOT TO SCALE**

**CONSTRUCTION KEY:**
1. Sedimentation Well Frame & Sump Grate.
2. 12" PVC Pipe - Extend 4" into sedimentation well to allow for flap gate installation.
3. 30' Reinforced Concrete Pipe or Cast-in-Place Concrete.
4. Cast-in-Place Concrete Base.
5. Flap Gate shall be a 12" Heavy Duty Flap Gate with Attaching Collar.
6. Epoxy 4-7/8" Stainless Steel Screw 1/2" Hook Bolt into Stilling Well.
7. #1/0 Link Chain w/ Stainless Steel Welded Links - Length of Chain to be 10' Minimum and Cut to Fit in Field.
8. Attach Chain to Flap Gate Plate with U-Bolt Screw and 3/8" Spring Link.
10. Cast-in-Place Concrete Collar.
11. Pipe connection shall conform to ASTM C-925. Precast units shall be boot type or compression gasket. Cast-in-Place Units shall include a water stop.
12. #4 Rebar Hoop (Typ).

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**ACCESS LADDER**

**NOT TO SCALE**

**ANCHOR DETAIL**

**NOT TO SCALE**

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**SITE 2: CITY OF ELK GROVE CORPORATION YARD**

**DRAINAGE INLET DETAIL**

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**CITY OF ELK GROVE**

**DEPARTMENT OF PUBLIC WORKS**

9401 LAGUNA PALMS WAY

ELK GROVE, CALIFORNIA 95655

916.883.7111
CONSTRUCTION KEY:
1. 12" SANDY LOAM TOPSOIL
2. 6" SAND
3. BIOFILTRATION SOIL
4. USE SOIL STAPLES TO SECURE SOIL TO SLOPES
5. UNDISTURBED AND UNCOMPACTED IN-SITU SOIL
6. EXISTING CURB CUT OPENS TO PARKING LOT
7. EXISTING CONCRETE CURB BEYOND
8. 6" DEEP AMENDED / CONDITIONED SOIL
9. NON-WOVEN GEOTEXTILE FABRIC
10. ROCK SLOPE PROTECTION SHALL BE 75% 6" TO 8"
    AND 25% 2" COBBLESTONES
11. 1' x 2' COBBLESTONE (DIAPHRAGM LEVEL); SPREADER
    DECREASE DEPTH OF LEVEL SPREADER OVER
    EXISTING 10" STORM DRAIN

GENERAL NOTES:
1. FLOW ENTERS THROUGH CURB CUT OPENS TO PARKING LOT.
2. ACTUAL CONDITIONS MAY VARY; ADJUST IN FIELD.
3. REFER TO COMMERCIAL / LIGHT INDUSTRIAL SITE PLAN FOR DRAINAGE INLET DETAILS PER SHEET 5.

TYPICAL SWALE DETAIL CROSS-SECTION

ROCK SLOPE PROTECTION AT CURB CUT

SEEN GENERAL NOTE #1

SEEN GENERAL NOTE #2

SEEN GENERAL NOTE #3

1. 1:1 MAX
   SLOPE

2. 1:1 MAX
   SLOPE

3. 1:1 MAX
   SLOPE

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   SLOPE

5. 1:1 MAX
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8. 1:1 MAX
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9. 1:1 MAX
   SLOPE

10. ROCK SLOPE PROTECTION AT CURB CUT
    NOT TO SCALE

CITY OF ELK GROVE
DEPARTMENT OF PUBLIC WORKS
8401 LAGUNA PALMS WAY
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916.683.7111

DRY WELLS AS LOW IMPACT DEVELOPMENT
IMPROVEMENTS PROJECT
SITE 2: CITY OF ELK GROVE CORPORATION YARD
SWALE DETAIL

JUNE 2014
DRAWN: WERD WA
CHECKED: WERD WA
PROJECT NO.: 90019
REVISED: 3/27/2014
DRAFTING NUMBER: 8
SHEET: 9
NOTES:
1. ROCK MUST COME FROM CLEAN SOURCES AND MUST BE THOROUGHLY WASHED BEFORE PLACEMENT.
2. GRAVEL PURCHASED FROM A SUPPLIER MUST BE WASHED AT THE PIT OR PLANT PRIOR TO DELIVERY TO THE DRY WELL SITE.
3. BEFORE PLACEMENT OF ROCK CONTACT DESIGN ENGINEER TO VERIFY WASHED ROCK CONDITION.
4. DRY WELL SAND SHALL COMBINE OF SILICA SAND AND BE FREE FROM VEGETABLE MATTER, LUMINA, SALT, OR OTHER LIKE FOREIGN MATERIALS OR CLAYS.
THE PERCENTAGE COMPOSITION BY WEIGHT OF DRY WELL SAND SHALL CONFORM TO THE FOLLOWING GRADING:

<table>
<thead>
<tr>
<th>SIEVE SIZE</th>
<th>PERCENTAGE PASSING BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.500 INCHES (1/16&quot;)</td>
<td>99-100</td>
</tr>
<tr>
<td>0.375 INCHES (3/16&quot;)</td>
<td>99-10</td>
</tr>
</tbody>
</table>

4" # PLASTIC CAP UV RESISTANT SCREWED OR INSERTED INTO TOP OF SAND TO BE 6" BELOW SD INVERT
12" MIN. SEPARATION BETWEEN HOOPS (TYP)