

SECTION 01030 - SEEDING

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.02 Definitions - Replace the paragraph that begins "**Noxious Weed** - All Weed ..." with the following paragraph:

Noxious Weed - All Weed designated by the Oregon State Weed Board as injurious to public health, agriculture, recreation, wildlife, or all public or private property. The Oregon Department of Agriculture (ODA) is the authority in determination of Noxious Weed species.

(Use the following subsection .13(a) when alternate labeling for native plant seeds is required. Obtain information from the Erosion Control Designer.)

01030.13(a) Label - Add the following to the end of this subsection:

Provide alternate labeling for native plant seeds as follows:

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01030.13(d) Inspection - Replace this subsection, except for the subsection number and title, with the following:

Each lot of seed is subject to inspection upon delivery to the Project. Seed that is not labeled or that does not conform to the Specifications is rejected. Replace rejected seed at no additional cost to the Agency.

(Use the following subsection .13(f) to include seed mix formulas. Obtain the information from the Erosion Control Designer. Delete what does not apply. Detail seed mixes according to the following instructions:

- **Use the format in .13(f) which follows. Show seeding categories as needed: Permanent Seeding, Temporary Seeding, Wildflower Seeding, Plant Seeding, Water Quality Seeding, Wetland Seeding, or Native Plant Seeding. To**

add more categories, blank columns, or lines, copy from the blank seeding category below.

- Fill in the botanical and common names and the PLS seeding rate. For Oregon Certified Seed, show an asterisk (*) at the beginning of the botanical name.
- For several mixes within the same category, use (Category Name) Seed Mix No. 1, No. 2, etc. and each mix will be a bid item. When using these numbered mixes, a brief mix description may also be added that doesn't show in the bid item name. An example is Wetland Seeding, Mix No. 1 (Emergent Areas.)
- When more than one seed mix needs to be specified but quantities seem too small to be more than one bid item, this format can be used: Under a single bid item such as Wetland Seeding, detail multiple mixes by showing Seed Mix A, Seed Mix B, etc. Give an approximate quantity for each mix that equals the quantity of the bid item.)

01030.13(f) Types of Seed Mixes - Replace the paragraph that begins "Seed mixes, quantities ..." with the following paragraph:

Seed mixes, quantities, standards, seeding rates, and other information is included in the Special Provisions for each type of seed mix.

Replace the bullet that begins "**Plant Seeding** ..." with the following bullet:

- **Plant Seeding** - Seeding that typically includes more than just grass species, such as seeds of woody or herbaceous plants.

Add the following to the end of this subsection:

Provide the following seed mix formulas:

- _____ **Seeding:**

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

* Oregon Certified Seed

- **Lawn Seeding:**

Name	PLS Specified Rate (lb/acre)
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Fine Fescue**	_____
Perennial Ryegrass**	_____
Kentucky Bluegrass**	_____
Colonial Bentgrass**	_____

** Furnish strong growing, site appropriate, disease resistant varieties

01030.13(g) Availability - Replace this subsection, except for the subsection number and title, with the following:

Provide a list of seed sources for all specified seeds within 60 Calendar Days after execution of the Contract. Verify that all specified seed has been located and is available for use on the Project. Submit the seed and seed mixes to be used on the project according to 00150.37.

01030.14(b) Type of Fertilizer - Replace the paragraph that begins "Provide the following ..." with the following paragraph:

Furnish the following fertilizer:

01030.14(b)(3) Statewide, Near Water - Replace this subsection, except for the subsection number and title, with the following:

For application within 50 feet of open water, furnish 22-2-11 low-phosphorus fertilizer analyzing 22 percent nitrogen, 2 percent phosphorus, and 11 percent potassium that releases slowly over an eight-to-nine-month period. Furnish fertilizer containing a minimum of 60 percent available water-insoluble, controlled-release nitrogen derived from one of the three sources stated for west of the Cascades above. Furnish phosphorus and potassium that is coated to allow a minimum of 95 percent controlled-release.

(Use the following lead-in paragraph and subsection .14(b)(4) when organic fertilizer is required. Obtain information from the Erosion Control Designer.)

Add the following subsection:

01030.14(b)(4) Organic Fertilizer - Furnish organic fertilizer that analyzes ___ % nitrogen, ___ % phosphoric acid, and ___ % soluble potash. Furnish fertilizer that has no toxicity to sites where it will be applied.

01030.15 Mulch - Replace the paragraph that begins "Furnish mulch Materials ..." with the following paragraph:

Furnish mulch Materials free of all Weed or plant seeds and containing no substances detrimental to plant life. The kind of mulch materials acceptable for use is shown, listed in the Special Provisions, or as approved. Furnish mulch meeting the following requirements:

Add the following paragraph(s) and bullets to the end of this subsection:

Use the following paragraph and bullet(s) to specify other types of mulch not listed in the Standard Specifications, such as composted yard debris. Use the generic name for the mulch and include Specifications, or cite the ODOT QPL if applicable. Obtain information from the Erosion Control Designer.)

Furnish mulch for seeding according to the following:

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(Use the following paragraph and bullets when hydromulch may be used for temporary erosion control seeding. Obtain the Erosion Control Designer's approval before using.)

Furnish straw mulch for all temporary roadside erosion control seeding, except hydromulch may be used under the following conditions:

- Spring planting west of the Cascades between March 1 and May 15.
- Slopes are steeper than 1V to 1.5H and longer than 16 feet.
- Residential or commercial sites with low erosion potential such as sidewalk, Median, or parking lot planter strips.

Projects that have variable slopes may include straw mulch and hydromulch when approved.

01030.15(b) Straw - Replace the paragraph that begins "Straw mulch for ..." with the following paragraph:

Straw mulch for non-hydroseeding applications from bentgrass, bluegrass, fescue or ryegrass singly or in combination. Cereal grain straw from barley, oat or wheat may be allowed upon approval of the Agency. Furnish straw that is not moldy, caked, decayed or of otherwise low quality. Submit certification from the Supplier that the straw is free of Noxious Weed seeds or plant parts. Acceptable documentation is any one of the following:

01030.16(a) Liquid Stabilizer Emulsion - Replace this subsection, except for the subsection number and title, with the following:

Tackifier with a base material of liquid, polyvinyl acetate polymers, using emulsion resins and containing not less than 55 percent total solids by weight. Furnish tackifier containing no polyacrylates or polyvinyl acrylics. Furnish an emulsion that, when diluted with water and upon drying, allow exchange of air and moisture to the seeds and have an effective life of 1 year or more.

01030.16(b) Dry Powder Tackifier - Replace the paragraph that begins "Tackifier base consisting ..." with the following paragraph:

Tackifier base consisting of one or more active hydrocolloids from natural plant sources, that hydrates in water and blends with other slurry materials, and upon application and drying tacks the slurry particles to the Soil surface, and exhibits no growth or germination inhibiting factors. Furnish stabilizing emulsion in a dry powder form that may be re-emulsifiable, and consisting of a processed organic adhesive derivative of one of the following:

(Use the following subsection .17 when the Federal Aid Highway Program Biological Opinion is applicable to the project and herbicide use will be allowed. Coordinate with the Region Environmental Coordinator and include the weed control pay item.)

01030.17 Pesticides - Add the following to the end of this subsection:

Do not apply herbicides that include any herbicide carrier (i.e. solvent) other than water or vegetable oil. Utilize only the following herbicides for Project Work:

- aquatic imazapyr
- aquatic glyphosate
- aquatic triclopyr-TEA
- chlorsulfuron
- clopyralid
- imazapic
- imazapyr
- metsulfuron-methyl
- picloram
- sethoxydim
- sulfometuron-methyl

Apply only the herbicide adjuvants described in Table 01030-1 for Project Work.

Table 01030-1

Adjuvant Type	Trade Name
Surfactant	Agri-Dex
Surfactant	LI 700
Drift Retardant	41-A
Drift Retardant	Vale

01030.40 General - Replace the paragraph that begins "Remove all non-approved ..." with the following paragraph:

Remove all non-approved plants resulting from the seed mixes furnished for the Project at no additional cost to the Agency, including erosion protection required during reseeding.

(Use the following subsection .42 to list Specified Weeds and plant species to be removed. Obtain list from the Erosion Control Designer.)

01030.42 Weed Control - Add the following paragraph and bullets after the paragraph that begins "If a pesticide has been approved for..." and before subsection (a):

The Specified Weeds and plant species to be removed include the following:

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01030.42(b) Weed Control Inspections - Replace the paragraph that begins "Inspect the Project for new growth..." with the following paragraph:

Inspect the Project for new growth of specified weeds at least monthly and apply weed control measures as appropriate. This requirement may be waived by the Engineer during the period that weeds are fully dormant. To ensure satisfactory Weed removal, the last WMA inspection will occur at least 30 Days after growing has begun or as directed.

01030.42(c)(2) Sensitive Areas - Replace the bullet that begins "Inside Sensitive Areas ..." with the following bullet:

- Inside Sensitive Areas, obtain approval before using wheeled or tracked construction Equipment. Requests are approved only when all vegetation in the area is cleared, such as under new Roadways or slopes.

Replace the bullet that begins "The Engineer..." with the following bullet:

- The Engineer is the authority in the determination of Sensitive Areas.

(Use the following lead-in paragraph and subsection .42(e) and table(s) when the Federal Aid Highway Program Biological Opinion is applicable to the project and herbicide use will be allowed.)

Add the following subsection:

01030.42(e) Herbicide Application - Obtain written approval from the Engineer prior to application of herbicides in sensitive areas. Apply herbicides at the lowest effective label rates. Mix herbicides a minimum of 150 feet away from natural water bodies. Wash spray tanks a minimum of 300 feet from any natural water body. Utilize a non-hazardous indicator dye during herbicide applications within 100 feet of natural water bodies. Keep spray nozzles as low as possible and utilize the largest droplet size possible in order to minimize drift. Provide documentation of wind speed and direction, air temperature, ground temperature, and date of application to the Engineer within 5 Days of broadcast herbicide applications.

Do not apply herbicides during the following conditions:

- When soil is saturated, except for soil-activated herbicides.
- Within 48 hours prior to and during a forecasted rain event of 0.5 inches or greater in a 24-hour period.
- When wind speeds exceed 10 miles per hour, or are less than 2 miles per hour.
- During temperature inversions.
- When ground temperatures exceed 80 °F.

Adhere to the adjuvant application limitations in Table 01030-2. Regulated work area (RWA) is defined in 00290.34(a).

Table 01030-2

Adjuvant Type	Trade Name	Limitations
Surfactant	Agri-Dex	Do not apply within RWA
Surfactant	LI 700	Do not apply within RWA

Adjuvant Type	Trade Name	Limitations
Drift Retardant	41-A	Do not apply within RWA
Drift Retardant	Vale	Do not apply within 150 feet of natural water bodies

During herbicide application, adhere to the buffer distance requirements in Table 01030-3 through Table 01030-10.

Table 01030-3: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Labeled for Aquatic Use

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
aquatic glyphosate	100 feet	Waterline	Waterline
aquatic imazapyr	100 feet	15 feet	Waterline
aquatic triclopyr-TEA	Not Allowed	15 feet	Waterline

Table 01030-4: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Labeled for Aquatic Use

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
aquatic glyphosate	50 feet	No buffer	No buffer
aquatic imazapyr	50 feet	No buffer	No buffer
aquatic triclopyr-TEA	Not Allowed	No buffer	No buffer

Table 01030-5: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Low Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	100 feet	15 feet	RWA boundary
Clopyralid	100 feet	15 feet	RWA boundary
metsulfuron-methyl	100 feet	15 feet	RWA boundary

Table 01030-6: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Low Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	50 feet	No buffer	No buffer
Clopyralid	50 feet	No buffer	No buffer
metsulfuron-methyl	50 feet	No buffer	No buffer

Table 01030-7: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, Moderate Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	100 feet	50 feet	RWA boundary
sulfometuron-methyl	100 feet	50 feet	5 feet
Chlorsulfuron	100 feet	50 feet	RWA boundary

Table 01030-8: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, Moderate Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Imazapic	50 feet	15 feet	RWA boundary
sulfometuron-methyl	50 feet	15 feet	RWA boundary
Chlorsulfuron	50 feet	15 feet	RWA boundary

Table 01030-9: Application Buffer Width for Perennial Streams and Wetlands, and Intermittent Streams and Roadside Ditches with flowing or standing water present, High Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Picloram	100 feet	50 feet	50 feet
Sethoxydim	100 feet	50 feet	50 feet

Table 01030-10: Application Buffer Width for Dry Intermittent Streams, Dry Intermittent Wetlands, Dry Roadside Ditches, High Risk to Aquatic Organism

Herbicide	Broadcast Spraying	Spot Spraying	Hand Selective
Picloram	100 feet	50 feet	50 feet
Sethoxydim	100 feet	50 feet	50 feet

01030.43(a) Temporary Seeding - Replace this subsection, except for the subsection number and title, with the following:

Temporarily seed disturbed Soils and slopes that are not at finished grade and are exposed for 2 months or longer before being disturbed again. Provide fertilizer, mulch, water, and other amendments necessary to ensure establishment. Ensure that temporary seeding Work achieves the coverage of live plants required by 01030.60 by the end of the next permanent seeding date stated in 01030.43(b). If this coverage is not achieved, or if the Agency determines that it is not effective in stabilizing the Soil from erosion, stabilize the area with other temporary stabilization methods as described in 00280.42 at no additional cost to the Agency.

(Use the following lead-in paragraph and subsection .44(c) when organic fertilizer is required. Obtain information from the Erosion Control Designer.)

Add the following subsection:

01030.44(c) Organic Fertilizer - Apply organic fertilizer at a rate of ____ pounds per acre at the following locations:

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(Use the following subsection .45 when soil testing is required.)

01030.45 Soil Testing - Replace this subsection, except for the subsection number and title, with the following:

When the Contract Schedule of Items include items for "soil testing", test soil according to 01040.13.

01030.48(a)(1)b.2. Step 2 - Replace this subsection, except for the subsection number and title, with the following:

Apply mulch and tackifier. Hydromulch, if used as a tracer in Step 1, is included as part of the specified hydromulch rate specified in 01030.48(a)(3).

01030.48(b)(2)a Straw Mulch - Replace the paragraph that begins "Place straw mulch approximately ..." with the following paragraph:

Place straw mulch approximately 2 inches deep, in loose condition, that requires approximately 2 1/2 Tons per acre of dry mulch, depending on moisture content. Do not use straw mulch on Slopes of 1V:1.5H or steeper.

(Use the following subsection .60 when the "Plant Seeding, ____" or "Native Plant Seeding, ____" Pay Items are included in the Schedule of Items. Delete "(s)" or the parentheses as applicable.)

01030.60 General - Add the following sentence(s) after the last bullet:

(Use the following paragraph when the "Plant Seeding, ____" Pay Item is included in the Schedule of Items. Obtain information from the Erosion Control Designer and fill in the blank.)

The minimum living plant coverage for woody or other plant seeding is ____ percent of ground surface.

(Use the following paragraph when the "Native Plant Seeding, ____" Pay Item is included in the Schedule of Items. Obtain information from the Erosion Control Designer and fill in the blank.)

The minimum living plant coverage for native plant seeding is ____ percent of ground surface.

01030.61(b) All Other Seeding - Replace the bullet that begins "The seeding Establishment Period..." with the following bullet:

- The seeding Establishment Period will end 45 Days after the beginning of the Establishment Period, if the area was seeded within the seeding dates according to 01030.43, and all establishment responsibilities have been met.

Replace the bullet that begins "If the original seeding construction..." with the following bullet:

- If the original seeding construction is completed and accepted outside the permanent seeding dates, the Establishment Period will end 45 Calendar Days after all necessary reseeding is completed and accepted during the following seeding dates according to 01030.43.

01030.62(b)(3) Weed Control - Replace this subsection, except for the subsection number and title, with the following:

Kill and remove Specified Weeds as directed, prior to the Weeds going to seed. Keep WMAs and seeded areas, Weed Free throughout the Establishment Period.

01030.90 Payment – Delete Pay Items (l) and (m) from the Pay Item list.

Replace the paragraph that begins "In items (c) through (i), ..." with the following paragraph:

In items (c) through (i), the type of seed mix, such as Mix No. 1, if applicable, is inserted in the blank.

Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace the paragraph and bullets that begins "No separate or additional ..." with the following paragraph and bullets:

No separate or additional payment will be made for:

- Mobilization for application by blowers, mechanical spreaders, or hand spreading
- Inspections or maintenance
- Seeding mobilization if it is not included in the Contract Schedule of Items

Replace the paragraph that begins "Soil testing, Topsoil, ..." with the following paragraph:

Soil testing, Topsoil, wetland soil, soil amendments, and bio-amendments will be paid for according to 01040.90.

(Use the following two paragraphs when topsoil, wetland soil soil amendments or bio-amendments are required.)

Add the following to the end of this subsection:

Soil testing, topsoil, wetland soil, soil amendments, and bio-amendments will be paid for according to 01040.90.