City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT: TOM SOPPE	PROJECT NO(S).: DR-12-09 / WA-12-01	
NON-REFUNDABLE FEE(S): —	REFUNDABLE DEPOSIT(S): 1350 & 2100	TOTAL: 3450-

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP) *
- ☐ Conditional Use (CUP)
- X Design Review (DR) 1050/300
- ☐ Easement Vacation
- ☐ Extraterritorial Ext. of Utilities
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Hillside Protection & Erosion Control
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA) */**
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Non-Conforming Lots, Uses & Structures
- ☐ Planned Unit Development (PUD)
- ☐ Pre-Application Conference (PA) */**
- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses *
- ☐ Time Extension *
- ☐ Variance (VAR) 1850/250
- X Water Resource Area Protection/Single Lot (WAP)
- ☐ Water Resource Area Protection/Wetland (WAP)
- ☐ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:
5933 HOLMES STREET
WEST LINN, OR 97068

Assessor's Map No.: 2S 2E 30BC
Tax Lot(s): 2300
Total Land Area: 3.3 acres

Brief Description of Proposal: ENCLOSE TRASH AREA, INSTALL TRASH COMPACTOR, STABILIZE STREAM BANK OF BOLTON CREEK ON THE BOLTON PRIMARY SCHOOL SITE

RECEIVED
MAR 28 2012
PLANNING & BUILDING
CITY OF WEST LINN
INT. TIME

Applicant Name (please print): TIM WOODLEY		Phone: 503-673-7995
Address: 2755 SW BORLAND RD		Email: woodleyt@wlwv.k12.or.us
City State Zip: TUALATIN, OR 97062		
Owner Name (required) (please print): WEST LINN WILSONVILLE		Phone: 503-673-7995
Address: 22210 SW STAFFORD RD		Email: woodleyt@wlwv.k12.or.us
City State Zip: TUALATIN, OR 97062		
Consultant Name (please print): KEITH LIDEN, PARSONS BRINCKERHOFF		Phone: 503-478-2348
Address: 400 SW 6TH AVE., SUITE 802		Email: liden@pbworld.com
City State Zip: PORTLAND OR 97204		

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format. If large sets of plans are required in application please submit only two sets.**

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Tim K Woodley — Applicant's signature — 3.27.12 Date

Tim K Woodley — Owner's signature *(required)* — 3.27.12 Date

PARSONS BRINCKERHOFF

Transmittal

400 SW Sixth Avenue Suite 802
Portland, OR 97204

Tel: (503) 274-8772
Fax: (503) 274-1412

to: *Tom Soppe*
City of West Linn Planning Department
22500 Salamo Road
West Linn, OR 97068

from: *Keith Liden*
date: *3.27.12*
project: *Bolton Primary School DR I*
file number:

via:	***for your:***	***the following:***		
☐ *mail*	☐ *Information/use*	☐ *shop drawings*	☐ *change order*	☐ *specifications*
☐ *messenger*	X *approval*	☐ *copy of letter*	☐ *plans*	☐ *CD*
☐ *fed-ex*	☐ *review/comment*	☐ *prints*	☐ *samples*	X *application packages*

		Signed application form	1	3.26.12
		CD of all materials	1	-
		Application packet including:	3	2.26.12
		1. Narrative		
		2. Plan sheets (full size) – Cover Sheet, A2.00, BO-C1, BO-C2, C101, C102, C200, C300, C400, C500, C501, and L501		
		3. Plan sheets (11x17 reductions)		
		4. Attachment B – Wetland Delineation Report, Attachment B – Compactor Information		

Comments:

Fee to be paid by contacting the District – Amy Berger 503.673.7195

Thank you!

Keith Liden, 503.224.4066 / liden@pbworld.com

copy to:

BOLTON PRIMARY SCHOOL
Class I Design Review and Water Resources Area Permit
March 26, 2012

APPLICATION SUMMARY

Class I Design Review and Water Resources Area Permit for bank and slope stabilization and erosion prevention project at Bolton Primary School.

GENERAL INFORMATION

Location

5933 Holmes St. (2S 2E Section 30 BC, Tax Lot 2300). Its location is shown in Figure 1.

Comprehensive Plan and Zoning Designations

The Comprehensive Plan designation is Low Density.

Consistent with the Comprehensive Plan, the property is zoned Single Family Residential Detached (R10).

Applicant and Owner

Tim Woodley, Director of Operations
West Linn-Wilsonville School District
2755 SW Borland Road
Tualatin, OR 97062
Phone: 503-673-7976
E-mail: woodleyt@wlwv.K12.or.us

Applicant's Representatives

Keith Liden, AICP
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400 S. W. 6th Avenue, Suite 802
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Phone: 503-478-2348
Fax: 503-274-1412
E-mail: liden@pbworld.com

Nancy Hubbard
Hubbard & Associates
PO Box 702
Tualatin, OR 97062
Phone: 503-819-7505
E-mail: hubbard.associates@frontier.com

Plan Sheets and Supplemental Information

C100	Cover Sheet
A2.00	Site Plan
BO-C1	Compactor Site Plan
BO-C2	Compactor Notes and Specifications
C101	General Notes
C102	Erosion Control Notes
C200	Existing Conditions and Demolition Plan
C300	Site, Storm Drainage, Grading and Erosion Control Plan
C400	Cross Sections and Storm Drainage Outfall Profile
C500	Details
C501	Details
L501	Landscape Restoration Plan
Attachment A	Wetland Delineation for the Bolton Primary School Stream Bank Stabilization Project
Attachment B	Compactor Information

Figure 1: Aerial Photo

Source: Metro

BACKGROUND INFORMATION

Site Description

The site is developed with a primary school, driveway, parking, and play fields as shown in Figure 1 and Sheet A2.00. The entire site is approximately 3.3 acres. In addition to the school building, a play area is located on the north side of the school. Parking is located on the north and south sides of the building.

Bolton Creek runs along the northern edge of the site. It is designated as a significant riparian corridor. The creek bank is quite steep, and it is eroding to the point of jeopardizing the adjacent play area to the south. The Creek ranges in width from 4 to 10 feet and averages less than 1 foot in depth. During field work completed by Pacific Habitat Services, Inc. (PHS) on December 29, 2011 the limits of ordinary high water (OHW) were noted as visually apparent based on topographic break, obvious water marks, and changes in vegetation. PHS flagged the OHW for subsequent inclusion on the topographic survey. A wetland delineation was conducted by Pacific Habitat Services, Inc., and no wetlands were identified (Attachment A).

Surrounding Area Description

The zoning designations and current land use of the surrounding area are summarized in Table 1.

Table 1
Land Use Summary

Properties in the Vicinity	***Zone Designation***	***Land Use***
<u>Subject Property</u>		
2S 2E Section 30 BC, Tax Lot 2300 (3.3 acre school site owned by school district)	R10	Primary school building, ancillary facilities, and parking
<u>Surrounding Properties</u>		
North	R10	Single family residences
South	R10	Single family residences
East	R10	Hammerle Park (City of West Linn)
West	R10	Single family residences

PROPOSED IMPROVEMENTS

Trash and Recycling Area

The district would like to replace the existing trash dumpster with a trash compactor to allow less frequent trash pick-up (Sheet A2.00). The new compactor will be screened from view by a

new fence and is located in the vicinity of the existing trash and recycle containers on the south side of the school. The compactor, which will only be operated intermittently between the hours of 7 am to 7 pm, will be able to satisfy the city's noise standards as documented in Attachment B. Additionally, the compactor will reduce the trash pick-up frequency from weekly to once a month. The trash compactor is not permanently affixed to the ground, and as such is not subject to the side yard setback requirements. The permanent aspects of the installation, the electrical power hook-up will be within the required property line setbacks. The fence will be on or within the property line.

Stream Bank Stabilization

The bank of Bolton Creek is proposed to be stabilized to end the erosion and creek sedimentation that is occurring. The existing slopes along Bolton Creek are steep, in some areas vertical and unsafe. Sloughing of soil and localized slides are apparent and have created an unstable condition at the west top of slope that interfaces with the school playground. The grades will be altered significantly beginning from approximately 2 feet above ordinary high water line (the delineated wetland). From there the slope will be graded at a two horizontal to one vertical (2:1) slope up to the top of the slope or within 5 feet of playground existing perimeter fence where a Gabion retaining wall will be installed (Sheet C300). This grade is significantly flatter than the existing slope and will require encroachment onto a portion of the playground. At the top of the modified slope a fence will be replaced. A portion of the re-graded slope will require a gabion retaining structure to allow for a stable 2:1 slope. The gabion structure will extend approximately 69-feet along the top and with the highest point (6-feet) located in the center of the alignment, then tapering to no height at the north and south ends of the structure (Sheet C300). This project will not modify the Bolton Creek alignment or include any work within the stream channel. A total area of 6,184 square feet will be affected and subject to the city's mitigation requirement in CDC 32.

The slope stabilization work will also include stabilization of an existing drainage ditch, which has been created over time by storm water from two existing storm pipe outfalls (15- and 6-inch storm water pipes). This ditch is not armored, causing erosion. These two existing storm drainage lines are proposed to terminate in a new, concrete manhole, which will then have a new 15-inch storm water pipe extending approximately 20 feet toward the creek, where it will daylight into the newly re-graded and armored ditch. The horizontal alignment of the existing drainage ditch will not be changed, and the re-grading will stabilize the slope and prevent long-term erosion. The new bank will consist of a series of buried gabion, intended to spread the storm water flow, and riprap to armor the slope. This drainage way will extend from a new storm water pipe outfall to Bolton Creek (see civil plan sheets). The existing chain link fence along the top of the bank will be replaced by a new 6-foot high chain link fence.

This work will required the removal of 10 deciduous trees ranging in diameter from 7 to 22 inches (Sheet C200). On February 28, 2012 a site visit was conducted with City Arborist Mike Perkins. It was determined there are no heritage trees on site, and the existing trees can be removed within the limits of the project. The re-graded area will be replanted with an appropriate combination of native ground covers, shrubs, and trees (Sheet L501). The new plantings will be hand watered while they are getting established.

DESIGN REVIEW CRITERIA

Section 55.090(A) refers to specific portions of Section 55.100 that apply to Class I Design Review applications. The applicable portions of Section 55.100 are addressed below, including sections identified by the city staff.

Section 55.090(B) states that adequate public facilities must be available. This criterion is satisfied because the school is currently served by a full range of public utilities and streets.

Section 55.100 contains the applicable approval standards for a Class I Design Review. At the conclusion of the preapplication conference, the planning staff determined that the application must meet the following criteria in Chapter 55:

- 55.100(A)(2) Accessory structures
- 55.100(A)(6) Fences
- 55.100(A)(8) Access, egress, and circulation (truck maneuvering)
- 55.100(C) Compatibility, buffering, and screening
- 55.100(D)(4) Noise
- 55.100(I)(5) Solid waste storage areas
- 55.100 (J)(3) Lighting of solid waste area
- 55.100(J)(8) Utility fencing

These criteria are addressed below.

A. The provisions of the following chapters shall be met:

2. Chapter 34 - Accessory Structures

CDC 34.040 states that noise-producing accessory uses and structures must comply with the applicable building setback requirements. The only permanent portion of the trash compactor installation is the new electrical power source and it is proposed to be located in compliance with the side yard set back requirement of 7.5 feet.

6. Chapter 44 - Fences

The proposed fencing satisfies the city's fence provisions because it will be a maximum of 6 feet high in a rear yard. Because the fencing is not near a street intersection or driveway, it does not pose any conflict with the clear vision area requirements in Chapter 42.

8. Chapter 48 - Access, Egress, and Circulation

The trash compactor will be located in the general vicinity currently used for the trash and recycling bins. The district has coordinated the location and accessibility with the waste disposal company. No other vehicular or pedestrian access will be affected by this proposal.

C. Compatibility Between Adjoining Uses, Buffering and Screening

The school has been a fixture in the neighborhood for many years, and it has maintained a compatible relationship with surrounding neighbors. The school operation will not be

changed by either the trash compactor or the stream bank stabilization. The compactor will not generate noise above the city's noise standards, and it will offer the advantage of fewer garbage truck visits and the associated vehicle noise.

D.4. Privacy and Noise

School activities and associated noise is compatible with the surrounding neighborhood. Building entrances, vehicle circulation, and outdoor activity areas will remain in their current location. Proposed screening of the trash and recycling area will improve the situation for neighbors nearby, and the compactor will not generate noise that exceeds city standards.

I.5. Public Facilities

The general location of the solid waste and recycling area will not be changed, and in fact, less area will be required for the trash and recycling because of the new trash compactor. Additionally, the new compactor will be screened with new fencing.

J.3. Lighting of Solid Waste Area

As noted above, new compactor will be in the same general location as the existing solid waste and recycling area and the existing site lighting will remain consistent with previous city approvals.

J.8. Utility Fencing

As noted above, the proposed fence surrounding the trash and recycling area shall be 6-feet high, meeting the maximum height standards of 8 feet.

WATER RESOURCES AREA PERMIT CRITERIA

At the conclusion of the preapplication conference, the city staff determined that the Water Resource Area permit application must meet the following criteria in Chapter 32 – Water Resource Area Protection of the Community Development Code (CDC):

- 32.040 Application
- 32.050 Approval Criteria
- 32.060 Site Plan
- 32.070 Mitigation Plan
- 32.080 Revegetation Plan Requirements

Section 32.040 Application

This section is satisfied because the plan sheet package and the report in Attachment A provide all of the information and narrative responses required by this section.

Section 32.050 Approval Criteria

This section contains a number of requirements relating to the protection of water resources.

A. This section is satisfied because the required information and evaluation is provided as part of this application, including analysis and design by a registered civil engineer.

B. This section calls for maintaining existing natural drainageways. In this case, the district proposes to minimize encroachment on the southern bank sloping down to Bolton Creek This project does not propose modifying the Bolton Creek alignment or conducting any work within the creek channel. The proposed slope stabilization is intended to eliminate the erosion and siltation created over time by storm water from an existing storm pipe outfall. The bank will be re-graded to stabilize the slope and prevent long term erosion. The new bank will consist of a series of buried gabions intended to spread the storm water flow and riprap to armor the slope. This drainage way will extend from the new storm water pipe outfall to Bolton Creek.

C. The existing condition is currently causing environmental damage due to the erosion, bank instability, and presence of non-native vegetation. The proposed bank stabilization and replanting will create a stable situation with greatly reduced erosion and the re-introduction of appropriate native vegetation in this area.

D. The district is committed to protect the water resource areas on the site into the future. It will work with the city staff during final design and permitting to accomplish this. The retention of the chain link fence along the southern boundary of the creek area will further protect the natural resource quality of this area. Buildings and structures on the site (existing including fencing and play equipment) will not be moved closer to the creek, and therefore, existing setbacks shall be maintained.

E. This section describes how the protected water resource area setback and transition areas are determined. As noted in D. above, a chain link fence and some play equipment are within the setback areas for the creek. These structures shall remain in their current locations.

F. This criterion does not apply because no roads, driveways, or utility crossings are proposed over Bolton Creek.

G. The district will work with the city to maximize the protection of the resource as intended by this criterion, which calls for chain link fencing (or approved equivalent). Due to the steep slopes, installing an anchored chain link construction fence perpendicular to the slope from the top of the bank to the bottom of the bank is not recommended. Orange construction fencing is proposed as an alternative. As noted above, a permanent 6-foot chain link fence shall be installed at the top of bank after work is completed.

H. This criterion does not apply because no new paved surfaces are proposed.

I. All plans have been developed by experienced civil engineers and environmental scientists

with the goal of maintaining and enhancing the water and natural resources on the site. The design of these elements will meet the city of West Linn and Oregon Stated Department of Environment Quality requirements.

J. All erosion control measures prescribed by the city shall be followed at all times. Design of these elements will meet the city of West Linn and Oregon Stated Department. of Environment Quality requirements.

K. Due to the nature of this project and the amount of disturbance, a re-vegetation plan is required. The re-vegetation plan proposed by the district will provide the combination of ground cover, shrubs, and trees required by this section and CDC 32.080 (addressed below).

L. As noted above, the existing chain link fence and play equipment are proposed to remain in their current location and no new structures are proposed within the setback area.

M. This criterion does not apply because storm water treatment facilities are not proposed.

N. This criterion is not applicable because opening a covered or piped drainage is not proposed.

O. These criteria do not apply because no new buildings or building remodeling is proposed.

P. This criterion is not applicable because all relevant storm drainage channels have been identified.

Section 32.060 Site Plan

This section is satisfied because the plan sheet package and the report in Attachment A provide all of the information required by this section.

Section 32.070 Mitigation Plan

This section contains a number of requirements relating to the mitigation of potential adverse impacts on water resource areas.

A. This section is satisfied because the proposed stream bank restoration is proposed to correct existing erosion and bank instability issues rather than accommodate development. The erosion and bank instability problems extend along virtually the entire south bank of the creek. In addition, non-native vegetation covers much of the area. This restoration work includes the minimum area necessary, and it avoids any work in the stream channel. The problems are clearly identified in the wetland delineation report (Attachment A), and the restoration will improve the current poor condition of the stream area.

B. As noted, this project is not designed to accommodate new development. The current condition of the creek is related to urbanization that has occurred over many years, and this project, as shown in the plan sheets, will provide appropriate mitigation. As noted in the application, the district and its contractors will be responsible for the work and assuring its

proper completion.

C. Because of the small size of the school site and lack of available space for mitigation, off-site mitigation is proposed. Conversations with city staff concur with this approach, and preliminary coordination has begun between the district and parks department.

D. This criterion is not applicable because no wetland areas are involved.

E. With the off-site mitigation proposed to occur on city park property, permanent protection will be provided.

Section 32.080 Revegetation Plan Requirements

This section contains a number of requirements relating to revegetating water resource areas. These standards were followed when the landscaping and planting plans were developed for this application.

A. Temporary irrigation shall be provided as noted in the Landscape Restoration Plan (Sheet L501).

B. As shown in the Landscape Restoration Plan, the non-native plants shall be removed in the area of work and replaced with native vegetation.

C. Replacement trees and shrubs shall meet the minimum size standards of this section, as shown on Sheet L501.

D. The replacement trees and shrubs are proposed to be planted with spacing and density required by this section (Sheet L501).

E. The proposed landscaping plan contains a variety of trees and shrubs, which comply with the requirements in this section.

F. The district shall provide the necessary assurances for plant survival as required by the city.

CONCLUSION

The proposed compactor and stream bank restoration satisfy all of the relevant criteria as demonstrated above. The restoration work will result in an environmentally improved segment of Bolton Creek.

ATTACHMENT A
Wetland Delineation Report

Wetland Delineation for the Bolton Primary School Streambank Stabilization Project in West Linn, Oregon

(Township 2 South, Range 2 East,
Section 30BC, portion of Tax Lot 2300)

Prepared for

West Linn-Wilsonville School District
Attn: Tim Woodley

Prepared by

Pacific Habitat Services, Inc.
Wilsonville, Oregon 97070
(503) 570-0800
(503) 570-0855 FAX

February 8, 2012

Wetland Delineation for the Bolton Primary School Streambank Stabilization Project in West Linn, Oregon

(Township 2 South, Range 2 East,
Section 30BC, portion of Tax Lot 2300)

Prepared for

West Linn-Wilsonville School District
Attn: Tim Woodley
2755 SW Borland Road
Tualatin, Oregon 97062

Prepared by

Caroline Rim
Amy Hawkins
John van Staveren
Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, Oregon 97070
(503) 570-0800
(503) 570-0855 FAX
PHS Project Number: 4938

February 8, 2012

TABLE OF CONTENTS

I. INTRODUCTION

Pacific Habitat Services, Inc. (PHS) has delineated the limits of potentially jurisdictional waters of the state/US for the Bolton Primary School streambank stabilization project in West Linn, Oregon (Township 2 South, Range 2 East, Section 30BC, Clackamas County, portion of Tax Lot 2300).

This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of wetlands within the study area, are located in Appendix A. Data sheets documenting on-site conditions are provided in Appendix B. Ground-level photos of the site are located in Appendix C. A discussion of the wetland delineation methodology (for the client) is provided in Appendix D.

II. RESULTS AND DISCUSSION

A. Landscape Setting and Land Use

The study area is located in the eastern portion of the City of West Linn, Oregon, approximately ½ mile west of the confluence of the Willamette River and the Clackamas River. The study area is located along Bolton Creek, a perennial tributary of the Willamette River. Bolton Primary School is located at 5933 Holmes Street, West Linn, Oregon 97068, and the creek is situated within a steep ravine that is located along the north side of the Bolton Primary School playground.

Bolton Creek enters the northwestern corner of the property and flows in an eastwardly direction, eventually flowing off-site through the northeastern portion of the site. The creek is narrow and shallow. Steep slopes rise above the streambanks along the north and south sides of the creek. The slope along the south bank of the creek, immediately downslope of the north edge of the playground, is quite unstable, which is evident by the presence of a recent landslide in this area. Near the east end of the creek, a seep located along the south slope joins the creek.

The riparian overstory includes red alder (*Alnus rubra*), big-leaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*), and Oregon white oak (*Quercus garryana*). The understory primarily consists of English ivy (*Hedera helix*), which extends from the top of slope down to the edge of the creek. Also present within the understory are Himalayan blackberry (*Rubus discolor*), evergreen blackberry (*Rubus laciniatus*), Pacific dewberry (*Rubus ursinus*), and sword fern (*Polystichum munitum*).

Within the study area, there is one stream, Bolton Creek, and a seep flowing into the southeast side of the creek. No wetlands were identified. The delineated features are discussed in more detail in Section E.

B. Site Alterations

PHS did not observe any fill or other alterations that would have affected the location of wetlands/waters within the study area.

C. Precipitation Data and Analysis

Precipitation data recorded in Portland on December 29, 2011, was 0.69 inches. Total precipitation for the two weeks prior to the site visit was 1.36 inches. Total observed precipitation for the water-year (October 1, 2011 through December 29, 2011) was 10.77 inches, which is approximately 22 percent less than normal (National Weather Service, October 2011 through December 2011).

Table 1 compares the average monthly precipitation to the observed monthly precipitation, as well as to the normal precipitation range, as identified in the NRCS WETS Table for the City of Portland. As shown in Table 1, observed precipitation was below normal in September and October, and above normal in November. However, in October and November, the observed precipitation was within the normal range, and only slightly below in September. Although precipitation contributes to site hydrology, it is not a dominant hydrologic influence on the site. Therefore, it is PHS's best professional judgment (BPJ) that precipitation did not significantly affect the hydrologic conditions observed during the wetland delineation field work and that "normal circumstances" were present at that time.

Table 1: Comparison of Average and Observed Precipitation in Portland for Three Full Months Prior to the Wetland Delineation Field Work

Month	Average Precipitation*	30% Chance Will Have		Observed Precipitation**	Percent of Normal
		Less Than Average*	More Than Average*		
September	1.65	0.65	2.06	0.63	43
October	2.88	1.57	3.52	2.14	71
November	5.61	3.72	6.73	6.57	117

***Source: NRCS WETS Table**
****Source: National Weather Service**

D. Methods

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*.

PHS's delineation and data collection was completed on December 29, 2011. The limits of ordinary high water (OHW) along Bolton Creek and the hillside seep were based on topographic break, obvious water marks, and changes in vegetation.

E. Description of all Wetlands and Other Non-Wetland Waters

PHS identified the limits of Bolton Creek and an adjoining hillside seep within the study area. Approximately 1,183 square feet (0.03 acre) of Bolton Creek and the adjoining seep are located within the study area. No potentially jurisdictional wetlands were identified. A description of the delineated features is provided below.

Bolton Creek

The creek ranges in width from approximately 4 to 10 feet, and averages less than 1 foot deep. The Cowardin class for the creek is Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded (R2UBH), and the HGM class is Riverine Flow Through (RFT). The limits of OHW were delineated using indicators such as topographic break, water marks, and changes in vegetation.

Seep

The seep is relatively narrow, approximately 3 to 4 feet wide, and has a defined bed and bank. It extends upslope along the south side of the creek. A 15-inch concrete stormwater outfall pipe is located at the upper end of the seep. A 6-inch concrete stormwater outfall pipe is located further upslope but not connected to the seep. No water was observed flowing out of either pipe during the site visit. Situated into the slope at the upper end of the seep is a small hollow, approximately 3 feet high, 4 feet long, and 3 to 4 feet deep. Subsurface flow was visibly entering the hollow and flowing into the seep. The Cowardin class for the seep is Riverine Intermittent Unconsolidated Bottom Saturated/Semipermanent/Seasonal (R4UBY), and the HGM class is Headwater Slope (SH).

F. Deviation from LWI

The Local Wetland Inventory (LWI) map for the City of West Linn has mapped Bolton Creek as being present within the study area; no wetlands were mapped. The LWI mapping is consistent with PHS's finding's in the field.

G. Mapping Method

PHS flagged the OHW boundary of the creek and the seep with blue surveyor's tape. Data point locations were flagged with lime green surveyor's tape. These flags were subsequently survey-located by Compass Engineering. The estimated accuracy of the survey is sub-centimeter.

H. Additional Information

Bolton Creek is not designated as Essential Salmonid Habitat (ESH).

I. Results and Conclusions

PHS identified Bolton Creek and an adjoining hillside seep within the study area. The total area of potentially jurisdictional waters of the State/US is 1,183 square feet (0.03 acre) within the project area**.**

J. Required Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

III. REFERENCES

Adamus, P.R. and D. Field. 2001 *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites. Willamette Valley Ecoregion, Riverine Impounding and Slopes/Flats Subclasses*. Oregon Division of State Lands, Salem, OR.

Hitchcock, CL and A. Cronquist. 1973. *Flora of the Pacific Northwest: An Illustrated manual*. University of Washington Press.

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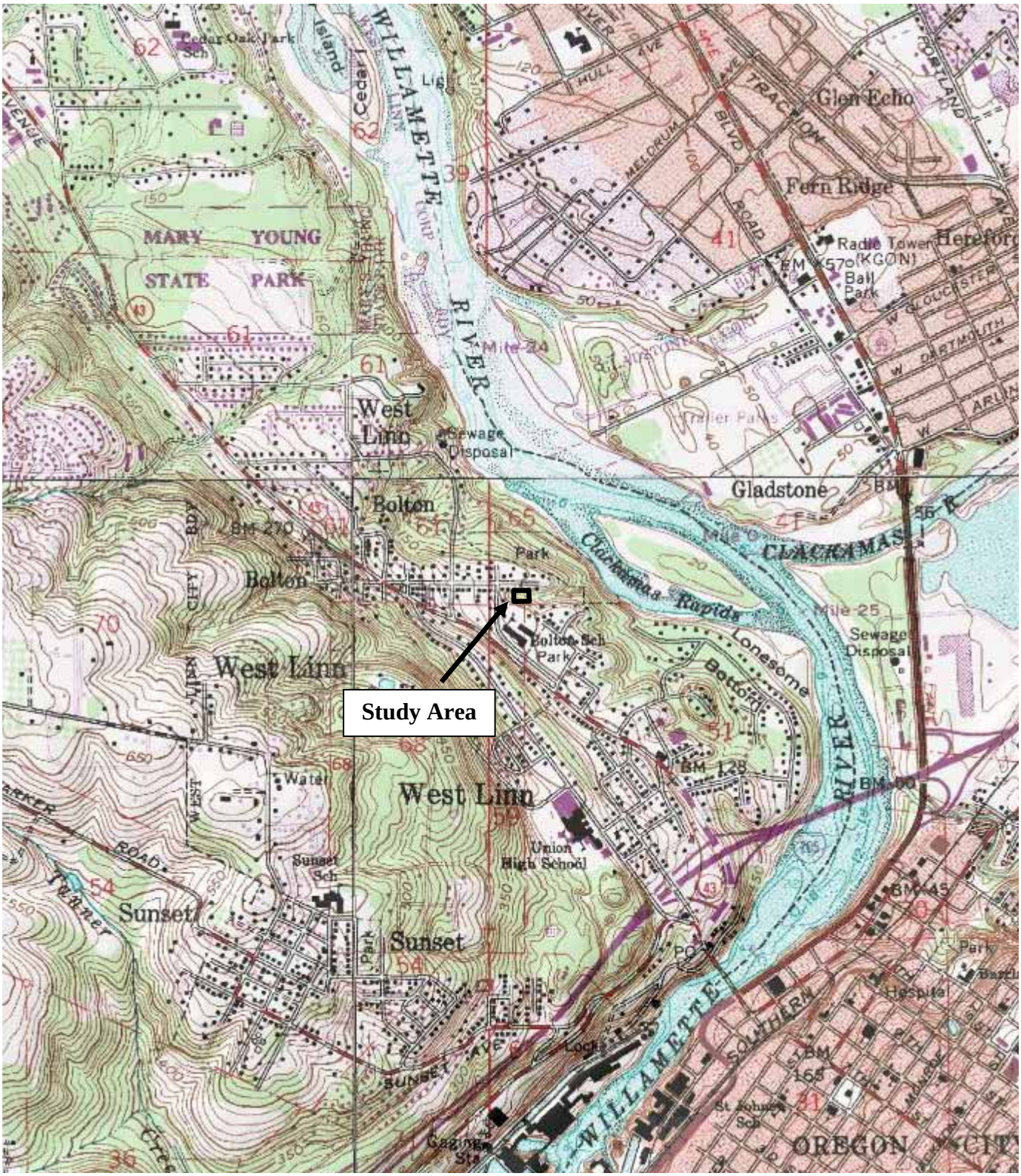
Appendix A

Figures



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Location and general topography for the Bolton Primary School streambank stabilization project in West Linn, Oregon (USGS Oregon City, OR quadrangle. Courtesy of MyTopo.com, 2012).

FIGURE 1

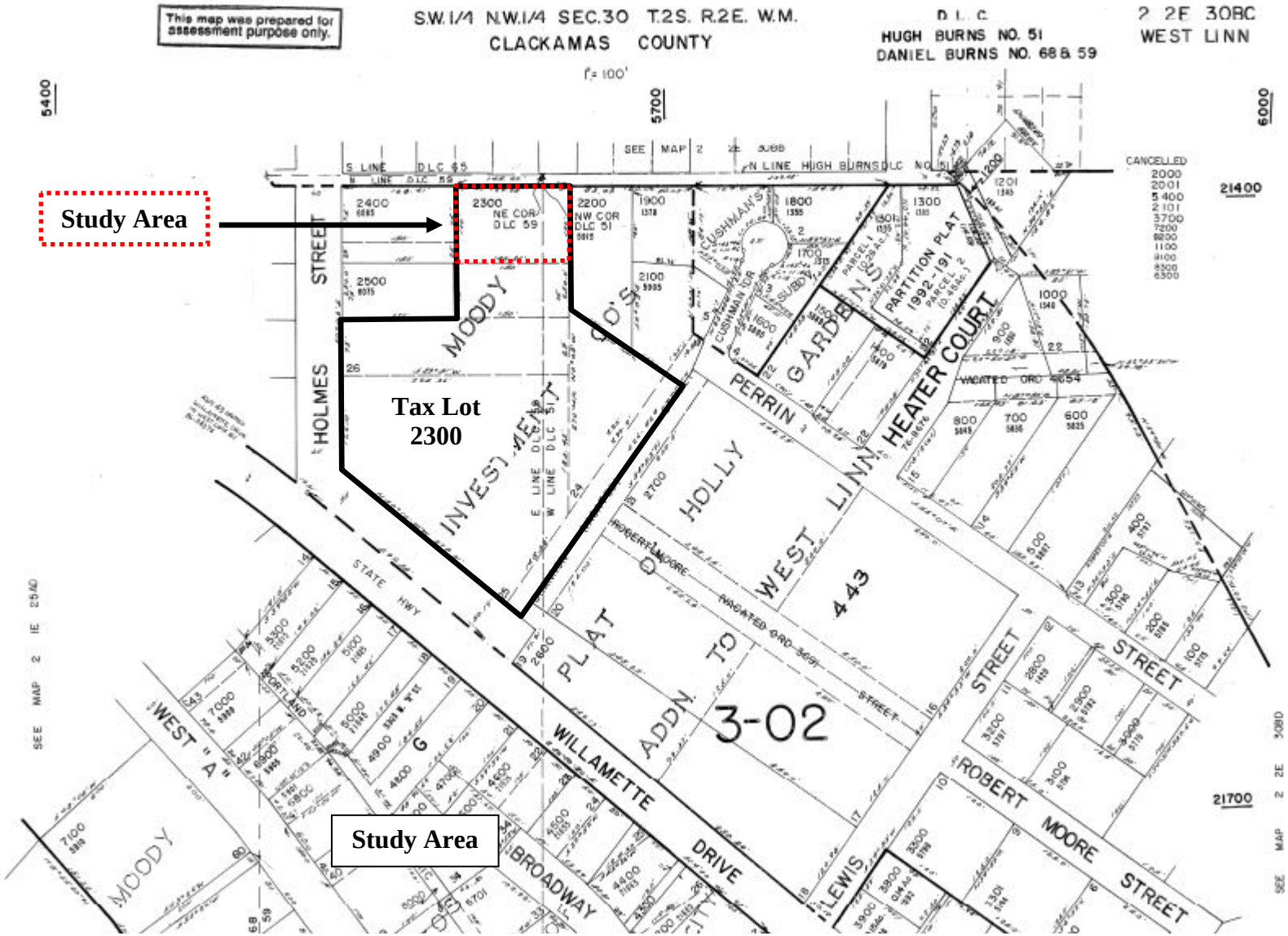

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FIGURE 2

Tax lot map for the Bolton Primary School streambank stabilization project in West Linn, Oregon (ORMAP Tax Map T2S R2E, Section 30, portion of Tax Lot 2300).

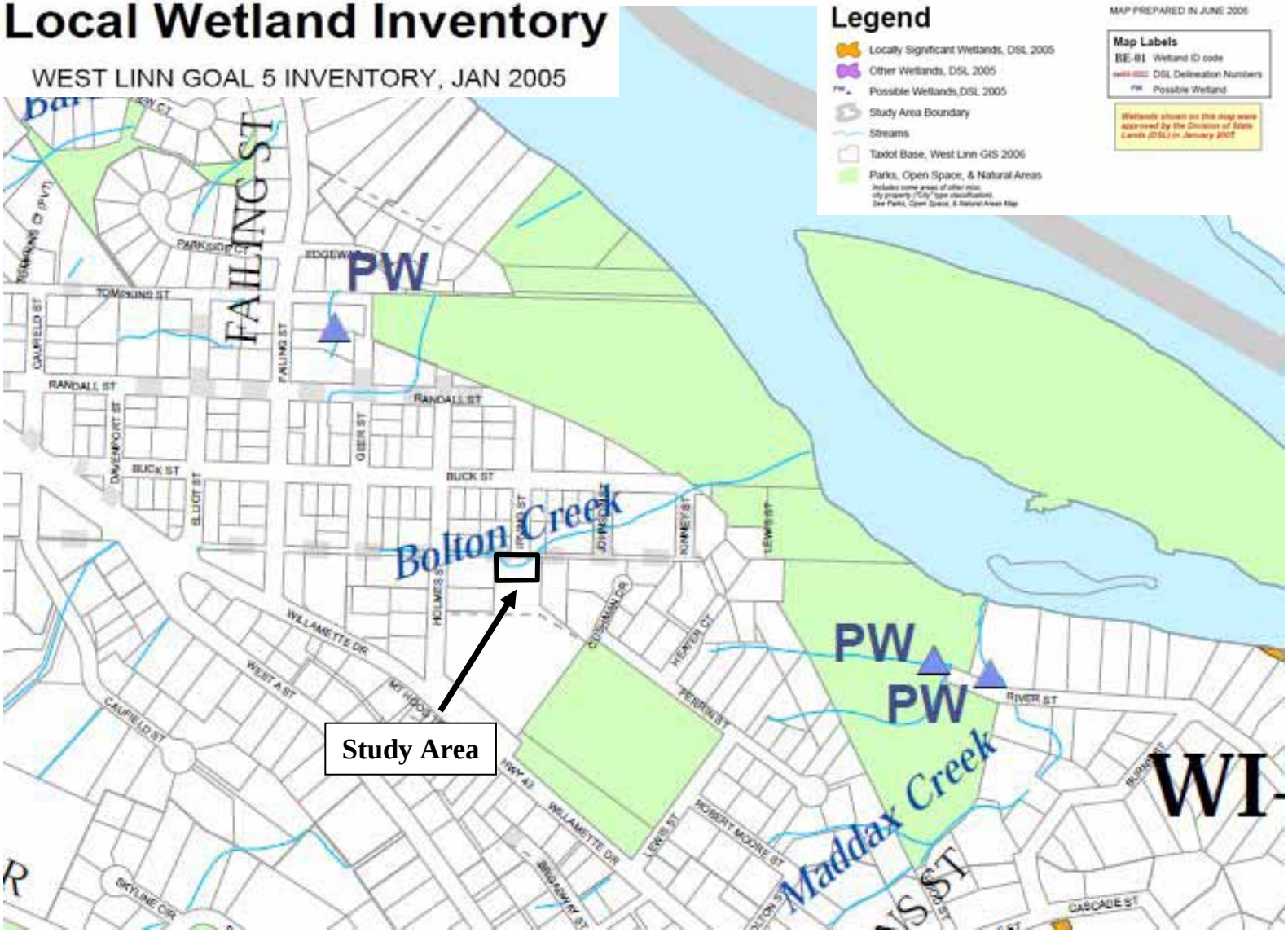

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FIGURE 3

City of West Linn Local Wetland Inventory map for the Bolton Primary School streambank stabilization project in West Linn, Oregon (Winterbrook Community Resource Planning, January 2005).

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FIGURE 4

Soil series map for the Bolton Primary School streambank stabilization project in West Linn, Oregon (USDA Web Soil Survey, 2012).

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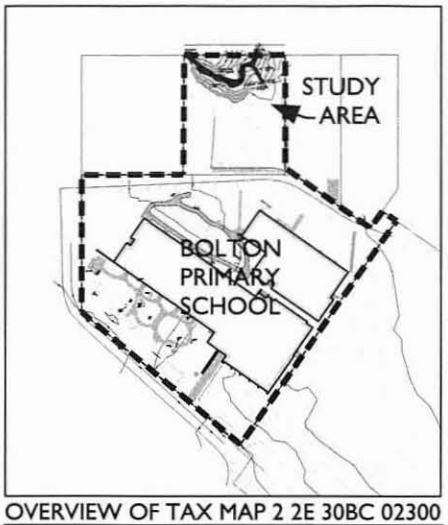
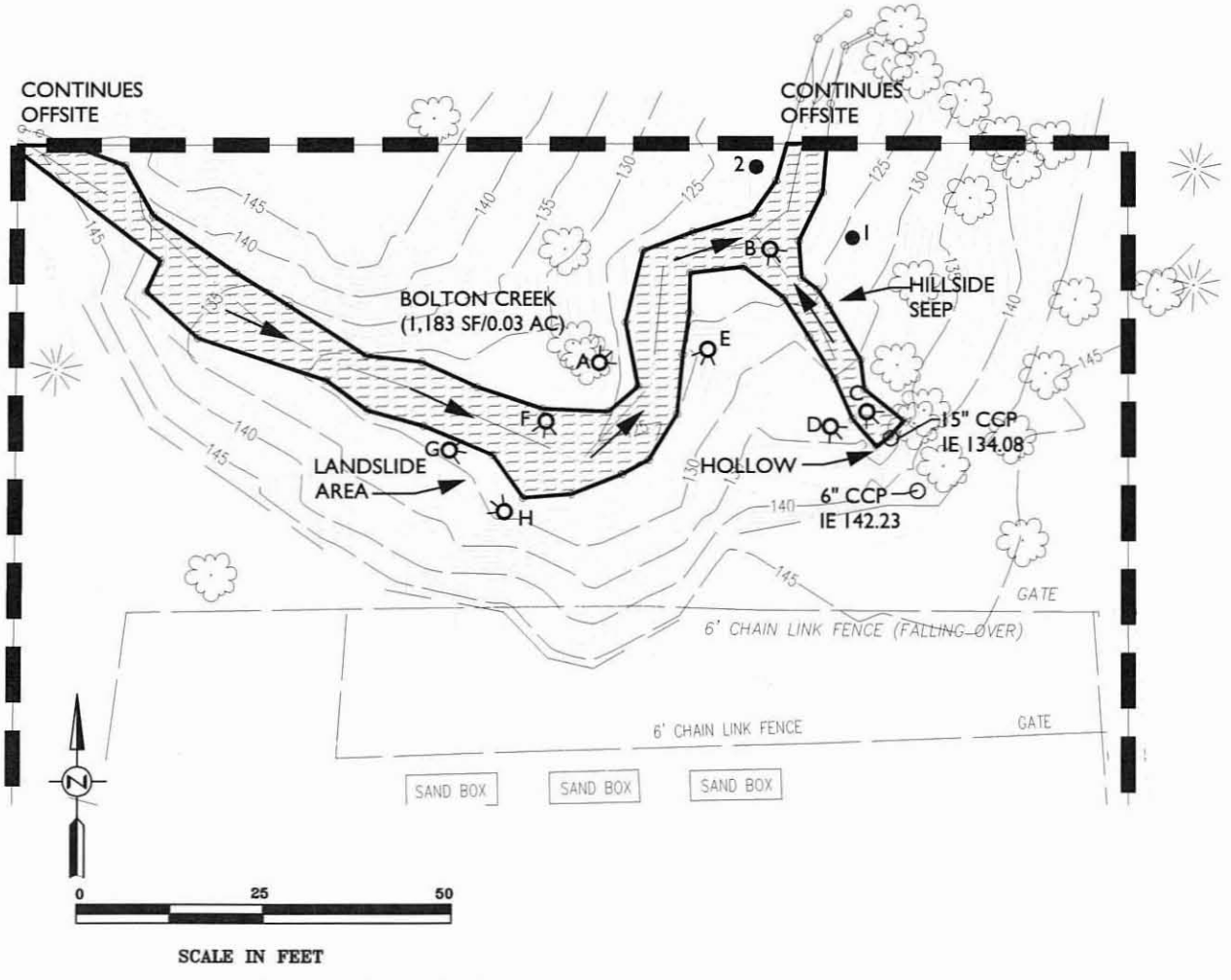
FIGURE 5

Aerial photograph for the Bolton Primary School streambank stabilization project in West Linn, Oregon (Portland Maps 2010).



OVERVIEW OF TAX MAP 2 2E 30BC 02300

● I SAMPLE POINT
B ⊙ PHOTODOCUMENTATION POINT



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1/31/12

Existing conditions and locations of potentially jurisdictional waters of the State/US, sample points, and photodocumentation points for the Bolton Primary School streambank stabilization project in West Linn, Oregon. Survey and base map provided by Compass Engineering, 2011. Survey accuracy is subcentimeter.

Pacific Habitat Services, Inc.

FIGURE 6

Y:\AUTOCAD\4900\4938 Bolton Primary School\fig 5362Topo.dwg, 2/9/2012 11:36:38 AM, Letter, 1:1

Appendix B

Wetland Determination Data Sheets

PHS # 4938

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Bolton Primary School** City/County: **Clackamas** Sampling Date: **12/29/2011**

Applicant/Owner: **Bolton Primary School** State: **OR** Sampling Point: **1**

Investigator(s): **C. Rim / A. Hawkins** Section, Township, Range: **Sec 30, T 2 South, R 2 East**

Landform (hillslope, terrace, etc.:) **toe of hillslope** Local relief (concave, convex, none): **none** Slope (%):

Subregion (LRR): **LRRA** Lat: **45.370753** Long: **122.618725** Datum: **DD**

Soil Map Unit Name: **Aloha silt loam** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (if no, explain in Remarks)

Are vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ___ Soil ___ or Hydrology ___ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is Sampled Area within a Wetland?** Yes ___ No **X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes		No	X	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: 30)			
1 ***Acer macrophyllum***	30	X	FACU
2 ***Quercus garryana***	10		UPL
3 ***Alnus rubra***	20	X	FAC
4			
	60	= Total Cover	
Sapling/Shrub Stratum (plot size: 5)			
1 ***Acer macrophyllum***	20	X	FACU
2 ***Rubus discolor***	10	X	FACU
3			
4			
5			
	30	= Total Cover	
Herb Stratum (plot size: 5)			
1 ***Polystichum munitum***	30	X	FACU
2			
3			
4			
5			
6			
7			
8			
	30	= Total Cover	
Woody Vine Stratum (plot size:)			
1 ***Hedera helix***	40	X	UPL
2 ***Rubus ursinus***	10	X	FACU
	50	= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **14%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	0
FACW species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
UPL Species		x 5 =	0
Column Totals	0 (A)		0 (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

___ 1- Rapid Test for Hydrophytic Vegetation

___ 2- Dominance Test is >50%

___ 3-Prevalence Index is ≤ 3.0[1]

___ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

___ 5- Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No **X**

Remarks:

SOIL PHS # **4938** Sampling Point: **1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	**10YR 3/2**	**100**					**Silt loam**	**gravelly**
12-16	**10YR 4/2**	**90**	**7.5YR 4/6**	**10**	**C**	**M**	**Silt**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- _____ Histosol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- _____ Loamy Gleyed Matrix (F2)
- _____ Depleted Matrix (F3)
- _____ Redox Dark Surface (F6)
- _____ Depleted Dark Surface (F7)
- _____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- _____ 2 cm Muck (A10)
- _____ Red Parent Material (TF2)
- _____ Very Shallow Dark Surface (TF12)
- _____ Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: **None**

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- _____ Surface Water (A1)
- _____ High Water Table (A2)
- _____ Saturation (A3)
- _____ Water Marks (B1)
- _____ Sediment Deposits (B2)
- _____ Drift Deposits (B3)
- _____ Algal Mat or Crust (B4)
- _____ Iron Deposits (B5)
- _____ Surface Soil Cracks (B6)
- _____ Inundation Visible on Aerial Imagery (B7)
- _____ Sparsely Vegetated Concave Surface (B8)
- _____ Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**
- _____ Salt Crust (B11)
- _____ Aquatic Invertebrates (B13)
- _____ Hydrogen Sulfide Odor (C1)
- _____ Oxidized Rhizospheres along Living Roots (C3)
- _____ Presence of Reduced Iron (C4)
- _____ Recent Iron Reduction in Plowed Soils (C6)
- _____ Stunted or Stressed Plants (D1) **(LRR A)**
- _____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- _____ Water stained Leaves (B9) **(Except MLRA1, 2, 4A, and 4B)**
- _____ Drainage Patterns (B10)
- _____ Dry-Season Water Table (C2)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Geomorphic Position (D2)
- _____ Shallow Aquitard (D3)
- _____ Fac-Neutral Test (D5)
- _____ Raised Ant Mounds (D6) **(LRR A)**
- _____ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No **X** Depth (inches): _____

Water Table Present? Yes _____ No **X** Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No **X** Depth (inches): _____

Wetland Hydrology Present?

Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

PHS # 4938

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: **Bolton Primary School** City/County: **Clackamas** Sampling Date: **12/29/2011**

Applicant/Owner: **Bolton Primary School** State: **OR** Sampling Point: **2**

Investigator(s): **C. Rim / A. Hawkins** Section, Township, Range: **Sec 30, T 2 South, R 2 East**

Landform (hillslope, terrace, etc.:) **terrace** Local relief (concave, convex, none): **none** Slope (%):

Subregion (LRR): **LRRA** Lat: **45.370753** Long: **122.618725** Datum: **DD**

Soil Map Unit Name: **Aloha silt loam** NWI Classification:

Are climatic/hydrologic conditions on the site typical for this time of year? Yes **X** No (if no, explain in Remarks)

Are vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? (Y/N) **Y**

Are vegetation ___ Soil ___ or Hydrology ___ naturally problematic? If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	X	**Is Sampled Area within a Wetland?** Yes ___ No **X**
Hydric Soil Present?	Yes	X	No		
Wetland Hydrology Present?	Yes		No	X	

Remarks:

VEGETATION - Use scientific names of plants.

	absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (plot size: 5)			
1 ***Acer macrophyllum***	30	X	FACU
2			
3			
4			
	30	= Total Cover	
Sapling/Shrub Stratum (plot size: ___)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb Stratum (plot size: 5)			
1 ***Polystichum munitum***	20	X	FACU
2			
3			
4			
5			
6			
7			
8			
	20	= Total Cover	
Woody Vine Stratum (plot size: 5)			
1 ***Hedera helix***	80	X	UPL
2			
	80	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet:

Total % Cover of		Multiply by:	
OBL Species		x 1 =	0
FACW species		x 2 =	0
FAC Species		x 3 =	0
FACU Species		x 4 =	0
UPL Species		x 5 =	0
Column Totals	0 (A)		0 (B)

Prevalence Index =B/A = **#DIV/0!**

Hydrophytic Vegetation Indicators:

___ 1- Rapid Test for Hydrophytic Vegetation

___ 2- Dominance Test is >50%

___ 3-Prevalence Index is ≤ 3.0[1]

___ 4-Morphological Adaptations[1] (provide supporting data in Remarks or on a separate sheet)

___ 5- Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No **X**

Remarks:

SOIL PHS # **4938** Sampling Point: **2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 2/2**	**100**					**Sandy Clay Loam**	
6-9	**10YR 2/2**	**80**	**7.5YR 3/4**	**10**	**C**	**M**	**Silty Clay Loam**	**medium**
	4N	**10**						
9-16	**4N**	**85**	**10YR 4/6**	**15**	**C**	**M**	**Silt Loam**	**medium**

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

	Histosol (A1)		Sandy Redox (S5)
	Histic Epipedon (A2)		Stripped Matrix (S6)
	Black Histic (A3)		Loamy Mucky Mineral (F1) **(except MLRA 1)**
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Depleted Below Dark Surface (A11)		Depleted Matrix (F3)
	Thick Dark Surface (A12)	**X**	Redox Dark Surface (F6)
	Sandy Mucky Mineral (S1)		Depleted Dark Surface (F7)
	Sandy Gleyed Matrix (S4)		Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF12)
	Other (explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: **None**

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

	Surface Water (A1)		Water stained Leaves (B9) **(Except MLRA 1, 2, 4A, and 4B)**		Water stained Leaves (B9) **(Except MLRA1, 2, 4A, and 4B)**
	High Water Table (A2)				
	Saturation (A3)		Salt Crust (B11)		Drainage Patterns (B10)
	Water Marks (B1)		Aquatic Invertebrates (B13)		Dry-Season Water Table (C2)
	Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)		Oxidized Rhizospheres along Living Roots (C3)		Geomorphic Position (D2)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Shallow Aquitard (D3)
	Iron Deposits (B5)		Recent Iron Reduction in Plowed Soils (C6)		Fac-Neutral Test (D5)
	Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) **(LRR A)**		Raised Ant Mounds (D6) **(LRR A)**
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarks)		Frost-Heave Hummocks (D7)
	Sparsely Vegetated Concave Surface (B8)				

Field Observations:

Surface Water Present?	Yes		No **X**	Depth (inches):	
Water Table Present?	Yes		No **X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes		No **X**	Depth (inches):	

Wetland Hydrology Present?

Yes **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

Appendix C

Site Photos

Photo A

Photo A:

Bolton Creek. View to NE / downstream.

Photo B:

View to SE, hillside seep on south slope.

Photo B

1/27/2012

4938

Photos for the Bolton Primary School streambank stabilization project in West Linn, Oregon. Photos taken on 12/29/2011.

Photo C

Photo C:

Upper end of hillside seep. Left: 15-inch concrete cylinder pipe (CCP). Right: "hollow" within hillside, behind blue flagging tape on right.

Photo D:

6-inch CCP upslope of the hillside seep.

Photo D

1/27/2012

4938

Photos for the Bolton Primary School streambank stabilization project in West Linn, Oregon. Photos taken on 12/29/2011.

Photo E

Photo E:

Landslide along south slope. View to southwest.

Photo F:

Landslide along south slope. View to south.

Photo F

1/27/2012

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Photos for the Bolton Primary School streambank stabilization project in West Linn, Oregon. Photos taken on 12/29/2011.

Photo G

Photo G:

Landslide along south slope. View to east.

Photo H:

Bolton Creek. View to NW / upstream.

Photo H

1/27/2012

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Photos for the Bolton Primary School streambank stabilization project in West Linn, Oregon. Photos taken on 12/29/2011.

Appendix D

Wetland Definitions, Methodology

WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA

Regulatory Jurisdiction

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

Waters of This State and Wetland Definition

Waters of This State are defined as "all natural waterways, all tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and nonnavigable bodies of water in this state and those portions of the ocean shore …" (DSL, 2009).

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (DSL 2009).

Wetland Criteria

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

Wetland Hydrology

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost-free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a “problem soil” in the Interim Regional Supplement.

Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands,* has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status”, are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

Table 1. Description of Wetland Plant Indicator Status Codes

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Interim Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5-foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to three, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets, which contain the information specified in the 1987 Corps Manual and the Interim Regional Supplement.

ATTACHMENT B
Compactor Information

RJ-88SC Self Contained Compactor

[**Specifications** | Literature | **Operational & Steel Options**]

Marathon's **RJ-88SC Self-Contained Compactor / Containers** are ideal for waste with high liquid content and for applications where space is limited. Each RJ-88 series compactors store liquid and controls insect and odor problems.

RJ-250SC Features:

The RJ-88SC is ideal for...

- Shopping Centers
- Supermarkets
- Restaurants
- Hotels
- Inflight Kitchens
- Hospitals and institutions

The RJ-250SC uses a Remote Power Pack that remains on-site while the self-contained compactor container is taken to the landfill.

Components are selected for longevity and minimum maintenance, with special attention given to the selection of highly sensitive components. Stress engineering provides the optimum degree of structural integrity. Only the best materials are used. The highest standards of quality are observe in the manufacturing process. That's why you'll find Marathon Compactors "packing trash" long after other makes have failed!

The **RJ-88 SC**'s smaller size makes it excellent for restaurant and fast food applications. They normally fit easily in waste corrals for an attractive and convenient installation at minimum installation cost.

With standard double end pick-up, the unit can be loaded for hauling from either end. This is especially useful if installed perpendicular to a dock (Packer End pick-up option does not include front ground rollers).

The RJ-88 SC uses a **Remote Power Pack** that remains on-site while the self-contained compactor container is taken to the landfill.

Factory testing to assure leakproof construction.

Also See the RJ-88 HT. The RJ-88 HT features a Hydraulic Tailgate and is well suited for security chute-fed and dock-fed applications where maneuvering space for the collection vehicle is limited.

The RJ-88 Series Self-Contains can be used with a hopper to double or triple your loading capacity!

They are equally easy to load from ground or dock level and can be continuously fed while the unit is cycling!

Total odor and pest control via Marathon's **Ozone Odor Control option**

Easy and fast installation! Installation costs are cut by half over conventional compaction systems.

Fire hose connection provided on each unit.

RJ-88C Compactors can be customized with a variety of loading arrangements to suit your specific needs.

Marathon's RJ-88SC Self Contained Compactor is UL Listed!

Features & Benefits of Marathon's Self-Contained Wet Waste Compaction Equipment:

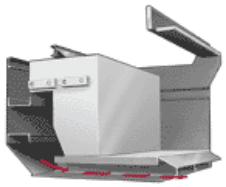
Marathon's **CYCON Life-Xtender® Cyclic Control System:** eliminates troublesome limit and pressure cycle control switches. It also reduces trash removal cost by producing superior payloads and dramatically improving cold weather performance.

Marathon's compactors meet all of ANSI and OSHA standards.

Each unit is ***UL Listed*** to assure quality and maintains the highest industry standards (does not apply to GreenBuilt).

Standard **double end pick-up** (except HT models) which allows the unit to be loaded for hauling from either end. This is especially useful if the self-contained unit is perpendicular to a dock.

Through-the-wall feed chutes offer convenience to employees that reduces labor cost and improves security.



The **Qwik Clean Tank**® funnels any liquid seepage during compaction into an enclosed area underneath the charge box floor. The liquid is automatically discharged at the disposal site, in effect flushing the container and the area behind the ram.

Rear door retains wet waste effectively with its patented "**Double-Hinge"** and custom designed **"P" Seal**.

The innovative **"Bubble Gate"** adds a cubic yard to the container capacity. Its curved shape also produces superior compaction ratios.

Specifications:

RJ-88 SC Self-Contained

RJ-88SC Specifications

Dimension	A*	B	C	D	E	Weight
15 cu yds	43"	30 1/2"	70"	187"	89"	7200 lbs.
	1092mm	777mm	1778mm	4750mm	2261mm	3265 kg.
20 cu yds	43"	30 1/2"	70"	222"	89"	7600 lbs.
	1092mm	777mm	1778mm	5639mm	2261mm	3447 kg.
24 cu yds	43"	30 1/2"	70"	256"	89"	8000 lbs.
	1092mm	777mm	1778mm	6502mm	2261mm	3628 kg.

Charge Box Capacity		
[Mfr's. Rating]	1.0 cy	.76 m^3
[WASTEC Rating]	0.70 cy	.54 m^3
Clear Top Opening	30.5" L X 48" W	775mm x 1219mm
Performance Data:		
Cycle Time	44 sec	44 sec
Total Normal Force	36,600 lb	162 kN
Total Maximum Force	43,100 lb	192 kN
Normal Ram Face Pressure	34.7 psi	239 kPa
Maximum Ram Face Pressure	40.8 psi	281 kPa
Ram Penetration	6Ó	152 mm
Electrical Equipment		
Electric Motor 3/60/230-460	5 hp	3.7 kW
Electric Control Voltage	120 VAC	120 VAC
Panel Box Assembly UL Listed		
All Circuits Fused Key Operated		
3 Push Button Station Start/Stop/Reverse		
Hydraulic Equipment		
Hydraulic Pump	6 gpm	23 L/min
Normal Pressure	1700 psi	117 bar
Maximum Pressure	2000 psi	138 bar
Cylinder Bore	2 @ 4" each	102 mm
Cylinder Rod	2 @ 2.5"	64 mm

Optional Features:

TrashMinder®

The optional **TrashMinder®** is the most advanced method for reporting and measuring container fullness as well as for managing user access and billing. **Get More Details.**

The StreamLine® Option

allows excess liquid to be drained from the container reducing net payload weight and significantly reducing hauling costs! Liquid is routed to four interconnected 4" drain

Qwik Clean Door®

The innovative Qwik Clean Door provides access to the area behind the ram of self-contained compactors. It allows for quick, easy cleaning and other routine maintenance without having to unbolt panels or break welds. The Qwik Clean Door features our Auto-Relatch to hold the door closed while the door is being ratcheted and our patented "P" Seal for a tight, leak proof seal.

Pictures on this page are illustrative only. Specifications are subject to change without notice to accommodate improvements to the equipment. Certified in compliance with ANSI Regulation Z245.2, all OSHA standards, and certified under WASTEC's Stationary Compactor Certification Program. Products must be used with safe practice and in accordance with said regulations and standards.

outlets located at each corner of the StreamLine unit. Connection can be made to a hose, piping, or pump.

See how the StreamLine System works.

Cart Dumpers

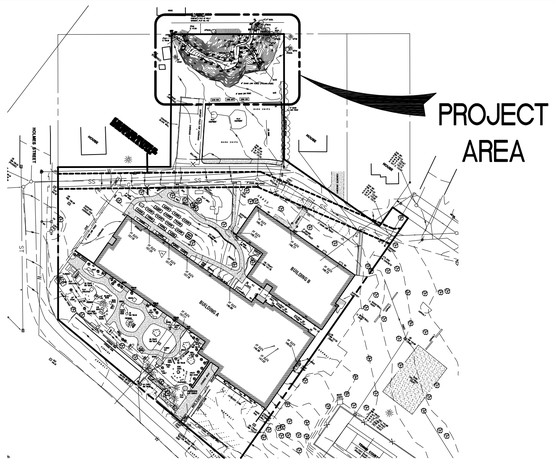
Your Self-Contained can be fitted with various configurations of cart dumper systems. Other options include: multi-cycle timer, dual controls, ozone odor control system, security chutes, hoppers, and many much more.

Top of Page

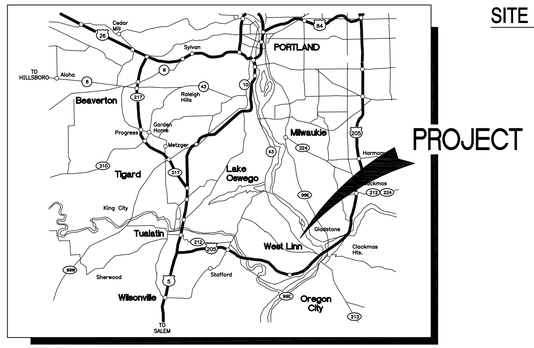
WEST LINN - WILSONVILLE SCHOOL DISTRICT

BOLTON PRIMARY SCHOOL

STREAM BANK SLIDE REPAIR

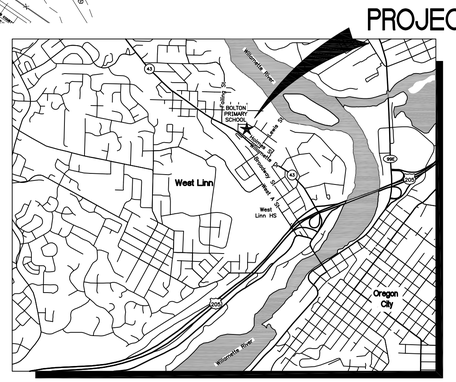


SITE MAP



LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE

CIVIL SYMBOLS

- CATCH BASIN
- CURB INLET
- MANHOLE
- DIRECTION OF FLOW
- HANDICAPPED RAMP
- HYDRANT
- WATER VALVE
- FENCING
- EROSION CONTROL FENCING
- THRUST BLOCK

CIVIL ABBREVIATIONS

AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
ACP	ASBESTOS CONCRETE PIPE
BLDG	BUILDING
BOT	BOTTOM OF TRENCH
BOC	BOTTOM OF CONCRETE
BOS	BOTTOM OF SUMP
CA	COMPRESSED AIR
CB	CATCH BASIN
CJ	CONSTRUCTION JOINT
CI	CURB INLET
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CND	CONDUIT
CO	CLEANOUT
CONC	CONCRETE
CR	CONDENSATE RETURN
DIA ø	DIAMETER
DIP	DUCTILE IRON PIPE
DS	DOWNSPOUTS
DW	DRYWELL
DWG	DRAWING
E	ELECTRICAL POWER
ELEV	ELEVATION
ELEC	ELECTRICAL
EXIST	EXISTING
FA	FIRE ALARM
FD	FOUNDATION DRAIN
FF	FINISH FLOOR
FH	FIRE HYDRANT
FW	FIRE WATER
G	GUTTER
GR	GRADE
GV	GATE VALVE
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HH	HAND HOLE
HPG	HIGH PRESSURE GAS
HC	HANDICAPPED
HYD	HYDRANT
IE	INVERT ELEVATION
IRR	IRRIGATION
L	LENGTH
LP	LIGHT POLE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OW	OIL/WATER SEPARATOR
PD	POLYDRAIN
ERF	PERFORATED STORM DRAIN
PIV	POST INDICTOR VALVE
POC	POINT OF CONNECTION
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RIM	RIM ELEVATION
RR	RAILROAD
S	SLOPE
SAN	SANITARY
SB	SPLASH BLOCK
SD	STORM DRAIN
SS	SANITARY SEWER
STM	STEAM
TB	THRUST BLOCK
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TEL	TELEPHONE
TOB	TOP OF BERM
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOP	TOP OF PIPE
TYP	TYPICAL
UGND	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VCP	VITRIFIED CLAY PIPE
VT	VENT
VV	VALVE VAULT
WM	WATER METER
WTR	WATER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
XFMR	TRANSFORMER

PROJECT LOCATION:

BOLTON PRIMARY SCHOOL
5933 SW HOLMES STREET
WEST LINN, OR 97068-2773

DEVELOPER:

WEST LINN-WILSONVILLE SCHOOL DISTRICT #3JT
CONTACT:
22210 SW STAFFORD RD
TUALATIN, OREGON 97062
PHONE: (503) 673-7000
FAX: (503) 673-7001

ENGINEERING FIRMS:

GHD
CONTACT: DON WHITEHEAD, P.E.
15575 SW SEQUOIA PARKWAY, SUITE 140
PORTLAND, OR 97224
PHONE: (503) 226-3921
FAX: (503) 226-3926

PERMITTEE'S SITE INSPECTOR:

NAME: PATRICK TORTORA, P.E.
WINZLER & KELLY
15575 SW SEQUOIA PARKWAY, SUITE 140
PORTLAND, OR 97224
PHONE: (503) 226-3921
FAX: (503) 226-3926

EXPERIENCE: PAT TORTORA HAS OVER 18 YEARS EXPERIENCE WITH EARTHWORK PROJECTS INSTALLING, INSPECTING, AND MAINTAINING EROSION CONTROL MEASURES DURING CONSTRUCTION.

NARRATIVE DESCRIPTIONS:

EXISTING SITE CONDITIONS

- EXISTING DEGRADED SLOPE.

DEVELOPED CONDITIONS

- NEW STABILIZED SLOPE.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

- TOPSOIL REMOVAL / EXCAVATION: (JUNE - JULY 2012)
- TOPSOIL PLACEMENT: (JULY - AUGUST 2012)
- FINAL STABILIZATION: (AUGUST 2012)

TOTAL SITE AREA = APPROX 3.3 ACRES

TOTAL DISTURBED AREA = 6,184 SF

TOTAL SEEP/SWALE AREA FILLED = 114 SF

SITE SOIL CLASSIFICATION

- ALOHA SILT LOAM 3 TO 6 PERCENT SLOPES.

RECEIVING WATER BODIES

LOCAL DRAINAGE PUBLIC STORM SYSTEM IN PUBLIC RIGHT-OF-WAY WHICH DRAINS TO BOLTON CREEK.

PROPERTY DESCRIPTION:

TAX LOT 2300 TAX MAP 22E30BC IN THE SOUTHWEST ONE QUARTER OF THE NORTH WEST ONE QUARTER OF SECTION 30, TOWNSHIP 2 SOUTH, RANGE 2 EAST, W. M., CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

DRAWING LIST:

SHEET INDEX:	
C100	TITLE SHEET
C101	GENERAL NOTES
C102	EROSION CONTROL NOTES
C200	EXISTING CONDITIONS AND DEMOLITION PLAN
C300	SITE, STORM DRAINAGE, GRADING AND EROSION CONTROL
C400	CROSS SECTIONS & STORM DRAINAGE OUTFALL PROFILE
C500	DETAILS
C501	DETAILS
L501	LANDSCAPE RESTORATION PLAN

PRELIMINARY

No	Revision	Drawn	Job Manager	Project Director	Date
-	-	-			-

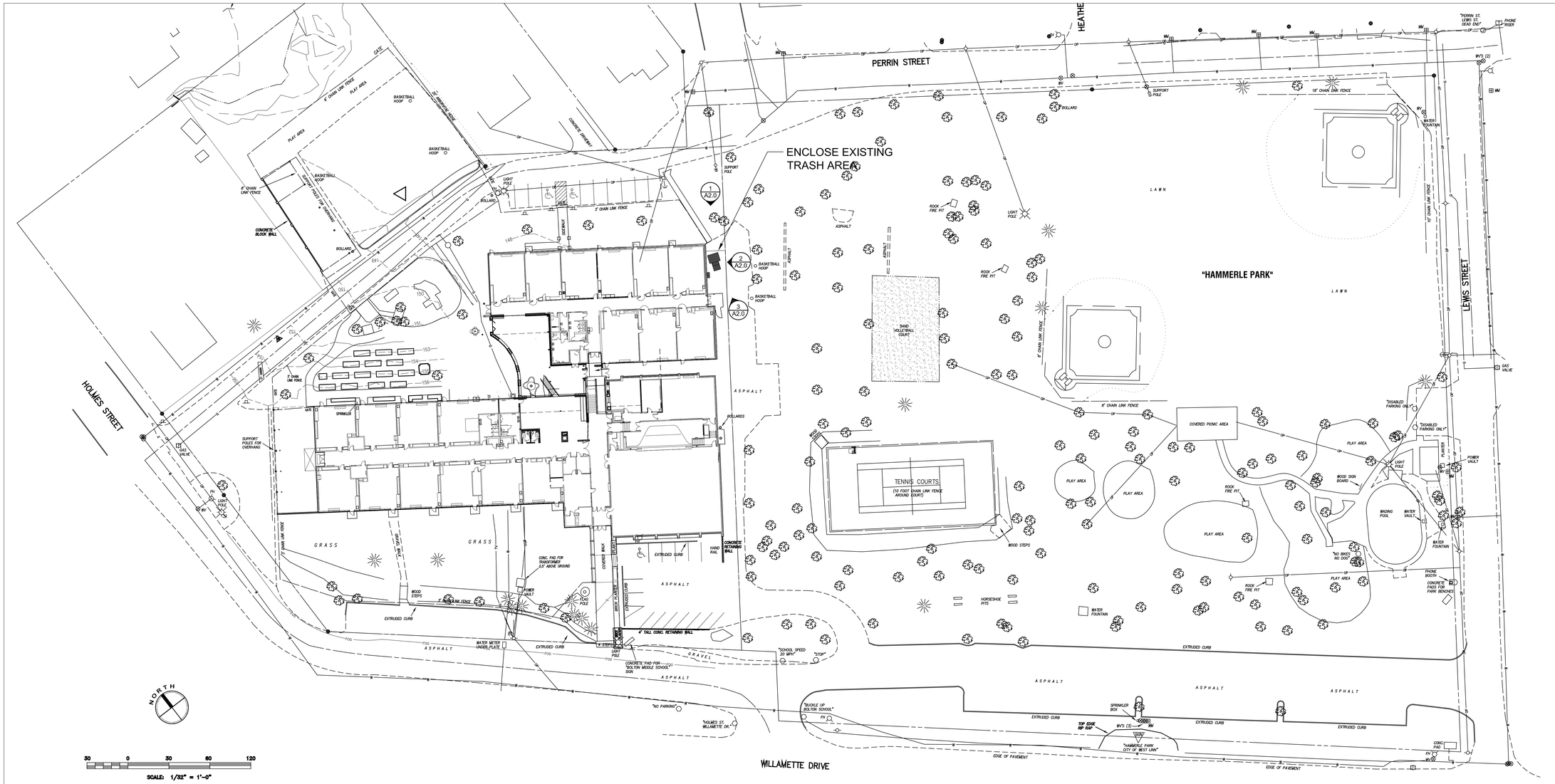
Note: * indicates signatures on original issue of drawing or last revision of drawing

GHD Inc.
15575 SW Sequoia Parkway Suite 140 Portland Oregon 97224 USA
T 1 503 226 3921 F 1 503 226 3926
W www.ghd.com

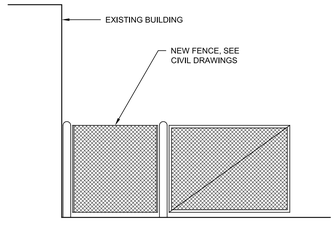
Drawn	KPT	Designer	PRT
Drafting Check		Design Check	DMW
Approved (Project Director)			
Date	03/06/12		
Scale	AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	

Client WEST LINN WILSONVILLE SCHOOL DISTRICT
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION TITLESHEET
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C100
Sht of
Rev:

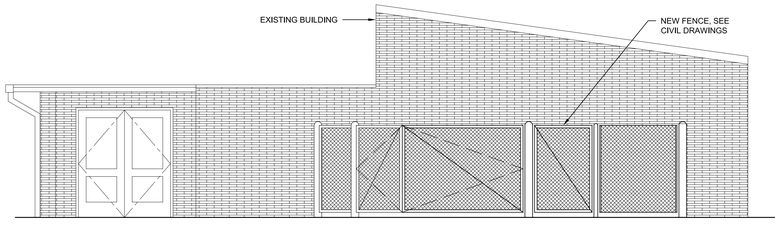
Plot Date: 22 March 2012 - 4:28 PM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C100 COVER.dwg



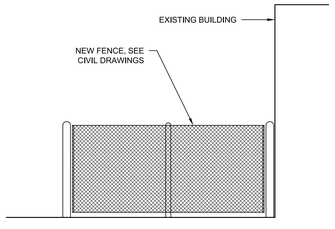
SITEPLAN 4
SCALE: 1/32" = 1'-0"



TRASH AREA ELEVATION 3
SCALE: 1/4" = 1'-0"



TRASH AREA ELEVATION 2
SCALE: 1/4" = 1'-0"



TRASH AREA ELEVATION 1
SCALE: 1/4" = 1'-0"

dova
ARCHITECTURE + INTERIORS + PLANNING

DULL OLSON WEEKES - IBI GROUP
architects inc.

907 SW STARK STREET | PORTLAND, OR 97204
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BOLTON TRASH COMPACTOR

WEST LINN WILSONVILLE SCHOOL DISTRICT

22210 SW STAFFORD RD., TUALATIN OR
t: (503) 673 7000
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key plan

phase	Bid Set
date	03 / 15/ 2012
revisions	

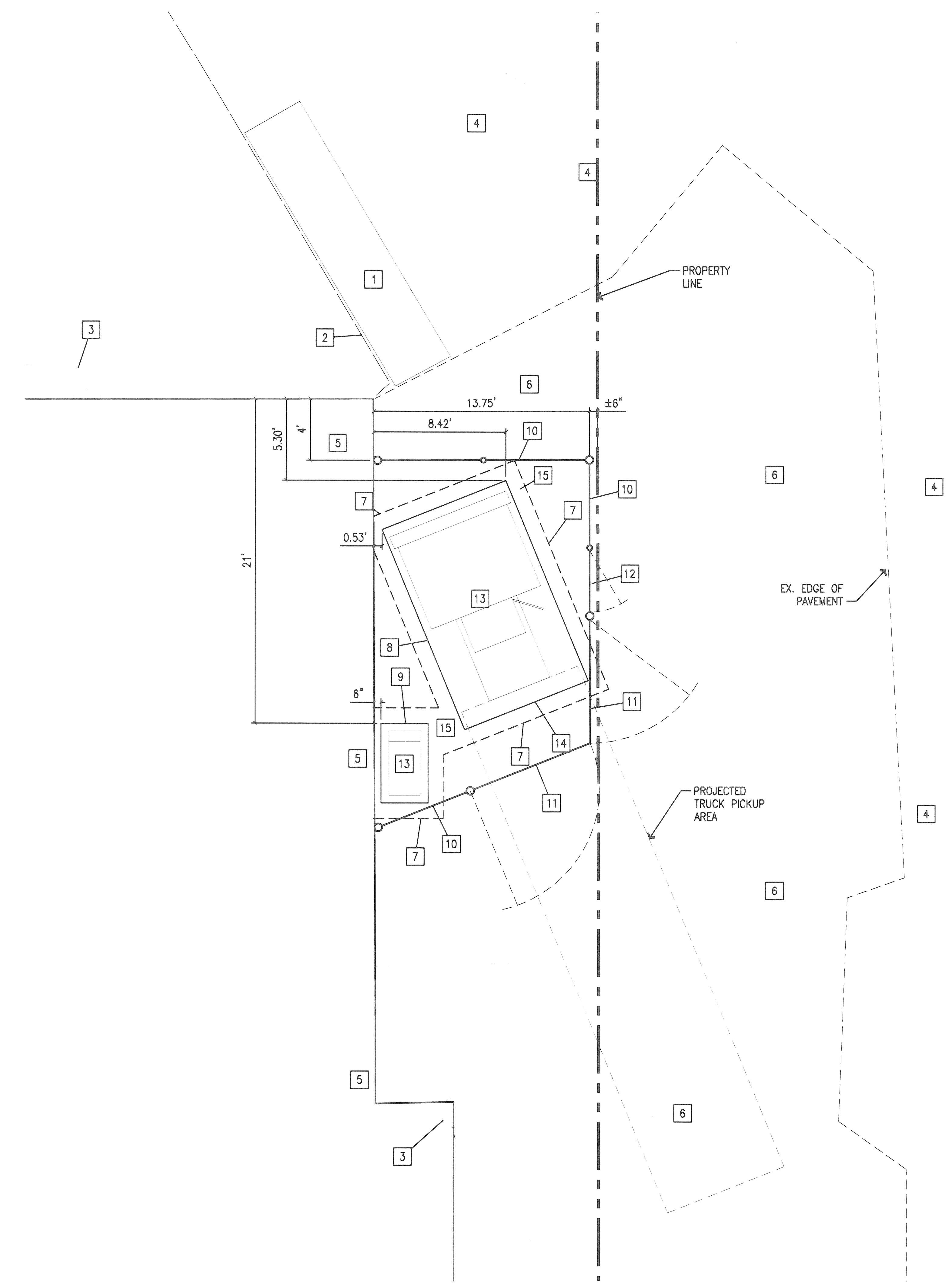
project # 11096

SITE PLAN ELEVATIONS

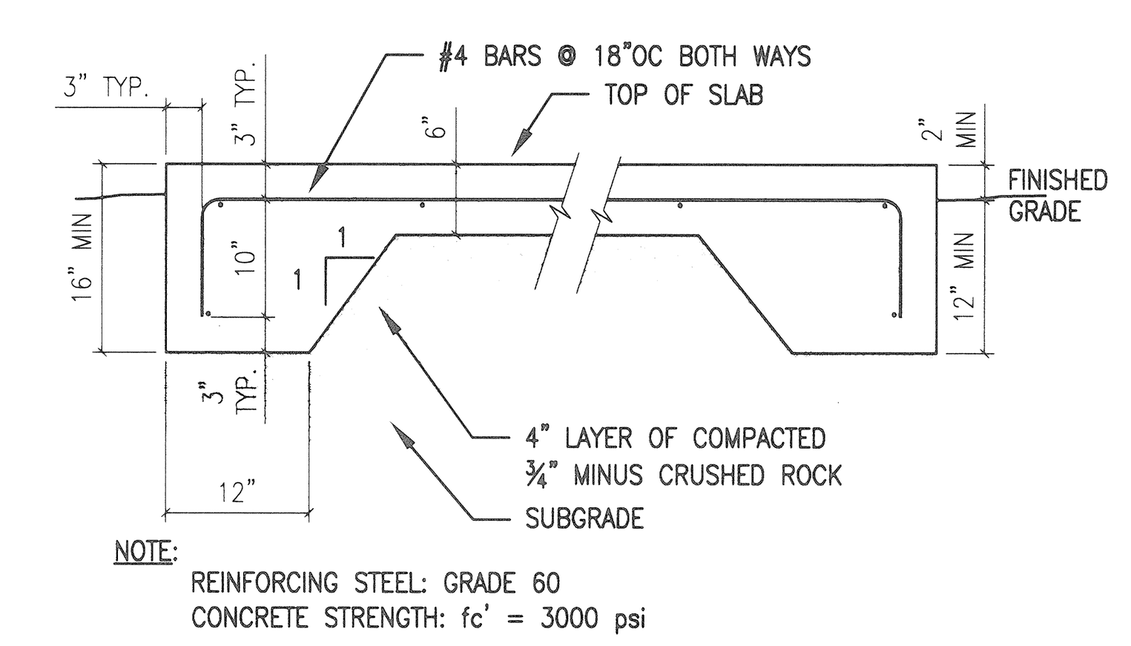
A2.00

CONTRUCTION NOTES

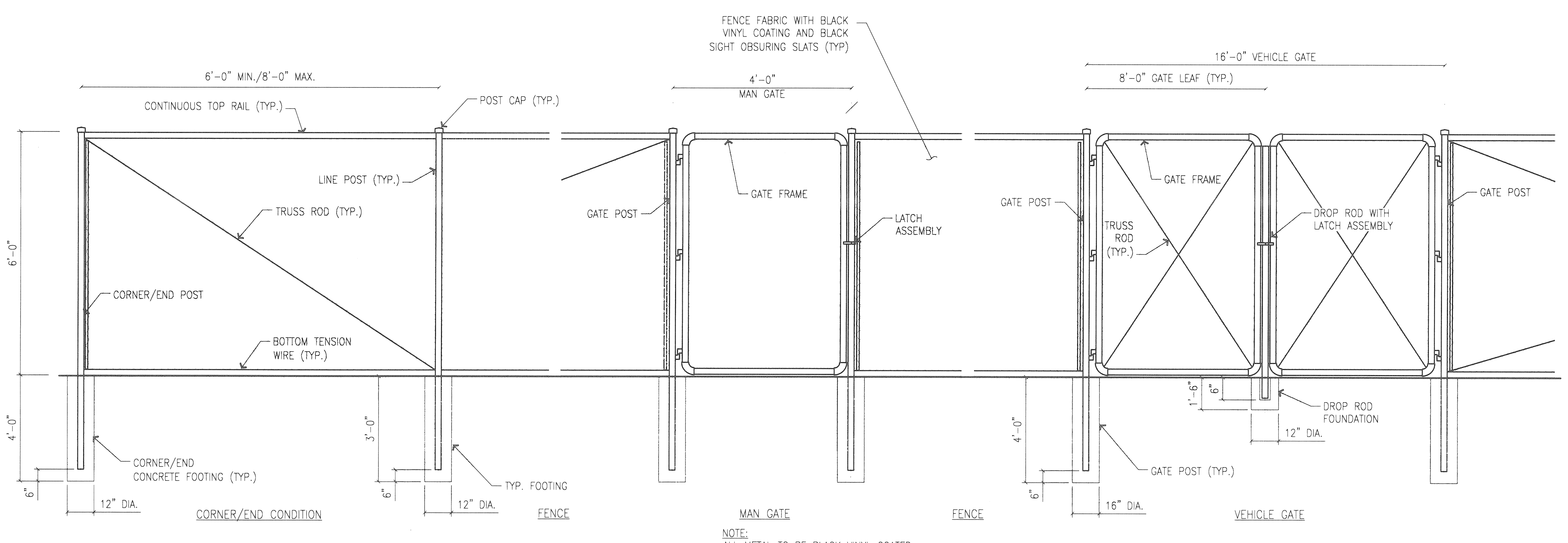
1. SAVE AND PROTECT EXISTING SIDEWALK.
2. SAVE AND PROTECT EXISTING FENCE.
3. SAVE AND PROTECT EXISTING STORM DRAINAGE PIPE.
4. SAVE AND PROTECT EXISTING TREE.
5. SAVE AND PROTECT EXISTING BUILDING AND OVERHANG.
6. SAVE AND PROTECT EXISTING ASPHALT PAVEMENT.
7. SAWCUT STRAIGHT EDGE IN ASPHALT TO CONSTRUCT PAD.
8. INSTALL 8.5'Lx14'Wx6" THICK CONCRETE PAD ON COMPACTED GRAVEL SUBGRADE. SLOPE CONCRETE PAD TOWARD ACCESS AS SHOWN, MAX. SLOPE 2%. – FOR COMPACTOR UNIT.
9. INSTALL 5'Lx3'Wx6" THICK CONCRETE PAD ON COMPACTED GRAVEL SUBGRADE. SLOPE CONCRETE PAD TOWARD ACCESS AS SHOWN, MAX. SLOPE 2%. – FOR ELECTRICAL CONTROL UNIT.
10. INSTALL 6' BLACK VINYL COATED CHAIN LINK FENCE AROUND COMPACTOR PAD AS SHOWN. PROVIDE "SIGHT OBSCURING" BLACK VINYL SLATS.
11. PROVIDE 16' WIDE GATE OPENING, WITH TWO 8' WIDE GATES. BLACK VINYL COATED CHAIN LINK FENCE AROUND COMPACTOR PAD AS SHOWN. PROVIDE "SIGHT OBSCURING" BLACK VINYL SLATS.
12. PROVIDE 4' WIDE MAN GATE. BLACK VINYL COATED CHAIN LINK FENCE AROUND COMPACTOR PAD AS SHOWN. PROVIDE "SIGHT OBSCURING" BLACK VINYL SLATS.
13. INSTALL COMPACTOR AND ELECTRICAL CONTROL UNIT (PROVIDED BY OTHERS).
14. CONCRETE SLAB TO BE FLUSH WITH EXISTING ASPHALT.
15. PATCH ASPHALT PAVING AS NEEDED AROUND CONCRETE SLAB FROM CONCRETE SLAB TO SAWCUT. MATCH EXISTING ASPHALT PAVEMENT SECTION.



1 BO-C1 BO-C1 COMPACTOR INSTALLATION
SCALE: 1"=5'-0"



2 BO-C1 BO-C1 CONCRETE SLAB DETAIL
SCALE: NTS



3 BO-C1 BO-C1 CHAIN LINK FENCE DETAIL
SCALE: NTS

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BOLTON TRASH COMPACTOR

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key plan

phase	Bid Set
date	03 / 15/ 2012
revisions	
project #	11096

COMPACTOR SITE PLAN

BO-C1

REGISTERED PROFESSIONAL ENGINEER 50400PE OREGON JANUARY 12, 1999 PATRICK RENO TORTORA
EXPIRES 6-30-2012

SECTION 31 23 00 - EARTHWORK

1. PROVIDE SHORING AND SHEETING WHERE INDICATED. PREVENT UNDERMINING OF PAVEMENTS AND SLABS. SLOPE BANKS WHERE SPACE PERMITS.
2. INCLUDE THE DISPOSAL OF SURFACE WATER WHICH MAY ACCUMULATE IN OPEN EXCAVATIONS, UNFINISHED FILLS, OR OTHER LOW AREAS. REMOVE WATER BY TRENCHING WHERE APPROVED, PUMPING, OR OTHER METHODS TO PREVENT SOFTENING OF EXPOSED SURFACES. SURFACE DE-WATERING PLAN SHALL INCLUDE THE REROUTING OF ANY STORM WATER RUN-OFF OR NATURAL DRAINAGE IF NECESSARY.
3. MOVEMENT OF CONSTRUCTION MACHINERY AND EQUIPMENT OVER PIPE AND UTILITIES DURING CONSTRUCTION SHALL BE AT THE CONTRACTOR'S RISK. PERFORM ALL WORK ADJACENT TO PRIVATELY OWNED UTILITIES AS INDICATED IN ACCORDANCE WITH PROCEDURES OUTLINED BY UTILITY COMPANY. FOR WORK IMMEDIATELY ADJACENT TO OR FOR EXCAVATIONS EXPOSING A UTILITY OR OTHER BURIED OBSTRUCTION, USE HAND OR LIGHT EQUIPMENT EXCAVATION. SUPPORT UNCOVERED LINES OR OTHER EXISTING WORK AS AFFECTED BY THE CONTRACT EXCAVATION.
4. PROTECT NEWLY GRADED AREAS FROM TRAFFIC, EROSION, AND SETTLEMENTS. REPAIR AND RE-ESTABLISH DAMAGED OR ERODED SLOPES, ELEVATIONS, OR GRADES AND RESTORE SURFACE CONSTRUCTION PRIOR TO ACCEPTANCE. PROTECT EXISTING STREAMS, DITCHES, AND STORM DRAIN INLETS FROM WATER-BORNE SOLID BY MEANS OF STRAW BALE DIKES AND/OR FILTER FABRIC DAMS AS INDICATED.
5. STRUCTURAL FILL MATERIAL
   - A. ON-SITE MATERIAL: EXCAVATED ONSITE NATIVE MATERIAL SHALL NOT BE USED AS STRUCTURAL FILL MATERIAL UNDER STRUCTURES OR PAVEMENTS.
   - B. IMPORTED MATERIAL: 1½" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
   - C. IMPORTED LEVELING COURSE: PLACE COMPACTED 6" LAYER OF ¾" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% FINES PASS #200 SIEVE, UNDER CONCRETE SLABS.
7. AGGREGATE BASE COURSE MATERIAL
   - A. BASE COURSE MATERIAL: 1½" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
   - B. LEVELING COURSE MATERIAL: ¾" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
8. THE CONSTRUCTION DOCUMENTS MAKE NO REPRESENTATION OR WARRANTEES OF SOIL QUANTITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL QUANTITIES OF MATERIALS NECESSARY TO COMPLETE THE PROJECT.
9. ALL NECESSARY IMPORTED SOIL MATERIALS AS SHOWN IN THE DESIGN DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR. EXCESS ONSITE EXCAVATED MATERIAL STOCKPILED AND NOT USED ELSEWHERE ON THE PROJECT SHALL BE REMOVED FROM THE SITE AT THE END OF THE PROJECT AT THE CONTRACTOR'S EXPENSE.
10. ALL TOPSOIL AND ORGANIC BEARING MATERIAL, INCLUDING FILL, SHALL BE STRIPPED AND WASTED OFF SITE. IF ORGANIC SOILS ARE FOUND AFTER THE STRIPPING OPERATION, LOCALIZED AREAS CONTAINING THESE MATERIALS SHALL BE OVER-EXCAVATED AND BACKFILLED WITH ENGINEERED STRUCTURAL FILL.
11. PLAN FOR AND PROVIDE THE STRUCTURES, EQUIPMENT, AND CONSTRUCTION FOR THE COLLECTION AND DISPOSAL OF SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE COURSE OF CONSTRUCTION. DISPOSE OF SURFACE WATER WHICH MAY ACCUMULATE IN OPEN EXCAVATIONS, UNFINISHED FILLS, OR OTHER LOW AREAS. REMOVE WATER BY TRENCHING WHERE APPROVED, PUMPING, OR OTHER METHODS TO PREVENT SOFTENING OF EXPOSED SURFACES.
12. GROUNDWATER FLOWING TOWARD OR INTO EXCAVATIONS SHALL BE CONTROLLED TO PREVENT SLOUGHING OR EXCAVATION SLOPES AND WALLS, BOILS, UPLIFT AND HEAVE IN THE EXCAVATION AND TO ELIMINATE INTERFERENCE WITH ORDERLY PROGRESS OF CONSTRUCTION. FRENCH DRAINS, SUMPS, DITCHES OR TRENCHES WILL NOT BE PERMITTED WITHIN 3' OF THE FOUNDATION OF ANY STRUCTURE.
13. EXCAVATE FOR SLABS, AND OTHER IMPROVEMENTS TO SIZES AND LEVELS SHOWN OR REQUIRED. ALLOW FOR FORM CLEARANCE AND FOR PROPER COMPACTION OF REQUIRED BACKFILLING MATERIAL. ALL FOOTINGS BASES TO BEAR ON FIRM, NATURAL, UNDISTURBED SOIL FREE OF ORGANIC MATERIAL OR ON ENGINEERED FILL.
14. ALL SOFT, WET SOIL, OR SOIL OF UNUSUAL CONDITION SHALL BE EXCAVATED TO FIRM, NATURAL, UNDISTURBED SOIL, AND BACKFILLED WITH SPECIFIED FILL MATERIALS. BACKFILL AND COMPACT ALL OVER-EXCAVATED AREAS AS SPECIFIED FOR FILL BELOW AT NO ADDITIONAL COST TO THE OWNER.
15. NATIVE, IN-SITU SOILS UNDERLYING RETAINING WALL FOUNDATIONS, BUILDING FOUNDATIONS, FLOOR SLABS AND/OR PAVEMENTS OR STRUCTURAL FILL SHALL BE PROOF-ROLLED TO A UNIFORM DRY DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D698).
16. ALL STRUCTURAL FILL MATERIAL BENEATH FOOTINGS, SLABS, WALLS, AND STRUCTURES SHALL BE SPREAD IN UNIFORM LIFTS NOT TO EXCEED EIGHT INCHES IN THICKNESS AND COMPACTED TO 95% OF ITS MAXIMUM MODIFIED PROCTOR (ASTM D698) DRY DENSITY. THE WATER CONTENT AT THE TIME OF COMPACTION SHALL BE WITHIN ±3 PERCENT OF OPTIMUM.
17. STRUCTURAL FILL MATERIAL SUPPORTING PAVEMENT STRUCTURES SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 INCHES IN COMPACTED THICKNESS. EACH LAYER OF STRUCTURAL FILL SHALL BE COMPACTED TO A UNIFORM DRY DENSITY OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D698). IT SHALL BE TESTED FOR COMPACTION AS CONSTRUCTION PROGRESSES. WATER CONTENT AT THE TIME OF COMPACTION SHALL BE WITHIN ±3 PERCENT OF OPTIMUM.
18. GENERAL BACKFILL BESIDE STRUCTURES SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" IN THICKNESS AND COMPACTED TO 92 PERCENT OF ITS MAXIMUM MODIFIED PROCTOR (ASTM D698) DRY DENSITY. WATER CONTENT AT THE TIME OF CONNECTION SHALL BE WITHIN ±3 PERCENT OF OPTIMUM.
19. BASE COURSE AND LEVELING COURSE MATERIALS FOR PAVING AREAS SHALL BE COMPACTED TO 95 PERCENT OF THE MODIFIED PROCTOR DRY DENSITY (ASTM D698).

SECTION 32 31 13 - CHAIN LINK FENCES AND GATES

1. ON STEEL FRAMEWORK AND APPURTENANCES, PROVIDE GALVANIZED FINISH WITH NOT LESS THAN THE FOLLOWING WEIGHT OF ZINC PER SQUARE FOOT:
   - A. PIPE: 1.8 OZ. COMPLYING WITH ASTM A120.
   - B. HARDWARE AND ACCESSORIES: COMPLY WITH TABLE I OF ASTM A153.
   - C. FABRIC: 2.0 OZ. COMPLYING WITH CLASS II OF ASTM A121.
2. PROVIDE FENCE FABRIC IN ONW PIECE WIDTHS, NUMBER 9 GAGE OR 0.148" WIRES IN 2" MESH, WITH TOP AND BOTTOM SELVAGES TWISTED AND BARBED.
3. END, CORNER, SLOPE AND PULL POSTS: PROVIDE 2.875" MINIMUM OUTSIDE DIAMETER AND 5.79 LBS PER LINEAR FOOT MINIMUM WEIGHT.
4. LINE POSTS: PROVIDE 2.375" MINIMUM OUTSIDE DIAMETER AND 3.65 LBS PER LINEAR FOOT MINIMUM WEIGHT. PROVIDE MINIMUM SIZES AND WEIGHTS AS FOLLOWS:
5. GATE POSTS: PROVIDE GATE POSTS FOR SUPPORTING SINGLE GATE LEAF, OR ONE LEAF OF A DOUBLE GATE INSTALLATION. PROVIDE 4" MINIMUM OUTSIDE DIAMETER AND 9.10 LBS PER LINEAR FOOT MINIMUM WEIGHT.
6. TOP RAILS: USE 1.660" OUTSIDE DIAMETER PIPE WEIGHING 1.80 LBS. PER LIN. FT. PROVIDE IN MANUFACTURER'S LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS APPROXIMATELY 6" LONG FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE, CORNER, PULL, SLOPE AND END POST.
7. POST BRACE ASSEMBLIES: PROVIDE AT END AND GATE POSTS, AND AT BOTH SIDES OF CORNER, SLOPE, AND PULL POSTS, WITH THE HORIZONTAL BRACE LOCATED AT MID-HEIGHT OF THE FABRIC. USE 1.660" OUTSIDE DIAMETER PIPE WEIGHING 1.80 LBS. PER LIN. FT. FOR HORIZONTAL BRACE.
8. TENSION WIRE: PROVIDE NUMBER 7 GAGE GALVANIZED COILED SPRING WIRE AT BOTTOM OF FABRIC.
9. TRUSS RODS: PROVIDE ⅜" DIA. STEEL.
10. POST TOPS (CAPS): PROVIDE STEEL DESIGNED AS WEATHER-TIGHT CLOSURE CAP.
11. STRETCHER BARS: PROVIDE ONE-PIECE LENGTHS EQUAL TO FULL HEIGHT OF FABRIC, WITH A MINIMUM CROSS-SECTION OF 3/16" X ¾". PROVIDE ONE STRETCHER BAR FOR EACH GATE AND END POST, AND TWO FOR EACH CORNER, SLOPE, AND PULL POST, EXCEPT WHERE FABRIC IS WOVEN INTEGRALLY INTO THE POST.
12. STRETCHER BAR BANDS: PROVIDE STEEL, WROUGHT IRON, OR MALLEABLE IRON, SPACED NOT OVER 15" ON CENTERS, TO SECURE STRETCHER BARS TO END, CORNER, PULL, SLOPE, AND GATE POSTS. BANDS MAY BE USED ALSO WITH SPECIAL FITTINGS FOR SECURING RAILS TO END, CORNER, PULL, SLOPE, AND GATE POSTS.
13. GATES: ASSEMBLE GATE FRAMES BY WELDING WITH SPECIAL MALLEABLE OR PRESSED STEEL FITTINGS AND RIVETS FOR RIGID CONNECTIONS. USE SAME FABRIC AS USED IN THE FENCE. INSTALL FABRIC WITH STRETCHER BARS AT VERTICAL EDGES AS A MINIMUM. ATTACH STRETCHERS TO GATE FRAME AT NOT MORE THAN 15" ON CENTERS. ATTACH HARDWARE WITH RIVETS OR BY OTHER MEANS WHICH WILL PROVIDE SECURITY AGAINST REMOVAL AND BREAKAGE. PROVIDE DIAGONAL CROSS-BRACING CONSISTING OF ⅜" DIAMETER ADJUSTABLE LENGTH TRUSS RODS ON GATES WHERE REQUIRED TO PROVIDE FRAME RIGIDITY WITHOUT SAG OR TWIST.
14. SUBMITTALS: SUBMIT MANUFACTURERS STANDARD CATALOG DATA FOR THE FOLLOWING:
   - A. CHAIN LINK FENCING.
   - B. ACCESSORIES & COMPONANTS.
   - C. SHOP DRAWINGS OF GATES.
   - D. POSTS.

SECTION 32 12 16 - ASPHALT PAVING

1. HOT MIXED ASPHALT CONCRETE (HMAC): PROVIDE A HOT PLANT MIXED, UNIFORMLY COATED MIXTURE OF ASPHALT CEMENT, GRADED AGGREGATE, AND ADDITIVES CONFORMING TO OSSC SECTION 00745 FOR ALL PAVED AREAS IN THICKNESS INDICATED.
   - A. LEVEL 3 HMAC HMAC FOR USE IN APPLICATIONS EXPOSED TOP MODERATE TRUCK TRAFFIC.
2. ASPHALT CEMENT SHALL CONFORM TO SECTION 00745 OF THE OSSC SECTION 00745. THE ASPHALT CEMENT SHALL BE HEATED AND DELIVERED TO THE MIXER AT A TEMPERATURE RECOMMENDED BY THE ASPHALT MANUFACTURER FOR THE TEMPERATURE-VISCOSITY RELATIONSHIP OF THE CEMENT.
3. PROVIDE AGGREGATE MATERIAL FOR HMAC AS SPECIFIED IN OSSC SECTION 00745.
4. RECLAIMED ASPHALT PAVEMENT (RAP) MATERIAL: RECLAIMED HMAC PAVEMENT (RAP) MATERIAL USED IN THE PRODUCTION OF NEW HMAC IS OPTIONAL. NO MORE THAN 20% RAP MATERIAL WILL BE ALLOWED IN THE NEW HMAC PAVEMENT. RAP MATERIAL WILL NOT BE ALLOWED IN OPEN GRADED HMAC OR LEVEL 4 DENSE GRADED HMAC WEARING COURSES.
5. MIX TYPE AND BROADBAND LIMITS: FURNISH THE TYPE(S) OF HMAC AS INDICATED. THE BROADBAND LIMITS FOR EACH OF THE MIX TYPES ARE SPECIFIED IN OSSC SECTION 00745.

A. ¾" DENSE GRADED MIX.

6. PRIOR TO THE APPLICATION OF THE ASPHALTIC CONCRETE, APPLY A PRIME COAT OF LIQUID ASPHALT AT THE RATE OF .25 GALLONS PER SQUARE YARD ON THE PREPARED COMPACTED BASE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. APPLY LIQUID ASPHALT BY PRESSURE DISTRIBUTORS. ALLOW SUFFICIENT TIME BEFORE PLACING THE ASPHALT CONCRETE TO PERMIT THE PRIME COAT ASPHALT TO PENETRATE THE PREPARED COMPACTED BASE.
7. PLACE AND COMPACT ASPHALT CONCRETE PAVEMENT IN ACCORDANCE WITH THE OSSC SECTION 00745 FOR HMAC. THE MIXING PLANT AND CONSTRUCTION EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.
8. CAREFULLY MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS OR BETWEEN SUCCESSIVE DAYS' WORK MADE IN SUCH MANNER AS TO INSURE A CONTINUOUS BOND BETWEEN OLD AND NEW SECTIONS OF THE COURSE. TRANSVERSE AND LONGITUDINAL JOINTS SHALL BE MADE AS SPECIFIED IN OSSC SECTION 00745. PAINT ALL JOINTS WITH A UNIFORM COAT OF TACK COAT BEFORE THE FRESH MIXTURE IS PLACED.
9. PERFORM DENSITY COMPACTION TESTS ON BASE COURSE PER SECTION 02315, EARTHWORK.
10. PERFORM DENSITY TESTING OF HMAC USING RANDOM TESTING METHOD SPECIFIED IN OSSC SECTION 00745.
11. SUBMITTALS ASPHALT JOB MIX FORMULA FOR EACH TYPE OF HOT MIX ASPHALT CONCRETE (HMAC) INDICATED. THE TMF SHALL MEET THE REQUIREMENT OF OSSC SECTION 00745.

SECTION 32 13 00 - SITE CONCRETE

1. REINFORCING MATERIALS: ASTM A 615, GRADE 60, DEFORMED.
2. JOINT DOWELL BARS: PLAIN STEEL BARS, ASTM A 615, GRADE 60. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS.
3. CONCRETE MATERIALS
   - A. PORTLAND CEMENT: ASTM C 150, TYPE I. USE ONE BRAND OF CEMENT THROUGHOUT PROJECT UNLESS OTHERWISE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE.
   - B. FLY ASH: ASTM C 618, TYPE F.
   - C. NORMAL-WEIGHT AGGREGATES: ASTM C 33, CLASS 4, AND AS FOLLOWS. PROVIDE AGGREGATES FROM A SINGLE SOURCE. MAXIMUM AGGREGATE SIZE: ¾ INCH. DO NOT USE FINE OR COARSE AGGREGATES THAT CONTAIN SUBSTANCES THAT CAUSE SPALLING.
   - D. WATER: POTABLE.
   - E. AIR-ENTRAINING ADMIXTURE: ASTM C 260, CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER REQUIRED ADMIXTURES.
   - F. WATER-REDUCING ADMIXTURE: ASTM C 494, TYPE A.
4. CONCRETE MIX
   - A. PREPARE DESIGN MIXES FOR EACH TYPE AND STRENGTH OF NORMAL-WEIGHT CONCRETE BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 301. PROPORTION MIXES ACCORDING TO ACI 211.1 AND ACI 301 TO PROVIDE NORMAL-WEIGHT CONCRETE WITH THE FOLLOWING PROPERTIES:
   - B. COMPRESSIVE STRENGTH (28-DAY): 3,500 PSI UNLESS OTHERWISE NOTED.
   - C. MAXIMUM COURSE AGGREGATE SIZE: ¾ INCH.
   - D. MAXIMUM SLUMP: 4 INCHES PLUS ½ TO 1 INCH.
   - E. ENTRAINED AIR: 5 PERCENT ± ½ TO 1 PERCENT.
5. SUBMITTALS: DESIGN MIX FOR EACH CLASS OF CONCRETE. SUBMIT LABORATORY TEST RESULTS FOR EVULATION OF CONCRETE MATERALS AND MIX DESIGN TESTS.

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.
2. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PAVEMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING TIE IN POINTS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. IN AREAS WHERE ASPHALT PAVING IS BEING REWORKED, PROVIDE NEW PAINT STRIPING FOR ALL REVISED PAVING WORK AND PARKING STALLS. EXISTING STRIPING TO BE BLACKENED OUT IN RECONFIGURED AREAS AS REQUIRED.
4. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF PERMIT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
6. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
7. THE CHAIN LINK FENCE THAT IS BEING REMOVED FOR ACCESS TO INSTALL THE UTILITIES, IS TO BE REPLACED IN LIKE.

DEMOLITION NOTES

1. DEMOLITION REQUIREMENTS ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING SCOPE OF DEMOLITION WORK FROM OWNER AND FOR EXAMINATION OF EXISTING SITE CONDITIONS. CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN PRIOR TO CONSTRUCTION OUTLINING ITEMS TO BE REMOVED. ALL UTILITY LINES AND STRUCTURES SHOWN WITHIN THE LIMITS OF.
2. DEMOLITION SHALL BE REMOVED EXCEPT THOSE INDICATED AS "TO REMAIN". ALL LINES THAT ARE CUT AT LIMITS OF DEMOLITION OR POINTS OF DISCONNECTION WITHIN THE WORK AREA, ARE TO BE CAPPED OR PLUGGED. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TEMPORARY ACCESS.
3. DURING CONSTRUCTION. UTILITY OUTAGES AND ACCESS CLOSURES REQUIRE A MINIMUM OF 24 HOURS NOTICE TO OWNER OR SITE TENANTS.

SUBMITTALS

1. THE SUBMITTALS SHALL BE PROPERLY BOUND WITH SECTIONS CLEARLY IDENTIFIED. SUBMITTALS FOR EACH SECTION NEED TO BE COMPLETE. PARTIAL SUBMITTALS FOR A SECTION SHALL BE RETURNED UNREVIEWED.
2. THE SUBMITTALS SHALL CONTAIN PREFORMANCE DATA AND TECHNICAL SPECIFICATIONS ON ALL MATERIALS AND EQUIPMENT TO BE USED ON THE PROJECT.
3. SHOP DRAWINGS SHALL BE INCLUDED WITH THE SUBMITTALS WHERE SPECIFICALLY REQUESTED IN THE SPECIFICATIONS, WHERE NECESSARY TO DETERMINE CLEARANCE, WHERE THE CONTRACTOR PROPOSES ALTERNATE EQUIPMENT OR MATERIAL ARRANGEMENTS, AND WHEN REQUESTED BY THE OWNER.
4. ALL SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO BEING SUBMITTED TO THE ENGINEER. ANY SHOP DRAWINGS SUBMITTED WITHOUT CONTRACTOR'S APPROVAL STAMP SHALL BE REJECTED.
5. REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE OWNER AND ENGINEER DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS SPECIFIC APPROVAL HAS BEEN REQUESTED FOR A GIVEN DEVIATION.
6. BY SUBMITTING, THE CONTRACTOR/SUPPLIER CERTIFIES THAT THE MATERIALS OR EQUIPMENT PROPOSED IS SATISFACTORY FOR THE APPLICATION INTENDED.
7. FABRICATION OF MATERIALS AND INSTALLATION OF EQUIPMENT IS NOT AUTHORIZED PRIOR TO APPROVAL OF SHOP DRAWINGS AND VENDOR DATA.
8. ALTERNATE ITEMS INSTALLED WITHOUT THE OWNERS APPROVAL SHALL BE REPLACED WITH THE SPECIFIED MATERIALS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY THAT ALTERNATE ITEMS OR PROCEDURES WILL MEET THE JOB REQUIREMENTS AND IS RESPONSIBLE FOR COST OF REDESIGN AND OF MODIFICATION TO THIS AND OTHER PARTIES' WORK CAUSED BY ALTERNATE ITEMS FURNISHED UNDER WORK OF THIS SECTION.

EROSION CONTROL

1. ALL EROSION, SEDIMENT, AND POLLUTION CONTROL PLAN (ESPCP) MEASURES SHALL BE INSTALLED AS PER THE DETAIL DRAWINGS IN THE CITY OF PORTLAND EROSION CONTROL MANUAL.
2. TEMPORARY ESPCP MEASURES SHALL BE INSTALLED, INSPECTED, AND APPROVED BY A CITY INSPECTOR BEFORE STARTING GROUND DISTURBING ACTIVITIES.
3. ESPCP MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT LANDSCAPING HAS BEEN INSTALLED AND FINAL INSPECTION HAS BEEN REQUESTED AND APPROVED BY A CITY INSPECTOR.
4. INSPECTIONS MAY BE REQUESTED BY TELEPHONING THE INSPECTION REQUEST NUMBER 823-7000 ONE DAY PRIOR TO THE TIME OF INSPECTION.
5. APPROVAL OF THIS ESPCP PLAN DOES NOT CONSTITUTE APPROVAL OF PERMANENT OR DRAINAGE DESIGN (I.E. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITES, ETC.)
6. THE IMPLEMENTATION OF THIS ESPCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESPCP FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
7. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
8. THE BOUNDARIES OF THE CLEARING LIMITS (IF REQUIRED BY THE CITY) SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION.
9. THE ESPCP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESPCP FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
10. THE ESPCP FACILITIES SHALL BE INSPECTED DAILY BETWEEN OCTOBER 1 AND APRIL 30 BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. ALL INSPECTIONS SHALL BE NOTED IN AN INSPECTION LOG WHICH SHALL BE MADE AVAILABLE TO THE CITY INSPECTOR UPON REQUEST.
11. ESPCP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
12. A SIGN WITH THE CITY'S EROSION CONTROL HOTLINE NUMBER, PROJECT ADDRESS, AND PERMIT NUMBER SHALL BE POSTED AT A LOCATION CLEARLY VISIBLE FROM THE RIGHT OF WAY AND MAINTAINED UNTIL PROJECT COMPLETION.
13. EXPOSED SOILS THAT REMAIN UNWORKED FOR 14 DAYS OR MORE SHALL BE IMMEDIATELY PROTECTED BY APPROPRIATE GROUND COVER. DISTURBED LAND THAT WILL REMAIN UNWORKED FOR 2 MONTHS OR LONGER SHALL ALSO BE SEEDED WITH AN APPROVED SEED MIXTURE.
14. PUBLIC STREETS WILL BE SWEPT DAILY, IF NECESSARY, TO ALLEVIATE SEDIMENT DISCHARGE TO THE STORM WATER MANAGEMENT SYSTEM. UNFILTERED WASH WATER CANNOT BE DISCHARGED TO STORM DRAINS.
15. ALL EROSION CONTROL SEEDING FOR SITE STABILIZATION WILL BE PERFORMED NO LATER THAN SEPTEMBER 1ST TO ALLOW TIME FOR VEGETATIVE ESTABLISHMENT PRIOR TO THE ONSET OF THE WET WEATHER SEASON.
16. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THEY ARE NO LONGER NEEDED.
17. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE REPAIRED AND PROTECTED WITH ADEQUATE GROUND COVER (2" STRAW, COMPOST, MULCH, ETC.)
18. SEEDING SHALL BE SUPPLIED WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED. WATER SHOULD BE CONTROLLED TO PREVENT RUNOFF. AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT EROSION SHALL BE RESEEDED AS SOON AS AREAS ARE IDENTIFIED.
19. DISTURBED AREAS OF SLOPE GREATER THAN 2:1 WILL BE STABLIZED THROUGH SEEDING AND THE INSTALLATION OF NORTH AMERICAN GREEN SCI50BN MATTING OR EQUIVALENT PRODUCT.
20. THE PROPOSED EROSION CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO MAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEM.
21. IN THE CASE OF STABLIZATION SEEDING AND PLANTINGS FOR SWALES & SLOPES, IT IS THE CONTRACTORS RESPONSIBILITY TO SEQUENCE THE WORK SUCH THAT THE PLANTINGS ARE ESTABLISHED AS FAR AS POSSIBILE PRIOR TO OCTOBER 1.
22. CONTRACTOR SHALL DESIGNATE AN ONSITE EROSION & SEDIMENT CONTROL INSPECTOR AND SHALL SUBMIT THE NAME TO THE OWNER'S REPRESENTATIVE FOR SUBMITTAL TO DEQ AS PART OF THE DEQ 1200C PERMIT REQUIREMENTS.
23. AN EROSION AND SEDIMENT CONTROL PERMIT HAS BEEN ISSUED BY OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ 1200C PERMIT). CONTRACTOR IS RESPONSIBLE FOR ADMINISTRATION AND CONFORMANCE OF ALLEROSION AND SEDIMENT CONTROL REQUIREMENTS STIPULATED IN THIS PERMIT INCLUDING MANTENANCE & MONITORING.

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key plan

phase	Bid Set
date	03 / 15 / 2012
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REGISTERED PROFESSIONAL ENGINEER
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OREGON
JANUARY 12, 1990
PATRICK RENO TORTORA
EXPIRES 6-30-2012

NOTES AND SPECIFICATIONS

BO-C2

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.

2. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PAVEMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING TIE IN POINTS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

3. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.

4. DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF PERMIT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.

5. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.

DEMOLITION NOTES

1. DEMOLITION REQUIREMENTS ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING SCOPE OF DEMOLITION WORK AND FOR EXAMINATION OF EXISTING SITE CONDITIONS. CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN PRIOR TO CONSTRUCTION OUTLINING PROPOSED SCHEDULE, SEQUENCE AND ITEMS TO BE REMOVED. ALL UTILITY LINES AND STRUCTURES SHOWN WITHIN THE LIMITS OF PROJECT SHALL BE PROTECTED OR MODIFIED TO MAINTAIN FUNCTION.

2. DEMOLITION SHALL BE REMOVED EXCEPT THOSE INDICATED AS "TO REMAIN". ALL LINES THAT ARE CUT AT LIMITS OF DEMOLITION OR POINTS OF DISCONNECTION WITHIN THE WORK AREA, ARE TO BE CAPPED OR PLUGGED. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TEMPORARY ACCESS.

3. DURING CONSTRUCTION. UTILITY OUTAGES AND ACCESS CLOSURES REQUIRE A MINIMUM OF 24 HOURS NOTICE TO OWNER OR SITE TENANTS.

4. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

5. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.

6. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.

7. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

8. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

TREE PROTECTION NOTES

1. CITY ARBORIST SHALL BE ON SITE TO DISCUSS METHODS OF TREE REMOVAL AND TREE PROTECTION PRIOR TO START OF ANY CONSTRUCTION.

2. CONTRACTOR SHALL DESIGNATE WITH THE CITY ARBORIST THE TREE PROTECTION ZONE. WHERE FEASIBLE, THE TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIPLINE OF THE TREE OR GROVE AS MINIMUM. IF PROPOSED SLOPE MUST BE INSTALLED CLOSER TO THE TREE(S), THE TREE PROTECTION ZONE MAY BE ESTABLISHED WITHIN THE DRIPLINE AREA IS THE CITY ARBORIST DETERMINES THAT THE TREE(S) WILL NOT BE UNDULY DAMAGED.

3. CONTRACTOR SHALL PROVIDE TREE PROTECTION FENCING AT LEAST AT THE EDGE OF THE ROOT ZONE OF EACH TREE OR GROUP OF TREES. THE FENCE SHALL BE PLACED BEFORE CONSTRUCTION STARTS AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE. THE FENCE SHALL BE FOUR (4) FOOT TALL ORANGE PLASTIC OR SNOW FENCE.

4. CONTRACTOR SHALL CLEARLY MARK ALL TREES TO BE REMOVED WITH CONSTRUCTION FLAGGING. TREE-MARKING PAINT, OR OTHER METHODS APPROVED IN ADVANCE BY THE CITY ARBORIST.

5. CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT WITHIN THE TREE PROTECTION ZONE.

6. CONTRACTOR SHALL AVOID EXCAVATION WITHIN THE TREE PROTECTION ZONE IF ALTERNATIVES ARE AVAILABLE. IF EXCAVATION IS UNAVOIDABLE WITHIN THE TREE PROTECTION ZONE, THE CITY ARBORIST SHALL EVALUATE THE PROPOSED EXCAVATION TO DETERMINE METHODS TO MINIMIZE THE IMPACTS TO TRESS. THIS CAN INCLUDE TUNNELING, HAND DIGGING, OR OTHER APPROACHES. ALL CONSTRUCTION WITHIN THE TREE PROTECTION ZONE SHALL BE UNDER THE ON-SITE TECHNICAL SUPERVISION OF THE CITY ARBORIST.

7. CITY ARBORIST TO MONITOR CONSTRUCTION ACTIVITIES AND PROGRESS, AND PROVIDE WRITTEN REPORTS TO THE DEVELOPER AND THE CITY'S PROJECT PLANNER AT REGULAR INTERVALS.

GRADING NOTES

1. SURVEY OF EXISTING CONDITIONS PREPARED BY COMPASS ENGINEERING DATED 1/9/2012. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.

2. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFORMATION TO DESIGN PRIOR TO CONSTRUCTION.

3. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.

5. UNLESS OTHERWISE NOTED ON THE PROJECT LANDSCAPE PLAN. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS. DISTURBED LANDSCAPED AREAS SHALL RECEIVE BARK DUST AND REPLACEMENT PLANTINGS. DISTURBED NATURAL AREAS SHALL BE HYDROSEEDED TO REPLACE NATIVE COVER. DISTURBED GRAVEL AREAS SHALL RECEIVE REPLACEMENT GRAVEL OR CRUSHED ROCK SURFACING.

6. ALL DITCHES, SWALES, GUTTERS, ETC. SHALL BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.

7. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.

8. ALL EXISTING MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONUMENTS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY STATE LAW.

9. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.

UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.

2. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.

3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.

4. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES BOTH IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL COORDINATE THE UTILITY LOCAL WITH MUNICIPALITY HAVING JURISDICTION FOR ALL UTILITY WORK WITHIN A PUBLIC RIGHT-OF-WAY. INFORM ENGINEER IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS.

5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.

6. ALL UTILITY CONSTRUCTION ON PRIVATE PROPERTY SHALL CONFORM TO THE LATEST EDITION OF THE STATE OF OREGON PLUMBING SPECIALTY CODE. ALL UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD REQUIREMENTS OF THE MUNICIPALITY HAVING JURISDICTION.

7. ALL BURIED LINES TO HAVE 2 FEET MINIMUM COVER, UNLESS NOTED OTHERWISE.

8. SEE LANDSCAPE DRAWINGS FOR PLANTING AND IRRIGATION LINES.

9. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.

SUBMITTALS

1. THE SUBMITTALS SHALL BE PROPERLY BOUND WITH SECTIONS CLEARLY IDENTIFIED. SUBMITTALS FOR EACH SECTION NEED TO BE COMPLETE. PARTIAL SUBMITTALS FOR A SECTION SHALL BE RETURNED UNREVIEWED.

2. THE SUBMITTALS SHALL CONTAIN PERFORMANCE DATA AND TECHNICAL SPECIFICATIONS ON ALL MATERIALS AND EQUIPMENT TO BE USED ON THE PROJECT.

3. SHOP DRAWINGS SHALL BE INCLUDED WITH THE SUBMITTALS WHERE SPECIFICALLY REQUESTED IN THE SPECIFICATIONS, WHERE NECESSARY TO DETERMINE CLEARANCE, WHERE THE CONTRACTOR PROPOSES ALTERNATE EQUIPMENT OR MATERIAL ARRANGEMENTS, AND WHEN REQUESTED BY THE OWNER.

4. ALL SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO BEING SUBMITTED TO THE ENGINEER. ANY SHOP DRAWINGS SUBMITTED WITHOUT CONTRACTOR'S APPROVAL STAMP SHALL BE REJECTED.

5. REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE OWNER AND ENGINEER DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY WRITTEN APPROVAL HAS BEEN REQUESTED FOR A GIVEN DEVIATION.

6. BY SUBMITTING, THE CONTRACTOR/SUPPLIER CERTIFIES THAT THE MATERIALS OR EQUIPMENT PROPOSED IS SATISFACTORY FOR THE APPLICATION INTENDED.

7. FABRICATION OF MATERIALS AND INSTALLATION OF EQUIPMENT IS NOT AUTHORIZED PRIOR TO APPROVAL OF SHOP DRAWINGS AND VENDOR DATA.

8. ALTERNATE ITEMS INSTALLED WITHOUT THE OWNERS APPROVAL SHALL BE REPLACED WITH THE SPECIFIED MATERIALS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY THAT ALTERNATE ITEMS OR PROCEDURES WILL MEET THE JOB REQUIREMENTS AND IS RESPONSIBLE FOR COST OF REDESIGN AND OF MODIFICATION TO THIS AND OTHER PARTIES' WORK CAUSED BY ALTERNATE ITEMS FURNISHED UNDER WORK OF THIS SECTION.

PRELIMINARY

No	Revision	Drawn	Job Manager	Project Director	Date
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Note: * indicates signatures on original issue of drawing or last revision of drawing

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Drafting Check		Design Check DMW	
Approved (Project Director)			
Date 03/06/12			
Scale AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction		

Client **WEST LINN WILSONVILLE SCHOOL DISTRICT**
Project **BOLTON PRIMARY SCHOOL**
Title **STREAMBANK REMEDIATION GENERAL NOTES**
Contract No. 11456-11012
Original Size **Ansi D** Drawing No: **C101** Sht of Rev:

Plot Date: 21 March 2012 - 8:44 AM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C101 NOTES.dwg

LOCAL AGENCY EROSION CONTROL NOTES:

1. ALL EROSION, SEDIMENT, AND POLLUTION CONTROL PLAN (ESPCP) MEASURES SHALL BE INSTALLED AS PER THE EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (CLACKAMAS COUNTY WATER ENVIRONMENT SERVICES REVISED DECEMBER 2000).
2. PRIOR TO GROUND BREAKING TEMPORARY ESCP MEASURES SHALL BE INSTALLED, INSPECTED, AND APPROVED BY A CITY OF WEST LINN INSPECTOR BEFORE STARTING GROUND DISTURBING ACTIVITIES. CONTACT THE CITY AT 503-722-5509 24 HOURS IN ADVANCE FOR AN INSPECTION.
3. ESCP MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT LANDSCAPING HAS BEEN INSTALLED AND FINAL INSPECTION HAS BEEN REQUESTED AND APPROVED BY A CITY OF WEST LINN INSPECTOR.
4. INSPECTIONS MAY BE REQUESTED BY TELEPHONING CITY OF WEST LINN ONE DAY PRIOR TO THE TIME OF INSPECTION. NO HOLIDAYS OR WEEKENDS.
5. APPROVAL OF THIS ESCP PLAN DOES NOT CONSTITUTE APPROVAL OF PERMANENT OR DRAINAGE DESIGN (I.E. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
6. THE IMPLEMENTATION OF THIS ESCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESCP FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR AND OWNER UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
7. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
8. THE BOUNDARIES OF THE CLEARING LIMITS (IF REQUIRED BY THE CITY OF WEST LINN) SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION.
9. THE ESCP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESCP FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
10. ESCP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF EVERY TWO WEEKS OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
11. EXPOSED SOILS THAT REMAIN UNWORKED FOR 14 DAYS OR MORE SHALL BE IMMEDIATELY PROTECTED BY APPROPRIATE GROUND COVER. DISTURBED LAND THAT WILL REMAIN UNWORKED FOR 2 MONTHS OR LONGER SHALL ALSO BE SEEDED WITH AN APPROVED SEED MIXTURE.
12. PUBLIC STREETS WILL BE SWEPT DAILY, IF NECESSARY, TO ALLEVIATE SEDIMENT DISCHARGE TO THE STORM WATER MANAGEMENT SYSTEM. UNFILTERED WASH WATER CANNOT BE DISCHARGED TO STORM DRAINS.
13. ALL EROSION CONTROL SEEDING FOR SITE STABILIZATION WILL BE PERFORMED NO LATER THAN SEPTEMBER 1ST TO ALLOW TIME FOR VEGETATIVE ESTABLISHMENT PRIOR TO THE ONSET OF THE WET WEATHER SEASON.
14. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THEY ARE NO LONGER NEEDED.
15. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE REPAIRED AND PROTECTED WITH ADEQUATE GROUND COVER (2" STRAW, COMPOST, MULCH, ETC.)
16. SEEDING SHALL BE SUPPLIED WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED. WATER SHOULD BE CONTROLLED TO PREVENT RUNOFF. AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT EROSION SHALL BE RESEEDED AS SOON AS AREAS ARE IDENTIFIED.
17. DISTURBED AREAS OF SLOPE GREATER THAN 2:1 WILL BE STABILIZED THROUGH SEEDING AND THE INSTALLATION OF NORTH AMERICAN GREEN SC150BN MATTING OR EQUIVALENT PRODUCT.
18. THE PROPOSED EROSION CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO MAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEM.
19. IN THE CASE OF STABILIZATION SEEDING AND PLANTINGS FOR SWALES & SLOPES, IT IS THE CONTRACTORS RESPONSIBILITY TO SEQUENCE THE WORK SUCH THAT THE PLANTINGS ARE ESTABLISHED AS FAR AS POSSIBLE PRIOR TO OCTOBER 1.
20. CONTRACTOR SHALL DESIGNATE AN ONSITE EROSION & SEDIMENT CONTROL INSPECTOR AND SHALL SUBMIT THE NAME TO THE OWNER'S REPRESENTATIVE FOR SUBMITTAL TO DEQ AS PART OF THE DEQ 1200C PERMIT REQUIREMENTS.
21. AN EROSION AND SEDIMENT CONTROL PERMIT HAS BEEN ISSUED BY OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ 1200C PERMIT). CONTRACTOR IS RESPONSIBLE FOR ADMINISTRATION AND CONFORMANCE OF ALL EROSION AND SEDIMENT CONTROL REQUIREMENTS STIPULATED IN THIS PERMIT INCLUDING MAINTENANCE & MONITORING.
22. A MINIMUM OF ONE WATER TRUCK IS REQUIRED ON SITE AT ALL TIMES.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
2. ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION. (SCHEDULE B.2.A)
5. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A 8.A)
6. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS. (SCHEDULE A.8.C.II.(1)(C))
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT. (SCHEDULE A.12.C.III)
8. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A 8.C.II.(1)(D))
9. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) & (2))
10. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.B.III(1) AND A.7.B.III(3))
11. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.7.D.I AND A.8.C)
12. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
13. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS. (SCHEDULE A.8.C.II.(2))
14. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
15. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A 7.D.II.(1) AND A.8.C.I(4))
16. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(3))
17. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
18. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCH A 7.E.III.)
19. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A 7.B.II)
20. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
21. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
22. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A 7.B)
23. AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A 7.E.II.(2))
24. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER. (SCHEDULE A.7.A.I)
25. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
26. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT. AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.II)
27. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.III & IV)
28. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
29. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)
30. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
31. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
32. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS. (SCHEDULE A.7.B.III(2) AND A.8.C.III)

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING ANY EXCAVATION. CALL 503-246-6699.

TEMPORARY SEED MIX:

TEMPORARY GRASS COVER SHALL BE A DWARF GRAS MIX "PRO-TIME COMPANION" OR APPROVED EQUAL. GENERAL MIX SHALL BE AS FOLLOWS:

DWARF PERENNIAL RYEGRASS	80% BY SEED COUNT
CREEPING RED FESCUE	20% BY SEED COUNT
APPLICATION RATE	100 MINIMUM PER ACRE

PERMANENT SEED MIX:

"SUNMARK SEEDS - CELEBRATION" AS FOLLOWS:
33.33% HALO PERENNIAL RYEGRASS
33.33% BUENA VISTA PERENNIAL RYEGRASS
33.33% FUSION PERENNIAL RYEGRASS

APPLICATION RATE	8 LBS/1000 FT²

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING. AT LEAST ONCE EVERY TWO WEEKS, REGARDLESS OF WHETHER OR NOT RUNOFF IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY TWO (2) WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

- HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EROSION CONTROL INSPECTOR.
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200 C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ 1200 C PERMIT REQUIREMENTS.
- CHANGES TO THE APPROVED SEC PLAN MUST BE SUBMITTED TO DEQ IN THE FORM OF AN ACTION PLAN.

BMP MATRIX FOR CONSTRUCTION PHASES:

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT. 1 - MAY 31)
EROSION PROTECTION						
PRESERVE NATURAL VEGETATION	**X	X	X		X	X
GROUND COVER						
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING						
MATTING		X			X	
DUST CONTROL	X	X	X		X	
TEMPORARY / PERMANENT SEEDING		X			X	
BUFFER ZONE						
OTHER:						
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)	X	X	X			X
SEDIMENT FENCE (INTERIOR)						
STRAW WATTLES						
FILTER BERM						
INLET PROTECTION						
CURB SEDIMENT TRAPS						
DEWATERING						
SEDIMENT TRAP						
COMPOST BLANKET						
OTHER:						
RUN OFF CONTROL						
CONSTRUCTION ENTRANCE	**X	X	X			X
PIPE SLOPE DRAIN						
OUTLET PROTECTION						
SURFACE ROUGHENING						
CHECK DAMS						
WHEEL WASH						
OTHER:						
POLLUTION PREVENTION						
PROPER SIGNAGE	**X	X	X		X	
HAZ WASTE MGMT						
SPILL KIT ON-SITE	**X	X	X		X	
CONCRETE WASHOUT AREA						
OTHER:						

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
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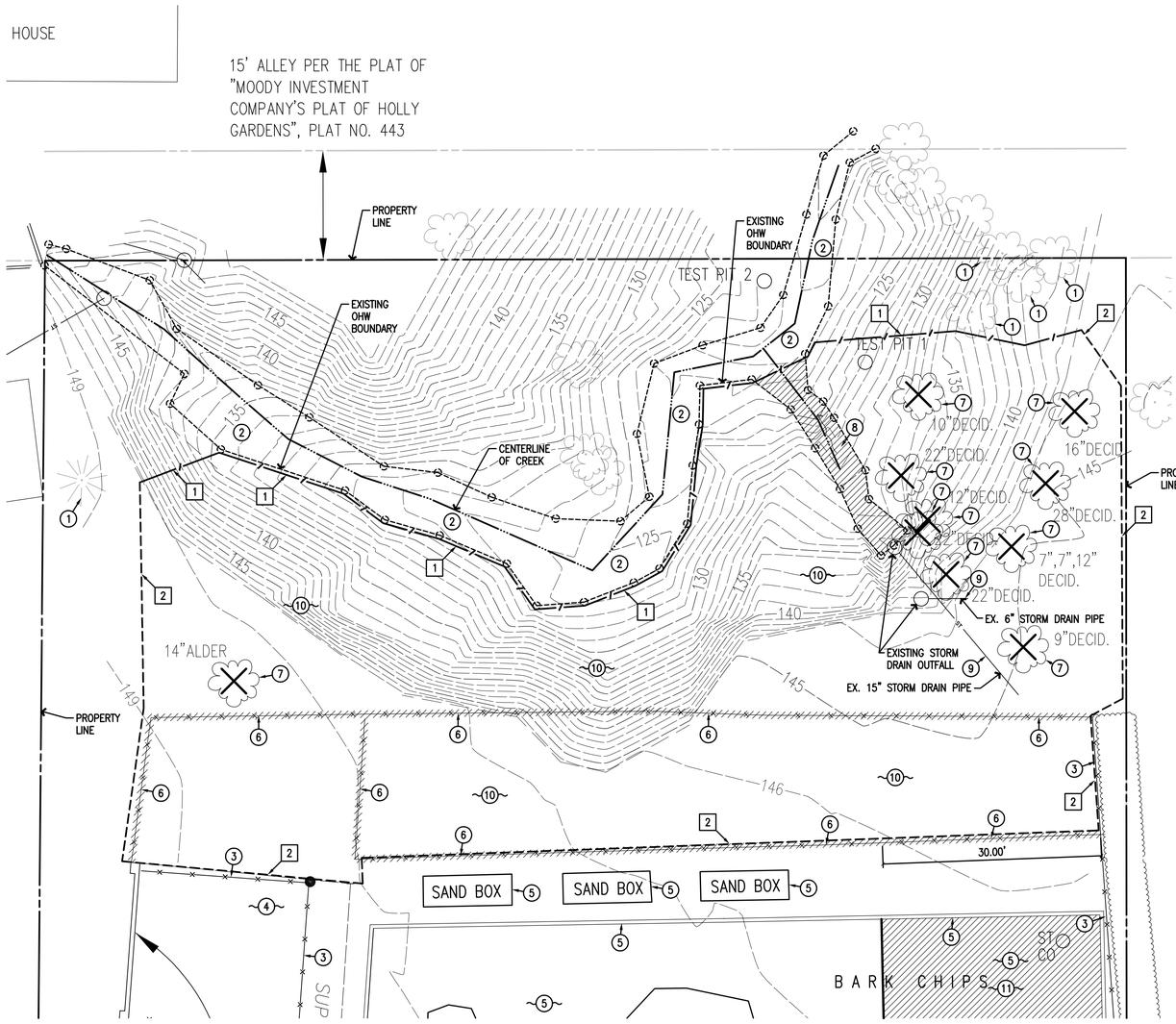
Drawn KPT	Designer PRT
Drafting Check	Design Check DMW
Approved (Project Director)	
Date 03/06/12	
Scale AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction

Client WEST LINN WILSONVILLE SCHOOL DISTRICT
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION EROSION CONTROL NOTES
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C102
Sht of
Rev:



1 C200 EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 10'-0"

N

DEMOLITION NOTES

1. SAVE AND PROTECT EXISTING TREE
2. SAVE AND PROTECT EXISTING CREEK
3. SAVE AND PROTECT EXISTING FENCE
4. SAVE AND PROTECT EXISTING STRUCTURE
5. SAVE AND PROTECT EXISTING PLAYGROUND SURFACING, PLAY STRUCTURES, SAND BOXES AND BANDING CURB
6. REMOVE EXISTING CHAIN LINK FENCE
7. REMOVE EXISTING TREES
8. EXISTING DRAINAGE WAY TO BE FILLED (APPROXIMATELY 114 SF)
9. SAVE AND PROTECT EXISTING STORM DRAINAGE PIPE
10. REMOVE EXISTING VEGETATION, BRUSH, BLACKBERRIES, SMALL TREES, ETC.
11. CONTRACTOR TO PROTECT AND PRESERVE THE EXISTING PLAYGROUND AND UNDERDRAIN SYSTEM. DESIGN DRAWINGS AVAILABLE UPON REQUEST. CONTRACTOR TO PROVIDE CONSTRUCTION, STAGING AND ACCESS PLAN TO SHOW HOW THE PLAYGROUND AND UNDERDRAIN SYSTEM WILL BE PROTECTED FROM DAMAGE. PLAN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.

EROSION CONTROL NOTES

1. INSTALL ORANGE SEDIMENTATION FENCE. WHEN SEDIMENTATION FENCE IS PARALLEL TO ORDINARY HIGH WATER (OHW) BOUNDARY INSTALL 6" FROM OHW BOUNDARY LINE.
2. LIMITS OF CONSTRUCTION INSTALL ORANGE CONSTRUCTION FENCES.

1" = 10'-0" 10' 0 10' 20' 30'

PRELIMINARY

No	Revision	Drawn	Job Manager	Project Director	Date
-	-	-			-

Note: * indicates signatures on original issue of drawing or last revision of drawing

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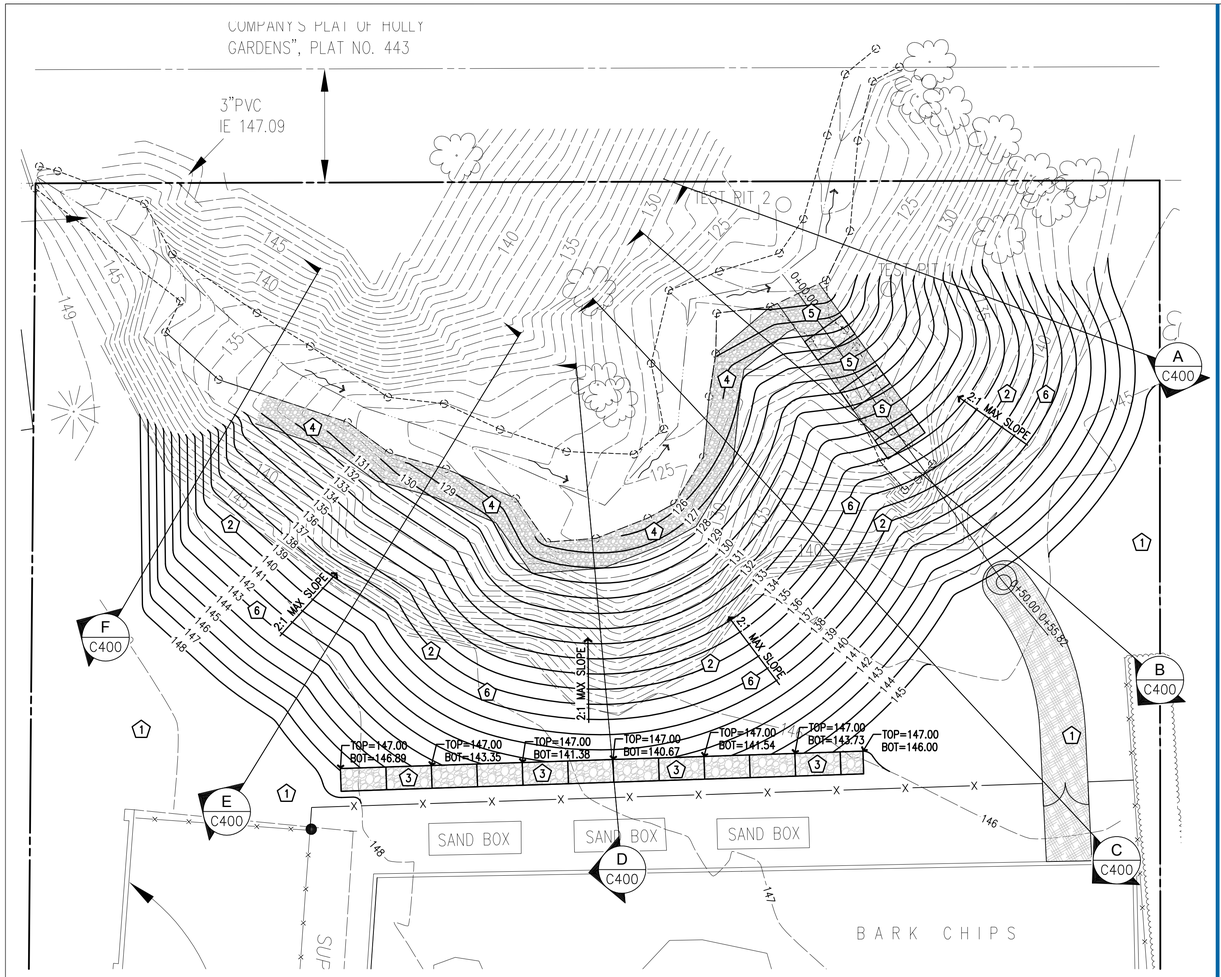
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION
EXISTING CONDITIONS AND DEMOLITION PLAN
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C200
Sht of
Rev:

Plot Date: 22 March 2012 - 5:09 PM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C200 EXIST-DEMO.dwg



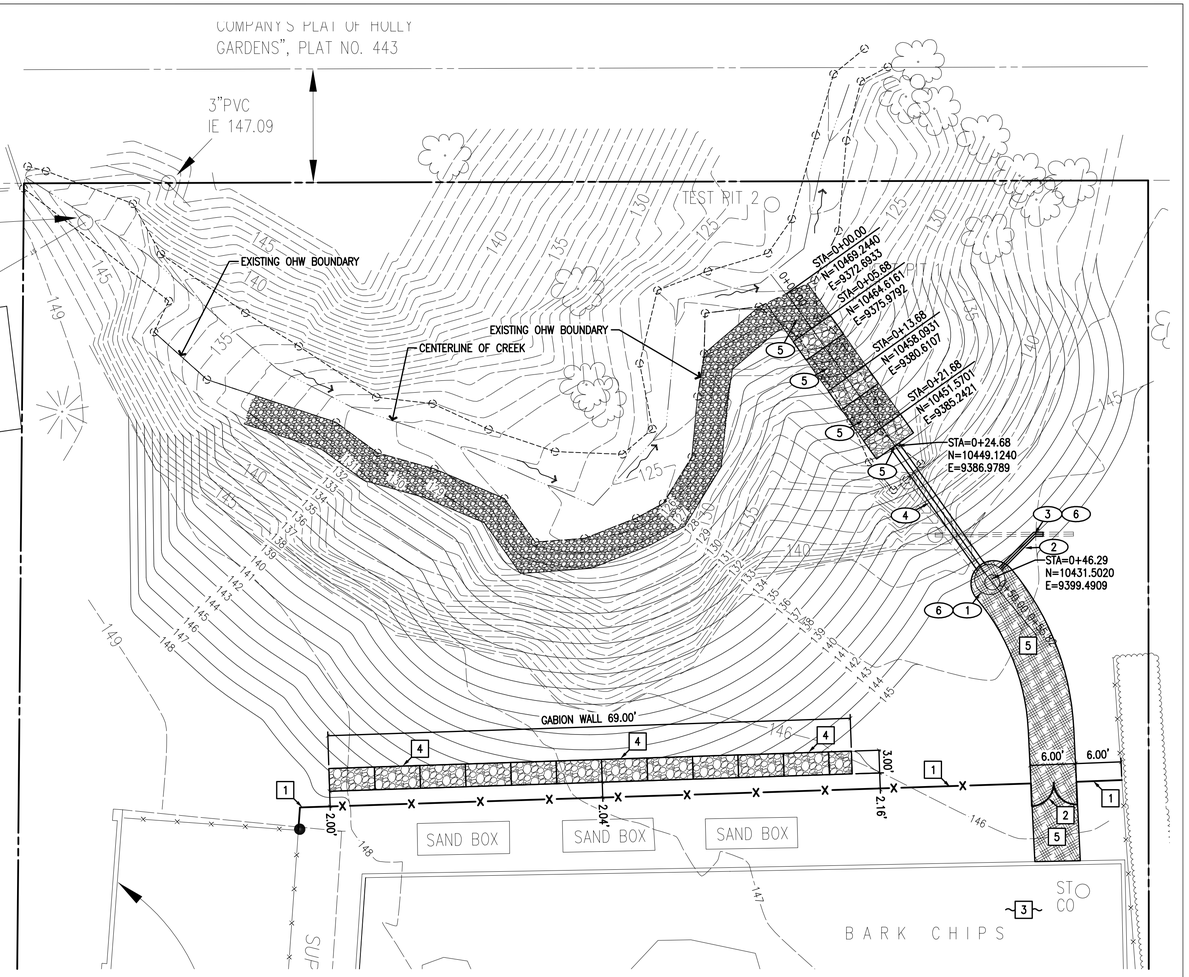
2 C300 GRADING AND EROSION CONTROL PLAN
SCALE: 1" = 10'-0"

N

GRADING NOTES

1. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TOWARD ALL EXISTING STORM WATER FEATURES.
2. STRIP, STOCK PILE AND REUSE TOPSOIL AND PROVIDE EXCAVATION AS NEEDED TO ACHIEVE SUBGRADE. PROVIDE STRUCTURAL FILL AND REPLACE TOPSOIL AS NECESSARY TO ACHIEVE FINISHED GRADE ELEVATIONS.
3. CONSTRUCT GABION WALL. SEE DETAIL 4 C501
4. CONSTRUCT RIPRAP STREAM BANK ARMOR. SEE DETAIL 5 C501
5. CONSTRUCT STORM DRAINAGE OUTFALL. SEE PROFILE ON SHEET C400.
6. INSTALL EROSION CONTROL BLANKET/TURF REINFORCEMENT MATS. SEE DETAIL 3 C501

1" = 10'-0" 10' 0 10' 20' 30'



1 C300 SITE AND STORM DRAINAGE PLAN
SCALE: 1" = 10'-0"

N

SITE CONSTRUCTION NOTES

1. INSTALL NEW CHAIN LINK FENCE, TIE INTO EXISTING FENCE.
2. INSTALL NEW 6' WIDE DOUBLE LEAF GATE.
3. INSTALL BARK CHIPS AS NEEDED TO RESTORE SURFACE. MATCH EXISTING THICKNESS. PROVIDE A MINIMUM OF NEW 2" TOP LAYER BARK CHIP OVER ENTIRE PLAYGROUND AREA.
4. INSTALL GABION WALL SEE GRADING PLAN THIS SHEET.
5. CONSTRUCT BARK ACCESS PATH.

STORM DRAIN NOTES

1. INSTALL NEW STORM DRAIN MANHOLE OVER EXISTING 15" STORM DRAIN PIPE. SEE PROFILE ON SHEET C400.
2. CONSTRUCT 10 LF 6" PVC STORM DRAIN PIPE.
3. CONNECT NEW STORM DRAIN PIPE TO EXISTING STORM DRAIN PIPE WITH A WYE AND CLEANOUT.
4. CONNECT 22 LF 15" PVC STORM DRAIN. SEE PROFILE ON SHEET C400.
5. CONSTRUCT STORM DRAIN OUTFALL. SEE PROFILE ON SHEET C400.
6. CONTRACTOR TO FIELD LOCATE EXISTING STORM PIPE AND VERIFY EXACT LOCATION SIZE AND MATERIAL. REPORT FINDING TO ENGINEER.

1" = 10'-0" 10' 0 10' 20' 30'

PRELIMINARY

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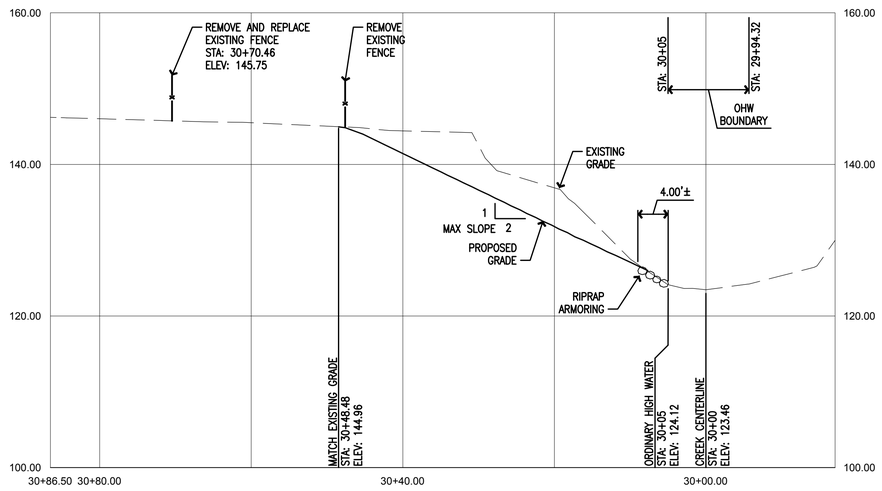
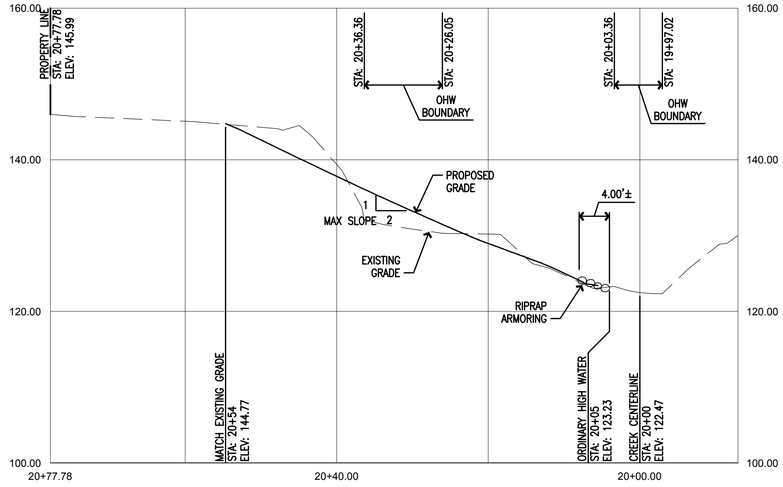
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION - SITE, STORM DRAINAGE, GRADING & EROSION CONTROL PLAN
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C300
Sht of
Rev:

Plot Date: 22 March 2012 - 5:13 PM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C300 SITE-GRADE.dwg



C C400 SECTION - C
SCALE: 1" = 10'–0"



B C400 SECTION - B
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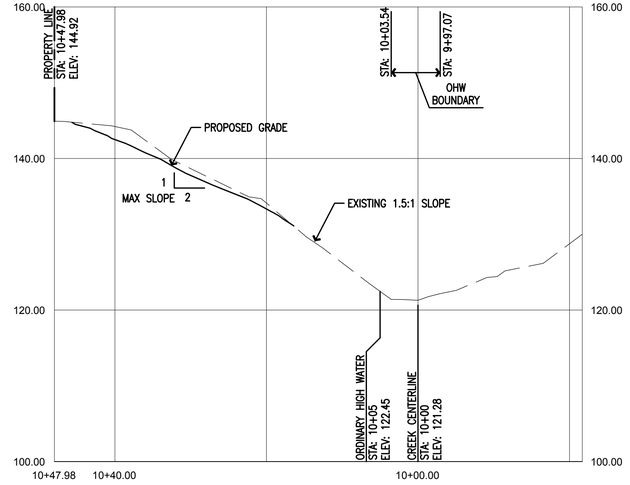

A C400 SECTION - A
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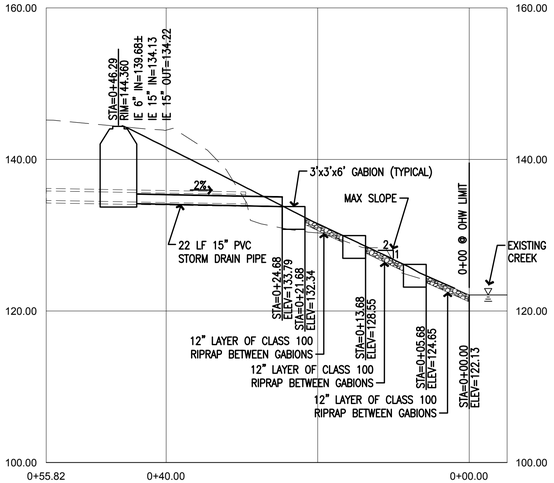
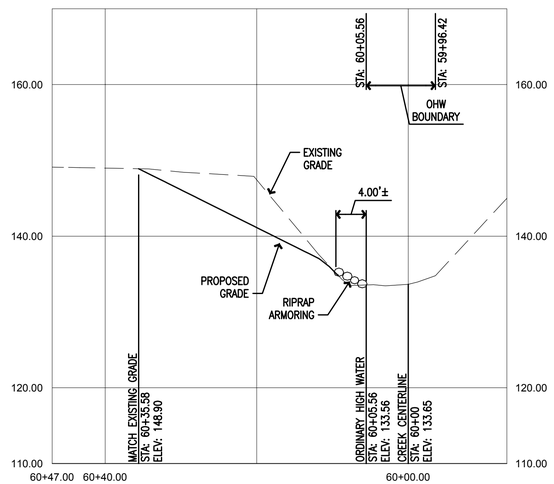


1 C400 STORM DRAINAGE OUTFALL PROFILE
SCALE: 1" = 10'–0"



F C400 SECTION - F
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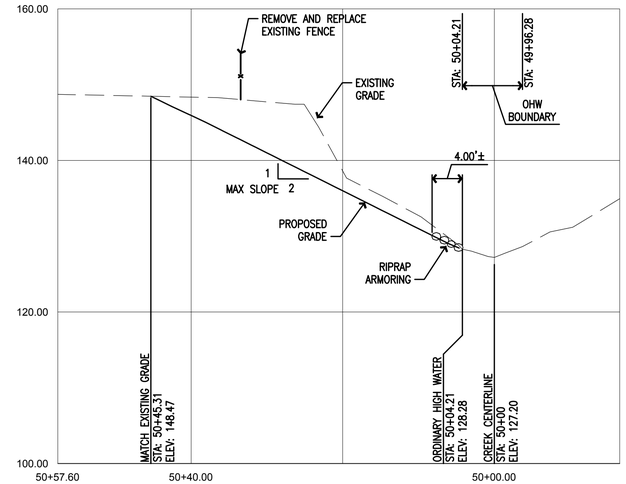

E C400 SECTION - E
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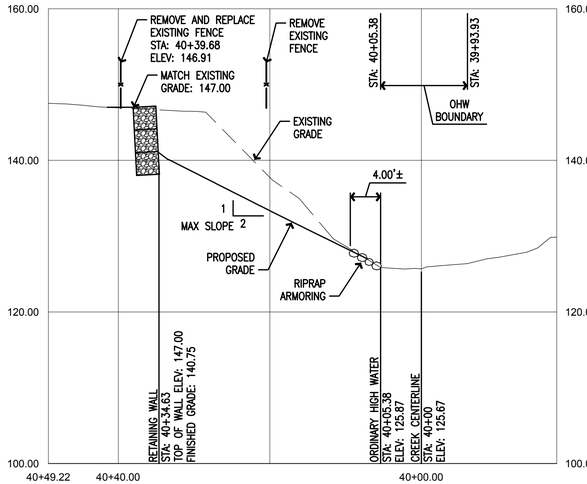

D C400 SECTION - D
SCALE: 1" = 10'–0"

1" = 10'–0" 10' 0 10' 20' 30'

PRELIMINARY

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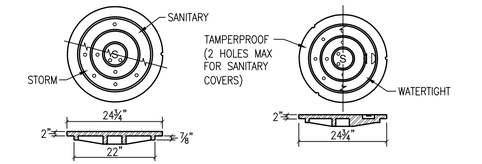
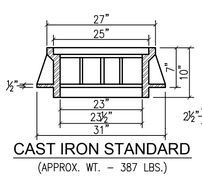
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION CROSS SECTIONS AND STORM DRAINAGE OUTFALL PROFILE
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C400
Sht of
Rev:

Plot Date: 22 March 2012 - 5:19 PM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C400 SEC.dwg



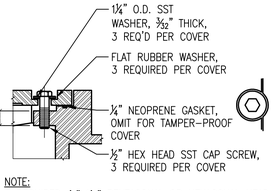
CAST IRON TAMPERPROOF & WATERTIGHT

(FRAMES AVAILABLE IN STANDARD OR SUBURBAN PATTERN)

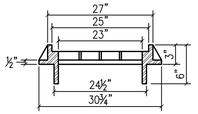


CAST IRON STANDARD

(APPROX. WT. – 387 LBS.)



NOTE:
3 REQUIRED, ½"x1¼" PENTAGONAL OR HEXAGONAL HEAD, BRONZE OR CAD. PLATED. INSTALL FRAME SO THAT ONE BOLT BOSS IS LOCATED OVER THE MANHOLE LADDER.

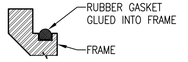


CAST IRON SUBURBAN

(APPROX. WT. – 305 LBS.)

BOLT-DOWN DETAIL

(FOR TAMPERPROOF AND WATERTIGHT)



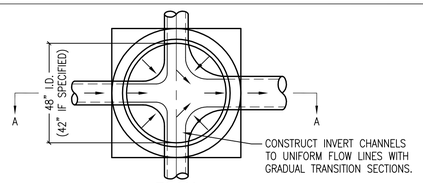
WATERTIGHT GASKET DETAIL

NOTES:

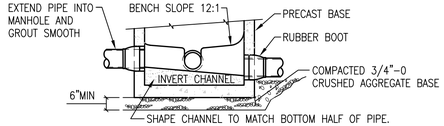
1. TAMPERPROOF COVERS REQUIRED ON SANITARY OR STORM DRAIN MANHOLE WHERE LOCATED IN PEDESTRIAN WAYS OR EASEMENT AREAS. TAMPERPROOF COVERS FOR SANITARY MANHOLES SHALL HAVE 2 HOLES MAXIMUM.
2. WATERTIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. FRAMES AND COVERS SHALL BE STAMPED WITH MANUFACTURER'S INITIALS, HEAT NUMBER AND POINT OF ORIGIN.

6 C500 — MANHOLE COVER & FRAME DETAIL

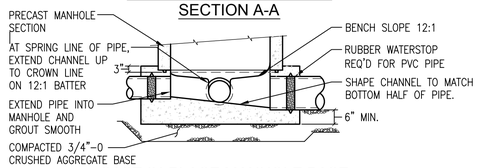
SCALE: NONE



PLAN



PRECAST MANHOLE BASE
SECTION A-A



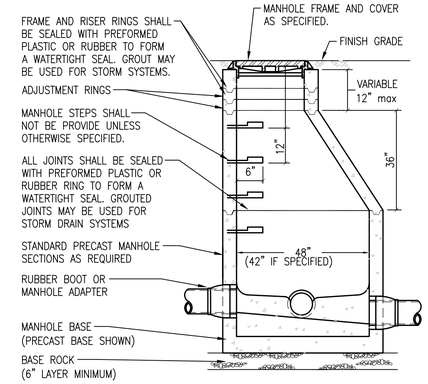
CAST-IN-PLACE MANHOLE BASE
SECTION A-A

NOTES:

1. CONCRETE SHALL BE CLASS 3000 COMMERCIAL GRADE.
2. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO OUTLET PIPE.
3. BASES MAY BE PRECAST OR POURED IN PLACE.
4. THIS MANHOLE BASE SECTION SHALL BE USED FOR PIPE SIZES UP TO 24".
5. USE RUBBER BOOTS IF PIPE IS FLEXIBLE. BOOTS MAY BE KOR-N-SEAL OR EQUIVALENT.
6. ALL CONNECTING PIPES SHALL HAVE A FLEXIBLE COMPRESSION JOINT WITHIN 18" OF MANHOLE WALL.

5 C500 — MANHOLE BASE SECTION DETAIL

SCALE: NONE

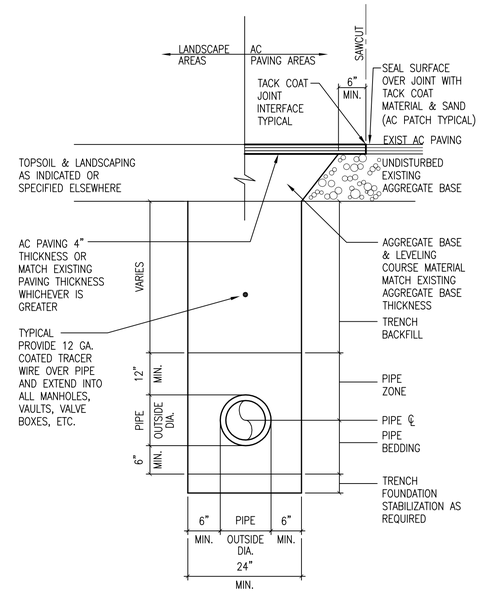


NOTES:

1. STANDARD PRECAST MANHOLE SECTION DIAMETER SHALL BE 48". MAX PIPE SIZE SHALL BE 24".
2. ALL CONNECTING PIPES SHALL HAVE A FLEXIBLE COMPRESSION JOINT WITHIN 18" OF MANHOLE WALL. PER UNIFORM PLUMBING CODE.
3. SEE MANHOLE BASE SECTION DRAWING FOR BASE DETAILS.
4. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478M.

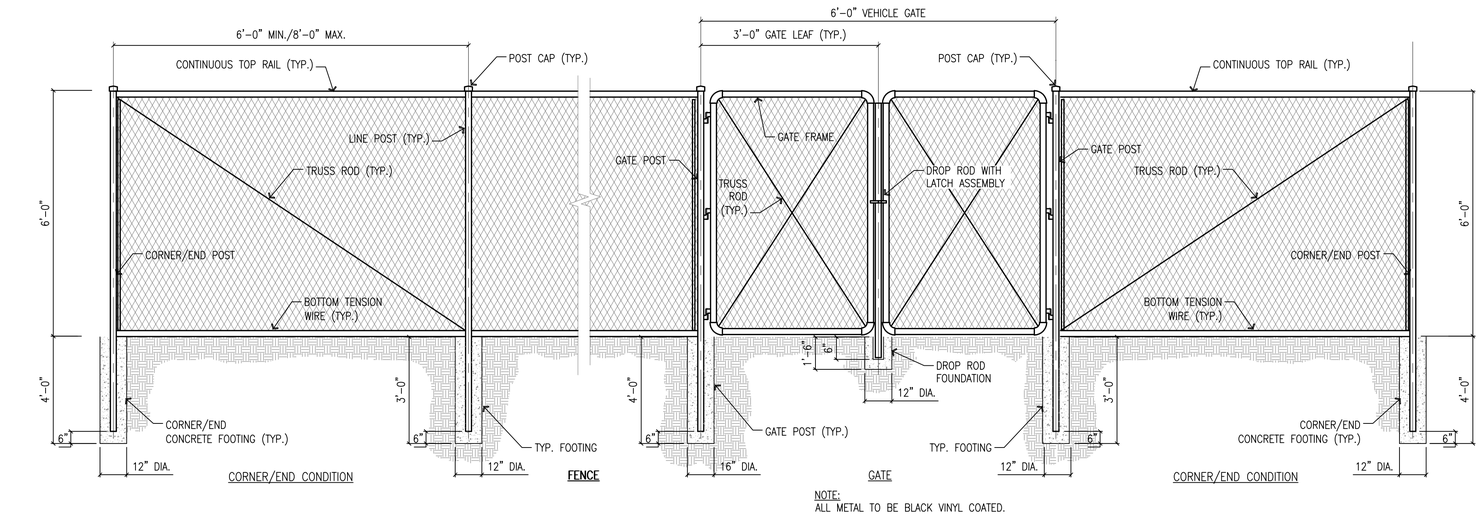
3 C500 — MANHOLE DETAIL

SCALE: NONE



1 C500 — UTILITY TRENCH SECTION

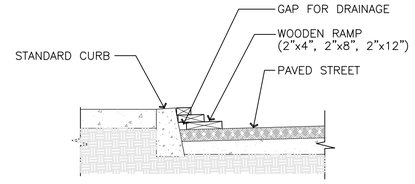
SCALE: NONE



NOTE:
ALL METAL TO BE BLACK VINYL COATED.

4 C500 — CHAINLINK FENCE DETAIL

SCALE: NONE



2 C500 — WOODEN CURB RAMP (FOR INFORMATION ONLY)

SCALE: NONE

PRELIMINARY

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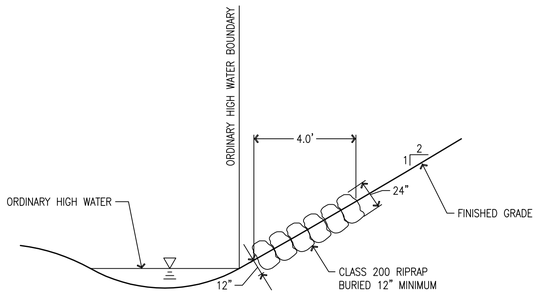
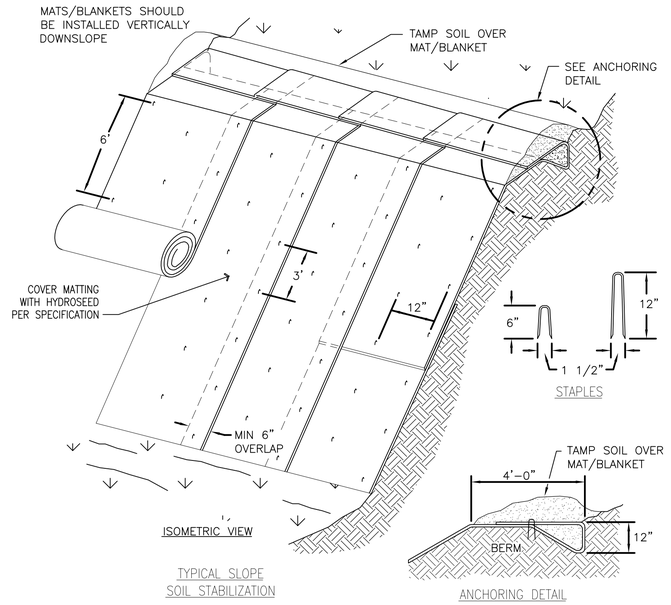
Project BOLTON PRIMARY SCHOOL
Title STREAMBANK REMEDIATION DETAILS
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C500
Sht of
Rev:

Plot Date: 21 March 2012 - 8:40 AM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C500 DET.dwg



5 C501 RIPRAP ARMORING AT WETLAND BOUNDARY
SCALE: NONE



3 C501 EROSION BLANKETS /TURF REINFORCEMENT MATS
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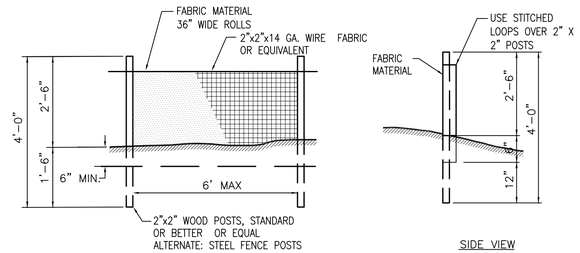
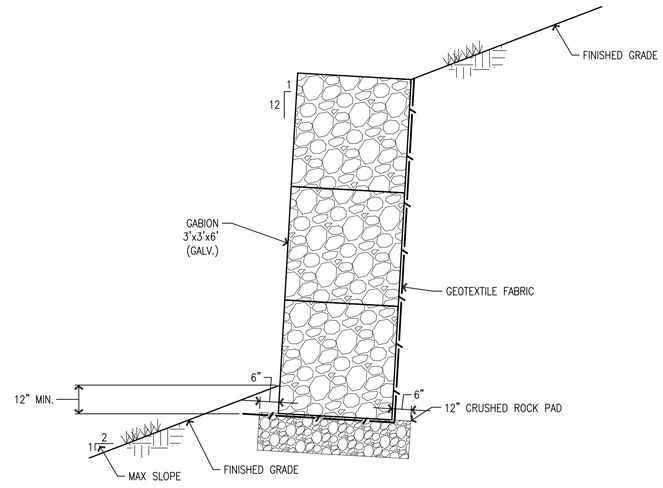
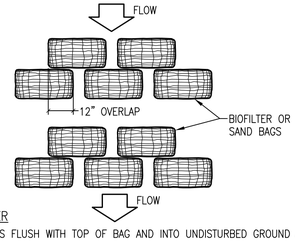


NOTES:
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2" x 2" FIR, PINE, OR STEEL FENCE POSTS.
3. STITCHED LOOPS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT ALL AREAS OF FABRIC TRENCH.

1 C501 SEDIMENT FENCE DETAILS
SCALE: NONE



4 C501 GABION WALL DETAIL
SCALE: NONE



SWALE BARRIER
1. DRIVE STAKES FLUSH WITH TOP OF BAG AND INTO UNDISTURBED GROUND A MIN. OF 12" (TYPE 2 ONLY). STAKE MAY BE OMITTED IF BAGS ARE PLACED ON PAVED SURFACE.
2. INSPECT AND REPAIR AFTER EACH RAINFALL. INSPECT DAILY DURING PROLONGED RAINFALL.
3. REPAIR ANY DAMAGED BALES, AREAS OF END RUNS, AND UNDERCUTTING BENEATH BALES. REPAIRS TO BALES OR BARRIERS SHALL BE MADE AS SOON AS POSSIBLE.
4. REMOVE SEDIMENT DEPOSITS WHEN THEY REACH APPROXIMATELY ONE THIRD THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE AND SEEDED.

2 C501 SWALE SEDIMENT BARRIER
SCALE: NONE

PRELIMINARY

No	Revision	Drawn	Job Manager	Project Director	Date
-	-	-			-

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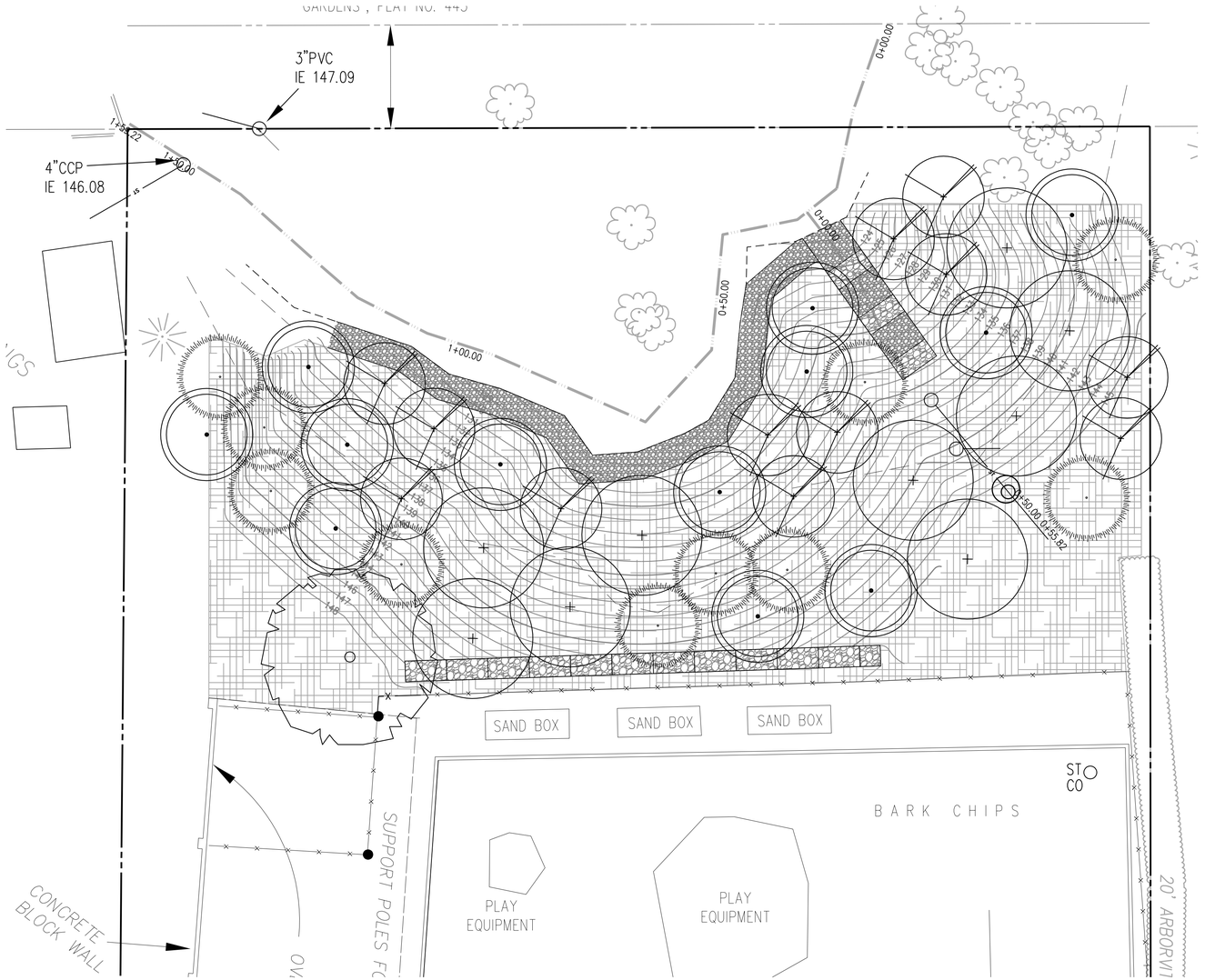
Contract No. 11456-11012
Original Size Ansi D
Drawing No: C501
Sht of
Rev:

Plot Date: 22 March 2012 - 5:24 PM Plotted by: Keith Tolle Cad File No: O:\11456 - WLWSD (West Linn-Wilsonville School District)\11456-11012 WLWSD Bolton Primary School\06-CAD\Sheets\11456-11012_C501 DET.dwg



PLANTING AND IRRIGATION LEGEND

NATIVE RE-VEGETATION - EROSION CONTROL GRASS SEED MIX AND SHRUBS. 3-YR TEMPORARY IRRIGATION TO BE COMPLETED BY THE WILSONVILLE WEST LINN SCHOOL DISTRICT, NO AUTOMATIC IRRIGATION SYSTEM WILL BE INSTALLED.

EXISTING TREES TO REMAIN

PLANTING NOTES:

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING TREES INDICATED TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL TREES AND SHRUBS INDICATED TO REMAIN. COORDINATE WITH THE OWNER'S REPRESENTATIVE.

2. PLANTING AREAS TO BE SUFFICIENTLY CLEANED OF ALL CONSTRUCTION MATERIALS, INCLUDING IMPORTED ROCK, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE BEFORE BEGINNING ANY LANDSCAPE WORK.

3. IDENTIFY ALL PLANTING AREAS IN FIELD WITH WHITE FIELD-MARKING CHALK OR APPROVED EQUAL. PLANTING BEDS TO BE ADJUSTED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANT LOCATION.

4. FOR PLANTING OCCURRING IN MASSES OF SAME SPECIES PLANT, LABELING REFERS TO ALL ADJACENT IDENTICAL SYMBOLS. REFER TO DETAILS AND LEGEND FOR SPACING INFORMATION.

5. THE OWNER'S REPRESENTATIVE WILL APPROVE INDIVIDUAL PLANT MATERIAL AND LOCATION OF PLANT MATERIAL PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS FOR PROCEDURE.

6. PLANT QUANTITIES INDICATED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANTS IN QUANTITIES AND LOCATIONS SHOWN ON DRAWINGS.

7. PROVIDE GEOTEXTILE FABRIC AS DIRECTED BY THE CIVIL ENGINEER OR JUTE NETTING ON ALL SLOPES WITH GRADIENT OF 3:1 OR GREATER. STAPLE FABRIC TO GROUND PER MANUFACTURERS RECOMMENDATIONS OR WITH METAL STAKES AT 4' O.C.

8. VERIFY ALL EROSION CONTROL MEASURES ARE INSTALLED IN PLACE PRIOR TO START OF PLANTING.

LAND USE REQUIREMENTS

CODE REQUIREMENT	RESTORATION AREA	TOTAL REQUIRED	TOTAL PROVIDED
40 SHRUBS/1000 SF (5 FT O.C.)	6250 SF	250 EA	250 EA
7 TREES/1000 SF (12 FT O.C.)	6250 SF	44 EA	44 EA

PRELIMINARY LAND USE PERMIT PLANT SCHEDULE

SYMB	KEY	BOTANICAL NAME	COMMON NAME	SIZE/CONDITION	SPACING
		EVERGREEN TREES			
·	THPL	THUJA PLICATA	WESTERN RED CEDAR	5'-6' HT	AS SHOWN
		NATIVE/ADAPTIVE TREES			
⊙	ALRU	ALNUS RUBRA	RED ALDER	2 GAL. CONT.	AS SHOWN
⊘	AMAL	AMELANCHIER ALNIFOLIA	WESTERN SERVICEBERRY	5-6' HT/MULTI	AS SHOWN
·	FRLA	FRAXINUS LATIFOLIA	OREGON ASH	1" CAL./B&B	AS SHOWN
·	QUGA	QUERCUS GARRYANA	OREGON WHITE OAK	1" CAL./B&B	AS SHOWN
		SHRUBS			
	SYAL	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL. CONT.	48" O.C.
	RUPA	RUBUS PARVIFOLIA	THIMBLEBERRY	1 GAL. CONT.	48" O.C.
	SARA	SAMBUCUS RACEMOSA	RED ELDERBERRY	1 GAL. CONT.	48" O.C.
	SPBE	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL. CONT.	48" O.C.
	MAAQ	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	1 GAL. CONT.	48" O.C.
		GROUNDCOVER			
	FRVE	FRAGARIA VESCA	WOODLAND STRAWBERRY	1 GAL. CONT.	18" O.C. - 50% OF MIX
	MARE	MAHONIA REPENS	CASCADE OREGON GRAPE	1 GAL. CONT.	24" O.C. - 35% OF MIX
	POMU	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GAL. CONT.	24" O.C. - 15% OF MIX
		PROTIME 702 LOW PROFILE PLUS EROSION CONTROL MIX		2 LBS/1000 SF	

0 5 10 20
SCALE: 1"=10'-0"

NORTH

PRELIMINARY

No	Revision	Drawn	Job Manager	Project Director	Date
-	-	-			-

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Drawn GD		Designer GD	
Drafting Check DO		Design Check DO	
Approved (Project Director)			
Date	03/06/12		
Scale	AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	

Client **WEST LINN WILSONVILLE SCHOOL DISTRICT**
Project **BOLTON PRIMARY SCHOOL**
Title **STREAMBANK REMEDIATION LANDSCAPE RESTORATION PLAN**
Contract No. 11456-11012
Original Size **Ansi D** Drawing No: **L501** Sht of Rev:

Plot Date: 21 March 2012 - 9:55 AM Plotted by: Gary Datka Cad File No: F:\WORK\1213\Draw\Plots\L501-PLANT.dwg