

FOR BIDDING PURPOSES ONLY

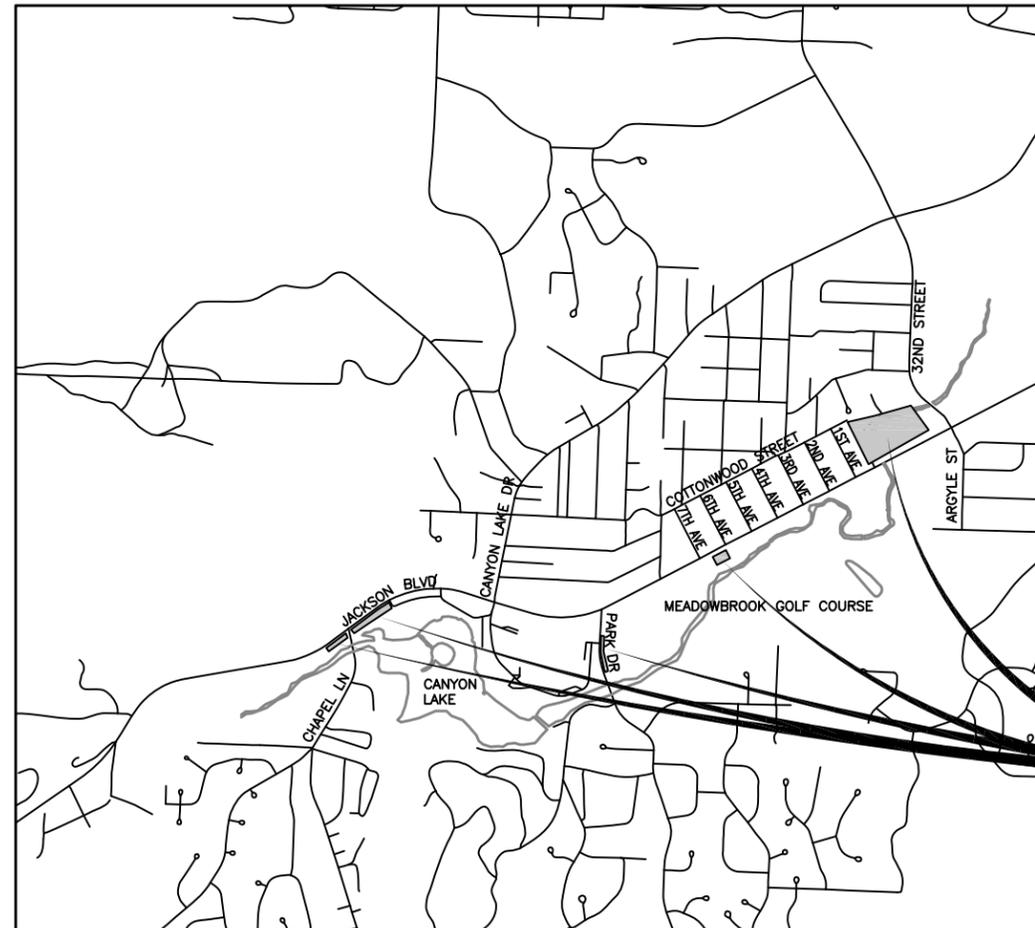
SECTION H LANDSCAPING PLANS



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CITY OF RAPID CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION



PROJECT LOCATION MAP NOT TO SCALE

INDEX OF SHEETS

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PROJECT
LOCATIONS



REVISED: APRIL 30, 2014

Plan Set Number :

JACKSON BOULEVARD UTILITIES
CHAPEL TO RAPID CREEK
CITY OF RAPID CITY PROJECT NO. SSW09-1509

SECTION H ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
260E1020	Base Course	5.0	CuYd
451E4901	Type 1 Bedding	23.0	Ton
730E0206	Type D Permanent Seed Mixture	176.0	LB
730E0251	Special Permanent Seed Mixture 1	11.0	LB
731E0100	Fertilizing	592.0	LB
732E0250	Fiber Mulching	881.0	LB
733E0100	Sodding	22,349.0	SqYd
734E0101	Type 1 Erosion Control Blanket	2,106.0	SqYd
735E0110	1 Gallon Perennial Plant, Furnish and Plant	695.0	Each
735E1210	2 Gallon Deciduous Shrub, Furnish and Plant	51.0	Each
735E1400	10' Coniferous Evergreen, Furnish and Plant	6.0	Each
735E2220	2" Caliper Deciduous Tree, Furnish and Plant	80.0	Each
735E5010	1 Gallon Ornamental Grass, Furnish and Plant	252.0	Each
831E0210	Non-woven Geotextile Separator	100.0	SqYd
900E1080	Orange Plastic Safety Fence	4,100.0	Ft
900E5153	Mulch Ring	66.0	Each
900E5156	3" Depth Shredded Bark Mulch	30.0	SqYd
900E5158	Amending Existing Topsoil	1,119.0	CuYd
900E5150	Landscape Edging	560.0	LF
900E2030	Miscellaneous Work	12.0	Site
900E5430	Irrigation System	1.0	LS
900E6000	Kiosk Information Unit	3.0	Each

COORDINATION WITH SECTION D

Section D of these plans contains sediment and erosion protection requirements that are not show in these Section H plans.

ORANGE PLASTIC SAFETY FENCE

The Contractor shall install orange plastic safety fence around all unattended excavations in areas where pedestrians may exist. Pedestrian traffic shall be protected from open excavations and other hazards in and around the construction site to comply with the Americans with Disabilities Act. All costs for furnishing, installing, maintaining, and removing the "Orange Plastic Safety Fence" shall be incidental to the contract unit price per foot for "Orange Plastic Safety Fence". We have included in the quantity an additional 200 lf of protection fence for the golf course access.

MISCELLANEOUS WORK

These areas are identified in the legend on each of the Section H plans where there is re-vegetation, planting or work within the canopy of an existing tree within the limits of work within the park or golf course areas. Contractor shall fabricate a temporary rigid fence located at the perimeter of the existing tree canopy within the construction area. Fence shall be

fabricated on site using 2x4 framing at the drip line of the existing trees. It is understood that there may need to be limited grading within the canopy of the trees. Contractor shall use care when working in these areas. All costs for furnishing, installing, maintaining, and removing the "Miscellaneous Work" shall be incidental to the contract unit price per site (per tree) for "Miscellaneous Work". See table on sheet H3 for locations.

GOLF COURSE ACCESS

In regards to the utility work, detention cell work and reclamation of the fairway at Hole #18 of the Meadowbrook Golf Course the contractor will need to provide golf course use access (approx. 20' wide) from the fairway to the #18 green. This location is indicated on the plans and will need to be adjusted to coordinate with the utility work. Access will need to be maintained from the fairway to the golf cart path to the #18 green. A temporary mowed green optional location may be located by the golf course management as well and in this case the access will still need to be maintained. Access will need to be comprised of a gravel base to prevent mud/dirt trafficking onto the fairway and or cart path. All work areas within the golf course to be identified as "Ground Under Repair". The gravel for access as well as golf course traffic control shall be included in the utility work associated bid items as this is incidental to this work.

BASE COURSE

The base course bid item is for the base course to be placed for the "Landscape Edging" to stabilize the base of the curb. See landscape edging detail. "Landscape Edging" is to be installed at the detention cell along hole #18 of the golf course at approximately 47+50 - R of the Jackson Blvd alignment.

TYPE 1 BEDDING

The "Type 1 Bedding" bid item is for the clean rock to be placed within the filtration channel and the gravel sumps of the detention cell along hole #18 of the golf course at approximately 47+50 - R of the Jackson Blvd alignment. See "Gravel Sump and Infiltration Channel" detail on sheet H14 along with the associated detention cell layout.

NON-WOVEN GEOTEXTILE SEPARATOR

The "Non-Woven Geotextile Separator" bid item is for the separation fabric under the "Type 1 Bedding" at the detention cell along hole #18 of the golf course at approximately 47+50 - R of the Jackson Blvd alignment.

TYPE 1 EROSION CONTROL BLANKET

The "Type 1 Erosion Control Blanket" is to be installed at the entire area of the detention cell along hole #18 of the golf course at approximately 47+50 - R of the Jackson Blvd alignment.

REVEGETATION

Revegetation types & areas for the utility construction are detailed in the following tables. Contractor to coordinate the extent of disturbed areas with the combination project P 0044(149)40 PCN 6925, PCN X02U &

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Section D of these plans. The Contractor shall not be paid for revegetation of areas that are included in the combination project or covered elsewhere in Section D.

For utility trench construction areas on City property or in DOT ROW that is not already included in the combination project; seeding, fertilizing, and mulching shall be used for revegetation of all disturbed areas. The seed mixture shall be Type D Permanent Seed Mixture.

For utility trench construction areas located in lawn areas on private property in temporary easements; sod shall be used for revegetation. Peat sod is not permitted see 195 Landscape Special Provisions in the project manual for further coordination.

Payment for sod, seeding, fertilizing and fiber mulching will be made for disturbed areas within the defined project limits or easement areas only. Disturbed areas outside of the project limits or easements areas shall be revegetated at the Contractor's expense.

FERTILIZING

See Sheet H4 for fertilizer requirements & application rate. An additional 100 pounds of fertilizer has been added to the Estimate of Quantities for erosion control on additional areas determined by the Engineer.

DRILLS

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of 1/4" to 1/2".

PERMANENT SEEDING

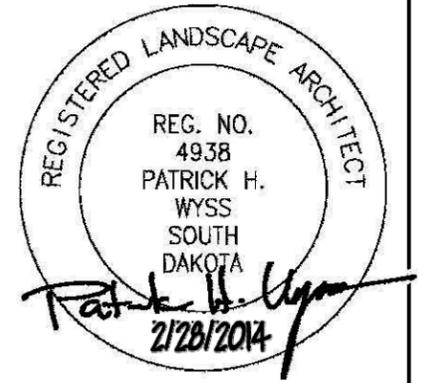
The areas to be seeded comprise of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, detention cell areas and areas designated to be sod.

All Type D permanent seed shall be planted in the topsoil at a depth of 1/2".

All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Alene, Avalanche	1.4
Perennial Ryegrass	Turf Type, Ascend	1.4
Creeping Red Fescue	Epic	1.4
Chewings Fescue	Ambrose	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7



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Prepared For: **Public Works Department**
 Design By: PHW
 Design Date: OCTOBER 2013
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 Survey Date: 8-04 / 10-10
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Scale:
 Drawn By: CMW
 Print Date: February 2014
**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**
 SSW10-1837 / CIP 5177 / PCN X02U

Sheet Title:
**Estimate of
 Quantities
 And Notes**
 Sheet:
 H2
 of
 H15

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An additional 50 pounds of Type D permanent seed mixture has been added to the Estimate of Quantities for erosion control on additional areas determined by the Engineer.

TABLE OF TYPE D PERMANENT SEED MIXTURE

Station	L/R	For (Utility Installed)	Quantity (Lbs)
3+30 to 4+32	L	Swr, Water & Strm	23
4+31 to 7+09	R	8" Sewer Main	102
6+37 to 6+49	L	1" Water Service	1
		Additional Quantity	50
Total:			176

FIBER MULCHING

Fiber mulch shall be applied in a separate operation following permanent seeding.

Fiber mulch shall be applied at the rate of 2000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

The fiber mulch provided shall be from the SD DOT approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

TABLE OF FIBER MULCH

Station	L/R	For (Utility Installed)	Quantity (Lbs)
4+31 to 7+09	R	8" Sewer Main	672
6+37 to 6+49	L	1" Water Service	9
		Additional Quantity	200
Total:			881

SODDING

After the acceptance of the newly sodded areas, the Contractor shall notify all affected property owners, with notifications of watering requirements provided to the owner, that they will be responsible for watering the newly sodded areas. The Contractor shall provide written verifications that affected property owners have both been notified and accepted the condition of the newly sodded areas.

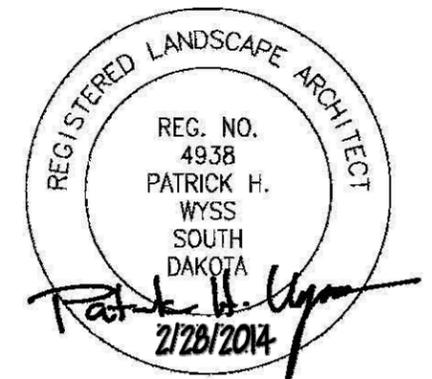
TABLE OF SODDING

Station	to Station	L/R	Quantity (SqYd)
7+50	13+30	R	3774
12+57	12+73	L	4
16+96	17+12	L	1 *
34+39	34+56	L	33 *
36+38	36+74	L	64 *
37+08	38+04	L	179 *
38+90	39+81	L	227 *
40+14	40+81	L	147 *
41+08	42+40	L	147 *
42+70	43+97	L	96 *
45+89	46+16	L	145 *
46+41	51+76	R	5365
46+94	47+12	L	11 *
47+87	47+97	L	7 *
53+61	53+75	L	42 *
54+27	54+43	L	40 *
56+63	56+79	L	33 *
0+45	0+88 (7th St.)	R	60 *
0+43	0+50 (6th St.)	R	10 *
0+85	1+00 (6th St.)	R	11 *
0+48	0+53 (5th St.)	R	6 *
0+44	1+09 (4th St.)	R	95 *
0+44	0+59 (3rd St.)	R	16 *
0+42	0+52 (2nd St.)	R	19 *
0+70	0+90 (2nd St.)	R	8 *
0+46	1+25 (1st St.)	R	87 *
-1+85	-1+92 (Park Dr.)	L	15 *
1+83	0+02 (Park Dr.)	L	599
1+10	-2+72 (Park Dr.)	R	529
0+31	-1+55 (Park Dr.)	L	283
1+53	-2+50 (Park Dr.)	R	738
6+54	7+84 Cottonwood	L	172
6+75	7+72 Cottonwood	R	226
7+89	15+10 Cottonwood	R&L	9160
Total:			22349

* See Section D plans for sod replacement areas at utility repair locations.

TABLE OF MISCELLANEOUS WORK

Station	L/R
-1+26	92' R
-0+85	81 R
-0+60	70' R
46+49	118' R
46+59	180' R
46+76	68' R
47+05	68' R
47+36	217' R
47+37	255' R
48+00	68' R
48+58	68' R
71+00	112' L
Total:	12



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JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK

SSW10-1837 / CIP 5177 / PCN X02U

Sheet Title:
Estimate of Quantities And Notes

Sheet:
 H3 of H15

WATER SOURCE

Cottonwood Channel: The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the DOT Environmental Office.

The DOT Environmental Office contact is the Environmental Project Scientist, 605-773-3268. The WATER SOURCE plan note does not relieve the Contractor of his/her responsibility to obtain the necessary permits from other agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE).

Park Dr Re-Alignment at #6 Tees & Stormwater Facility at #18 Fairway:

The Contractor will be able to use golf course irrigation water / system for watering plants and turf through establishment for areas within the golf course. Contractor will need to coordinate with the Meadowbrook Golf Course superintendent on the availability and usage of water for establishment of sodded areas and landscape planting establishment and plan the new planting, sodding, seeding and watering around the availability agreed to with course superintendent.

PLACING TOPSOIL

See 195 Landscape special provisions in the project manual for all topsoil mixing, placing & amending in detention cell area as indicated on sheets H9-H11. topsoil amending for bioretention and soil improvements are only for the Detention Cell at 47+50 R - Meadowbrook Golf Course Hole #18.

FERTILIZING

A commercial fertilizer with a minimum guaranteed analysis of 11-52-0, or an approved alternate fertilizer shall be applied to all areas designated for sod and/ or seeding – SEE PLANS H6-H13 FOR LOCATIONS. In areas of less than an acre the application rate of fertilizer shall be 100 pounds per acre.

SODDING

Sod shall be placed at locations specified in the plans. Peat sod is not permitted.

Accomplish sodding in accordance with the American Sod Producers Association (ASPA) Guideline Specifications for sodding. Lay sod at right angles to slope or the flow of water. On slope areas, start at the bottom of the slope.

After completing the sodding operation, blend the edges of the sod area smoothly into the adjacent area. All sod should be rolled after being laid to eliminate air spaces between the sod & the firmed soil. All sod shall be watered after installation, on that same day and thereafter until establishment as required by the City. Water may be applied with temporary irrigation or via other methods as preferred by the contractor. Vehicle traffic for watering is not allowed in undisturbed areas of the golf course, on new sod, or as otherwise directed by the project engineer.

WATER FOR PLANTS

Cottonwood Street Outfall Area: Water for use by the Contractor for watering of sod and trees must be furnished by the Contractor. The Contractor is responsible for purchasing, loading, hauling, and application

of the water. If the water is obtained from the City of Rapid City the Contractor will be required to pay for meter installation and water.

The required watering of trees, plants, sod, and seeded areas shall be considered incidental to the contract unit prices for their respective bid items. Water for plants is to be applied per City of Rapid City Standard Specifications and as directed by the Engineer.

The Contractor's watering plan will be required to be submitted for Engineer's approval.

Golf Course Areas (#6 Tee Area & Detention Cell along #18 Fairway):

The Contractor will be able to use golf course irrigation water / system for watering plants and turf through establishment. Contractor will need to coordinate with the Meadowbrook Golf Course superintendent on the availability and usage of water for establishment of sodded areas and landscape planting establishment and plan his planting and watering around the availability agreed to with course superintendent.

TREE PROTECTION ZONES AND PROCEDURES

Tree protection fence shall be installed around the tree protection area prior to any site preparation or construction work and maintained throughout the entire project. All turf and landscape areas in the golf course shall be protected from vehicle traffic, construction traffic and excess foot traffic with Protection Fence (temporary). See Detail 1 sheet H14.

Erosion control devices in accordance with Section D shall be installed prior to any site preparation or construction work and maintained throughout the entire project to prevent the buildup of sediment within the tree protection area. Maintain these so that soil does not wash out into the tree protection areas.

In areas where cuts are to be made for the installation of utilities, walls or irrigation repairs adjacent to the tree protection area, the affected trees shall be root pruned prior to excavation. Root pruning shall be done with a saw or similar tool that will minimize damage to remaining roots. Vehicular storage, equipment storage, material storage, washout activities, trenching, placement of fill material, removal of soil, or any other activities that may be detrimental to the health of the tree are strictly prohibited within the tree protection area.

Pruning to provide clearance for structures, vehicular traffic, and construction equipment shall be performed under city forester supervision and shall conform to ANSI A300 of the American National Standards Institute (ANSI) tree pruning standards.

Branching that is damaged by construction equipment shall be pruned within 24 hours of damage.

Provide and install protective measures around trees that may be damaged by normal equipment movements on the site. Trees that are to remain but are within the construction zone are to be protected with "Protection Fence (temporary)" as shown on the plans and details. See Detail 2 sheet H5. Tree canopies and work limits will be protected with perimeter "Protection Fence (temporary)" as shown on the plans and details. See Detail 1 sheet H14.

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Special Activity in the Tree Protection Zone: City staff may require the direct on-site supervision of work in the tree protection zone.

Where more than 50% of the root zone is impacted or roots greater than 3 inches in diameter are to be removed within four feet of the trunk of any tree that is to remain, stop work and the engineer and landscape architect will review and submit acceptable design alternatives to staff for review.

Periodic Inspections: City staff may require inspections by staff, engineer and landscape architect verifying adherence to tree protection measures during the on-going construction process. City staff may require the direct on-site supervision of work in the tree protection zone.

EXISTING IRRIGATION

Detention Cell along Hole #18 at Meadowbrook Golf Course: The existing irrigation system at the Meadowbrook Golf Course will remain. Contractor will remove and replace/repair any components disturbed or damaged during the grading and utility operation. All irrigation components to be re-used shall be inspected by owner's representative to ensure that they are not damaged prior to reinstallation. All damaged or unacceptable components shall be replaced with new components of the same type and material. Existing piping shall be replaced with the same schedule of PVC but in no case less than Schedule 40 PVC. Plans show approximate locations of existing lines determined from golf course provided as-built documentation.

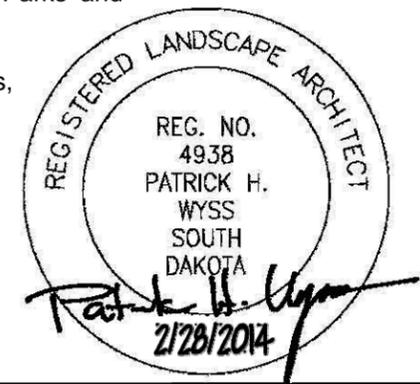
Existing Irrigation at #6 Tee Box: The existing irrigation system shall not be disturbed during construction. New tree plantings shall be coordinated with the existing irrigation components so that the existing irrigation system is not disrupted or damaged during the tree planting operation. Contractor shall "pothole" proposed tree locations to verify irrigation piping & wiring is not present prior to excavating for tree planting pits.

All Irrigation items are to be paid per "Irrigation System" Bid Item 900E543.

INTERPRETIVE SIGN PANEL AND BASE

Contractor shall furnish and install the sign panel and base. There are a total of 3 of these items. One sign is to be located at the storm water treatment area along hole 18 (See sheet H10) of the Meadowbrook Golf Course. Coordination of the exact location must be coordinated with the Rapid City Parks and Recreation department. Another sign is located along the bikepath north of the Jackson Blvd Bridge (See sheet H13). The last sign is to be located in the location of the storm water channel at the Ralph Cole Arboretum for the drainage improvements completed 2012 as part of the SSW09-1509 / CIP50351 project. Exact location of this sign must be coordinated with the Rapid City Parks and Recreation Dept.

All costs for the interpretive sign panels, including concrete bases shall be included in the "Kiosk Information Unit" bid item 900E6000.



 728 Sixth Street • Rapid City, SD • 57701 • www.wyssassociates.com	 Public Works Department Engineering Services	Scale: Design By: PHW	Drawn By: CMW	JACKSON BOULEVARD UTILITIES CHAPEL LANE TO RAPID CREEK	Sheet Title: Estimate of Quantities And Notes	Sheet: H4 of H15
		Design Date: OCTOBER 2013 Internal Job No. WYSS 10101.1	Print Date: February 2014 Surveyed By: DOT / FMG Survey Date: 8-04 / 10-10			

PLANT SCHEDULE

FOR BIDDING PURPOSES ONLY

TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	
	ACE BOX	9	Acer negundo 'Sensation' / Sensation Box Elder Maple	B & B	2"Cal		
	JFS KW5	22	Malus x 'Royal Raindrops' / Royal Raindrops Crab Apple	B & B	2"Cal		
	NYS BLA	10	Nyssa sylvatica 'Black Tupelo' / Sour Gum	B & B	2"Cal		
	PIC DEN	6	Picea glauca 'Densata' / Black Hills Spruce	B & B		10' Tall	
	PYR ARI	10	Pyrus calleryana 'Aristocrat' TM / Aristocrat Flowering Pear	B & B	2"Cal		
	QUE URB	11	Quercus macrocarpa 'Urban Pinnacle' / Urban Pinnacle Oak	B & B	2"Cal		
	QUE CR2	10	Quercus robur x alba 'Crimson Spire' / Crimson Spire Oak	B & B	2"Cal		
	SYR RET	5	Syringa reticulata 'Bailnce' / Japanese Tree Lilac	B & B	2"Cal		
	ULM XFR	3	Ulmus glabra 'Pioneer' / Pioneer Elm	B & B	2"Cal		
SHRUBS	CODE	QTY	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	FIELD3	
	CAL BLU	252	Calamagrostis canadensis / Bluejoint Reed Grass	1 gal			
	CAR RE2	282	Carex berggrenii 'Red Fox' / Fox Curley Red Sedge	1 gal			
	PHY DI2	51	Physocarpus opulifolius 'Diablo' / Diablo Ninebark	2 gal			
GROUND COVERS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	FIELD2	FIELD3	SPACING
	MAT STR	413	Matteuccia struthiopteris / Ostrich Fern	1 gal			36" o.c.

SEE SHEET H15 FOR PLANTING DETAILS

NOTES:

- TEMPORARY TREE PROTECTION BARRIER SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OPERATIONS AROUND IDENTIFIED TREES AND UNDERSTORY TO REMAIN WITHIN THE LIMITS OF CONSTRUCTION AND SHALL REMAIN INTACT UNTIL COMPLETION OF CONSTRUCTION ACTIVITIES.
- MINIMUM (4) POSTS PER TREE, ADDITIONAL POSTS MAY BE REQUIRED DEPENDING ON TREE CANOPY.
- SECURE WOOD COMPONENTS WITH NAILS OR SCREWS FOR A SECURE CONNECTION
- ALL COSTS ASSOCIATED TO THE TREE PROTECTION TO BE INCLUDED IN THE BID ITEM "MISCELLANEOUS WORK"
- SEE TABLE ON SHEET H3 FOR LOCATIONS.



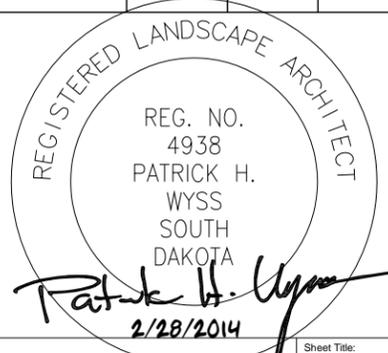
2X4 RAILS, WIRE MESH OR APPROVED HORIZONTAL BARRIER LIMITING ACCESS.
 4'X4'X8' POSTS SPACED EQUALLY AROUND TREE CANOPY (MAX 8' O.C.)
 EXISTING GRADE (MINIMAL GRADE DISTURBANCE WITHIN BARRIERS)

2
H5

DETAIL: TREE PROTECTION WITHIN CONSTRUCTION AREA

SCALE: 1/2" = 1'-0"

Sheet Revised 4/30/2014 PHW



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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title:	Overall Plant Schedule & Details	Sheet:	H5
		of	H15

LEGEND:



TYPE D PERMANENT SEED MIX – SEE GENERAL NOTES FOR MIX AND RATE (18,102 SF THIS SHEET ONLY)

--- REVEGETATION WORK LIMITS

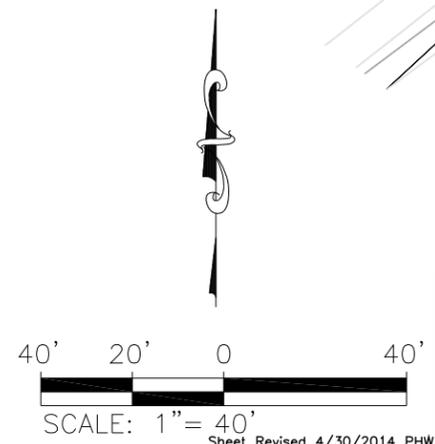
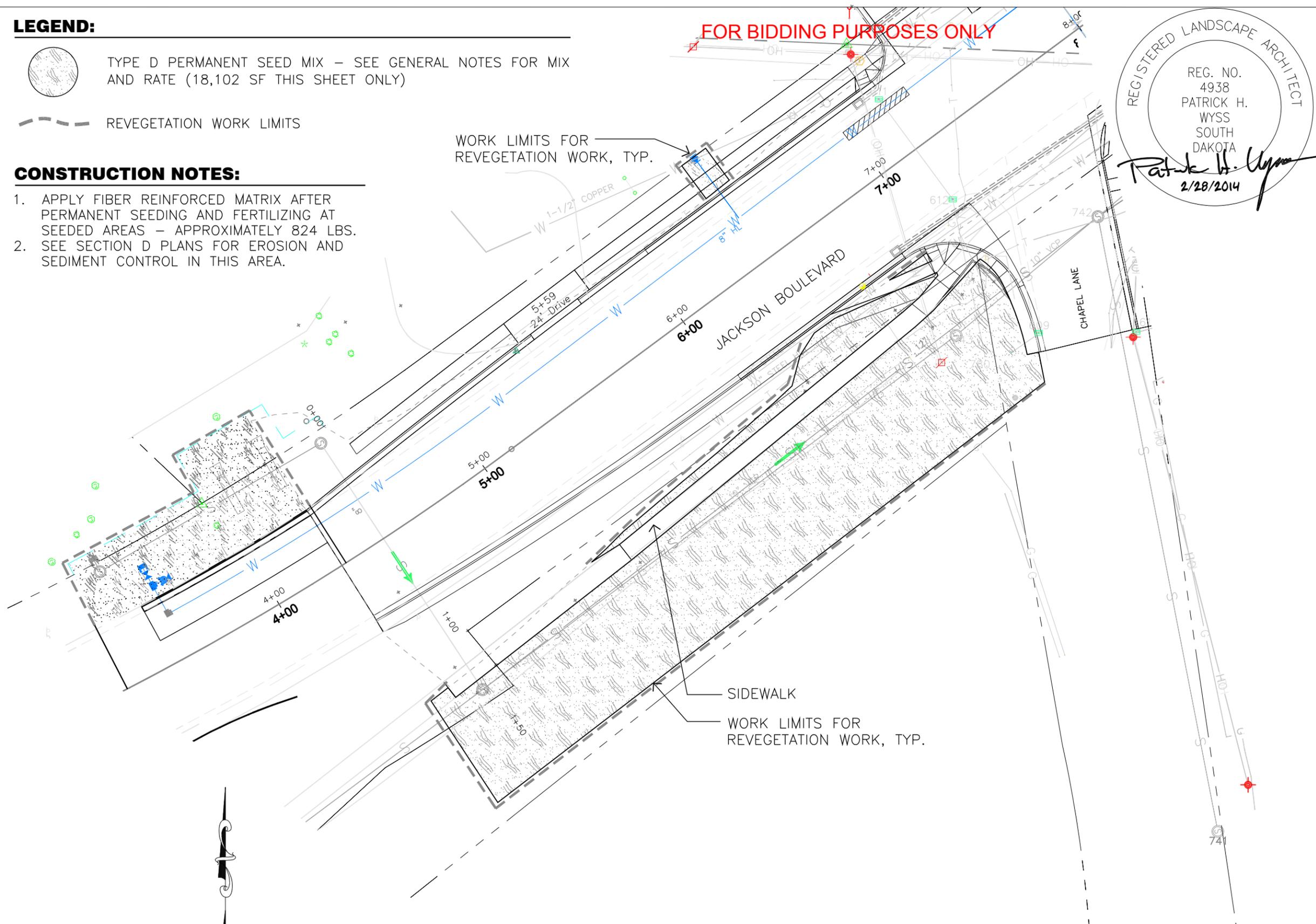
CONSTRUCTION NOTES:

1. APPLY FIBER REINFORCED MATRIX AFTER PERMANENT SEEDING AND FERTILIZING AT SEEDER AREAS – APPROXIMATELY 824 LBS.
2. SEE SECTION D PLANS FOR EROSION AND SEDIMENT CONTROL IN THIS AREA.

WORK LIMITS FOR REVEGETATION WORK, TYP.

FOR BIDDING PURPOSES ONLY

REGISTERED LANDSCAPE ARCHITECT
 REG. NO. 4938
 PATRICK H. WYSS
 SOUTH DAKOTA
Patrick H. Wyss
 2/28/2014



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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**
 PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

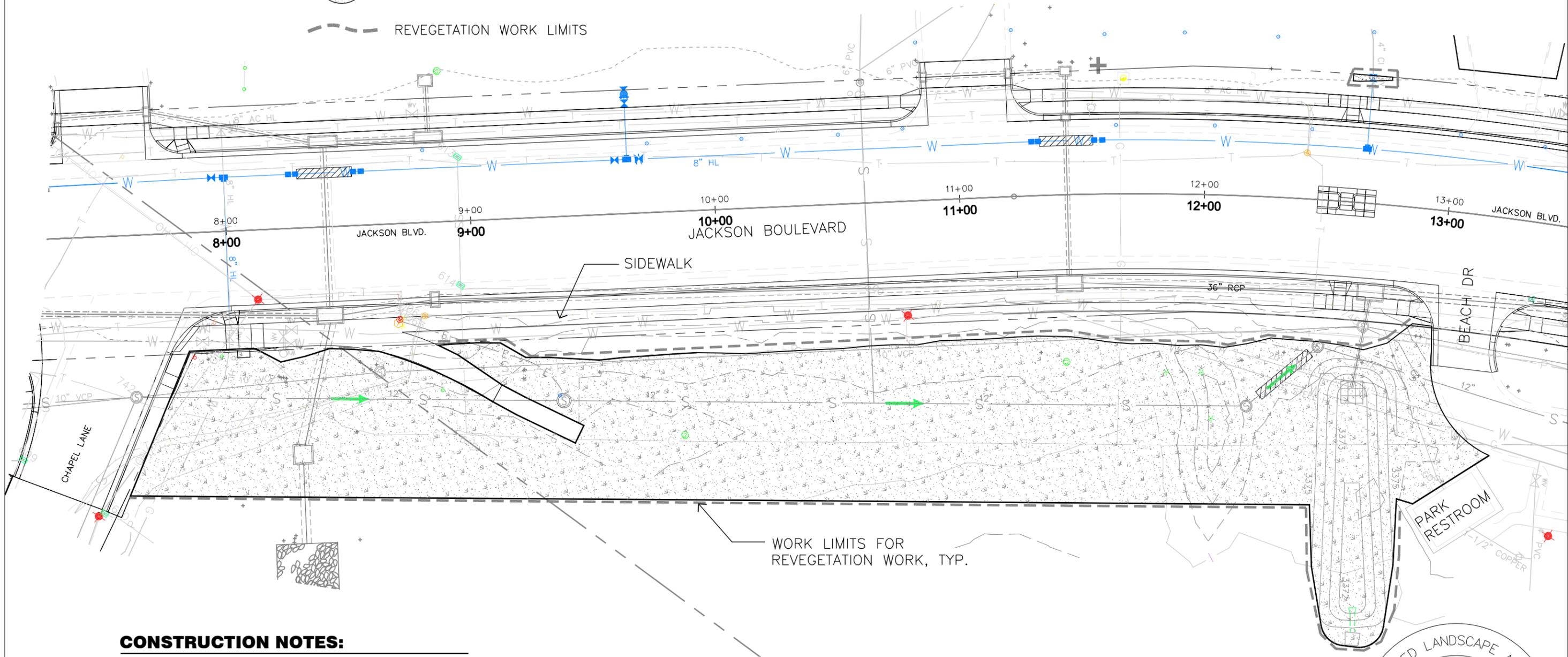
Sheet Title:
**CHAPEL LANE
 (WEST)
 REVEGETATION
 PLAN**
 Sheet:
H6
 of
 H15

LEGEND:

 BLUEGRASS SOD – SEE SPECIFICATIONS
(34,004 SF THIS SHEET ONLY)

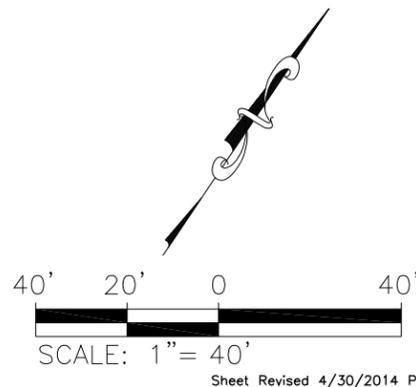
 REVEGETATION WORK LIMITS

FOR BIDDING PURPOSES ONLY



CONSTRUCTION NOTES:

1. SEE SECTION D PLANS FOR EROSION AND SEDIMENT CONTROL IN THIS AREA.



REGISTERED LANDSCAPE ARCHITECT
 REG. NO.
 4938
 PATRICK H.
 WYSS
 SOUTH
 DAKOTA
Patrick H. Wyss
 2/28/2014

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Prepared For:
 Public Works Department

 Engineering Services

Scale: AS SHOWN

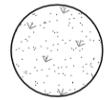
Designed By: PHW	Drawn By: CMW
Design Date: December 2013	Print Date: February 2014
Internal Job No: WYSS 10101.2	
Surveyed By: SDDOT / FMG ENG.	Survey Date: 8/04-7/13
SDDOT Project No. P 0044(149)40	

**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

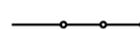
PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: CHAPEL LANE (EAST) REVEGETATION PLAN	Sheet: H7 of H15
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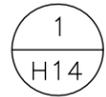
LEGEND:



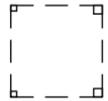
BLUEGRASS SOD, SEE SPECIFICATIONS
(19,489 SF THIS SHEET ONLY)



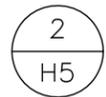
ORANGE PLASTIC SAFETY FENCE, REMOVE AFTER SOD
HAS ROOTED IN. (390 LF THIS SHEET)



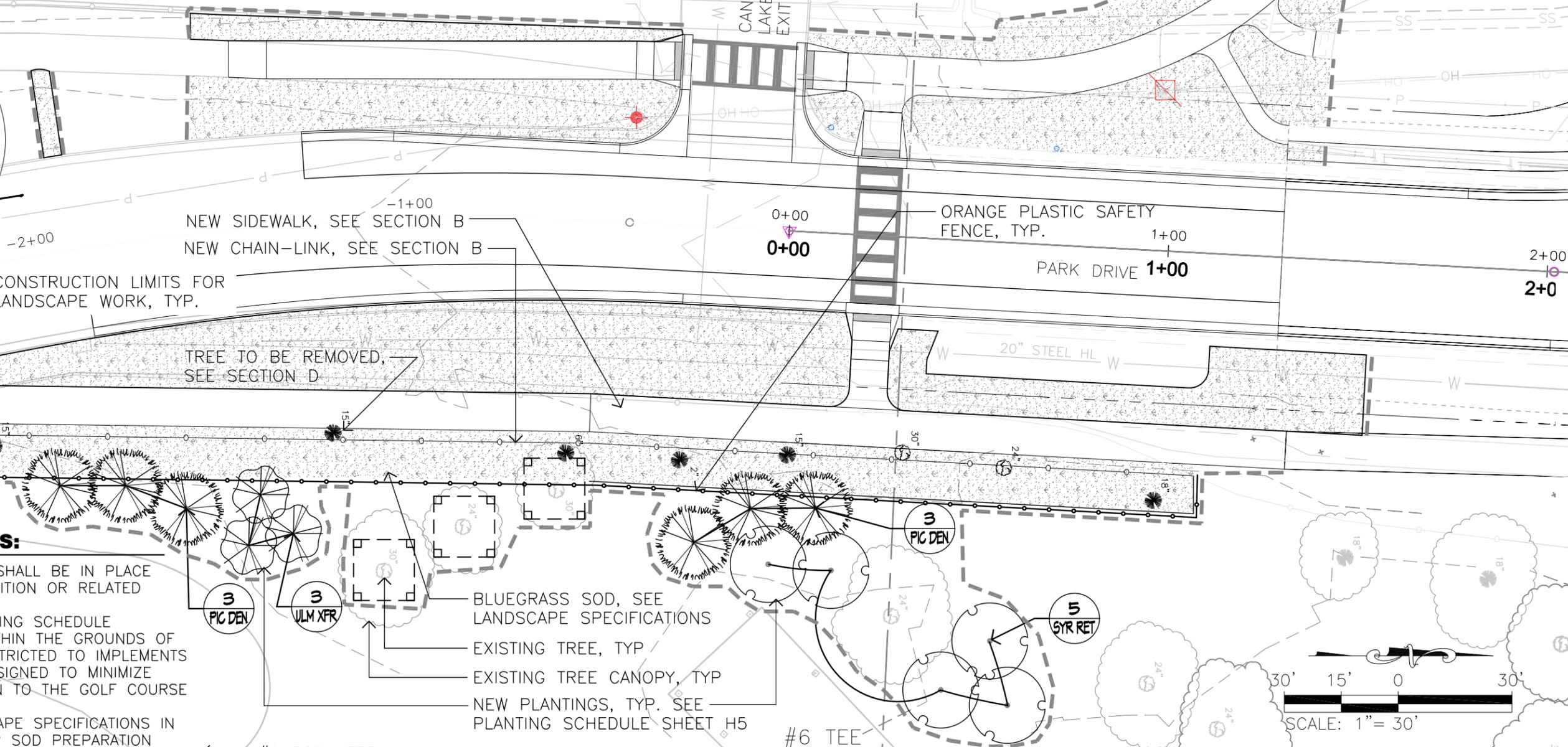
CONSTRUCTION LIMITS



TREE PROTECTION WITHIN WORK AREA. SEE BID ITEM
"MISCELLANEOUS WORK". (3 THIS SHEET)

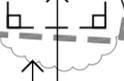


FOR BIDDING PURPOSES ONLY



CONSTRUCTION NOTES:

1. ALL TEMPORARY FENCING SHALL BE IN PLACE PRIOR TO ANY SITE DEMOLITION OR RELATED CONSTRUCTION ACTIVITY.
2. SEE SHEET H5 FOR PLANTING SCHEDULE
3. LANDSCAPE EQUIPMENT WITHIN THE GROUNDS OF THE GOLF COURSE IS RESTRICTED TO IMPLEMENTS WITH WIDE TURF TIRES DESIGNED TO MINIMIZE COMPACTION & DISRUPTION TO THE GOLF COURSE GROUNDS.
4. SEE SECTION 195 LANDSCAPE SPECIFICATIONS IN THE PROJECT MANUAL FOR SOD PREPARATION SPECIFICATIONS.
5. SEE SECTION D FOR EROSION & SEDIMENT CONTROL IN THIS AREA
6. PRIOR TO ANY TREE REMOVALS (SEE SECTION D) IN THIS AREA CONTRACTOR SHALL VERIFY THE REMOVALS WITH THE PARKS DEPARTMENT.

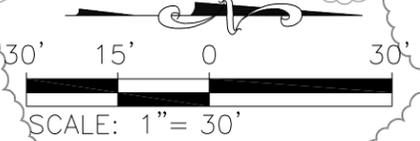


BLUEGRASS SOD, SEE LANDSCAPE SPECIFICATIONS

EXISTING TREE, TYP

EXISTING TREE CANOPY, TYP

NEW PLANTINGS, TYP. SEE PLANTING SCHEDULE SHEET H5



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Prepared For: **Public Works Department**
RAPID CITY SOUTH DAKOTA
Engineering Services

Scale: **AS SHOWN**
Designed By: PHW
Design Date: December 2013
Internal Job No: WYSS 10101.2
Surveyed By: SDDOT / FMG ENG.
Survey Date: 8/04-7/13
SDDOT Project No. P 0044(149)40

**JACKSON BOULEVARD UTILITIES
CHAPEL LANE TO RAPID CREEK**
PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: **DEMOLITION & LANDSCAPE PLAN**
#6 TEE BOX AREA
of **H8**
H15

CONSTRUCTION NOTES:

1. ALL TEMPORARY FENCING SHALL BE IN PLACE PRIOR TO ANY SITE DEMOLITION OR RELATED CONSTRUCTION ACTIVITY.
2. LANDSCAPE EDGING TO BE INSTALLED AT ELEVATION 3332.50 SEE COORDINATE CHART ON THIS SHEET FOR FURTHER COORDINATION LANDSCAPE
3. EQUIPMENT WITHIN THE GOLF COURSE IS RESTRICTED TO IMPLEMENTS WITH WIDE TURF TIRES DESIGNED TO MINIMIZE COMPACTION & DISRUPTION TO THE GOLF COURSE GROUNDS.
4. SEE SECTION D FOR EROSION & SEDIMENT CONTROL IN THIS AREA.

FOR BIDDING PURPOSES ONLY

PROTECT EXISTING TREES WITHIN THE CONSTRUCTION LIMITS NOT IDENTIFIED TO BE REMOVED.

PROTECT EXISTING TREES WITHIN THE CONSTRUCTION LIMITS NOT IDENTIFIED TO BE REMOVED.

REGISTERED LANDSCAPE ARCHITECT
 REG. NO. 4938
 PATRICK H. WYSS
 SOUTH DAKOTA
 DAKOTA
Patrick H. Wyss
 2/28/2014

ALL AREAS DISTURBED BY CONSTRUCTION WITHIN THE GOLF COURSE PROPERTY TO BE RE-SODDED WITH SPECIFIED SOD SPECIES.

TREE TO BE REMOVED, SEE SECTION D

CONTRACTOR TO FURNISH & INSTALL 560 LF ~ 8" WIDE LANDSCAPE CURB, SEE DTL 3, SHEET H14 (SEE COORD. TABLE THIS SHEET)

PROTECT EXISTING TREES WITHIN THE CONSTRUCTION LIMITS NOT IDENTIFIED TO BE REMOVED.

ALL AREAS WITHIN THE LANDSCAPE CURB TO RECEIVE 18" DEPTH BIOENGINEERED SOIL. SEED ENTIRE CELL WITH SPECIFIED SEED MIX & FINISH WITH SPECIFIED EROSION MAT. SEE 195 LANDSCAPE SPECIAL PROVISION (18,954 SF)

EXISTING IRRIGATION HEAD, TYP.

EXISTING IRRIGATION LATERAL PIPING, TYP.

PROTECT EXIST. TREES WITHIN CONSTRUCTION LIMITS NOT IDENTIFIED TO BE REMOVED.

DO NOT EXTEND LATERAL PIPING BEYOND THIS HEAD WHEN RESETTING.

WHEN REPLACING THESE HEADS, SET WITH A HALF CIRCLE SETTING WITH SPRAY TOWARD THE #18 GOLF COURSE FAIRWAY

WHEN REPLACING THESE HEADS, SET WITH A HALF CIRCLE SETTING WITH SPRAY TOWARD THE #18 GOLF COURSE FAIRWAY

ORANGE PLASTIC SAFETY FENCE, TYP

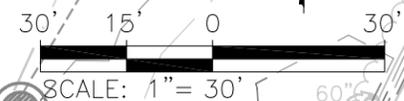
SEE SECTION D FOR GRADING IN THIS AREA

EXISTING IRRIGATION VALVE, PROTECT DURING CONSTRUCTION, TYP.

POINT	Northing	Easting	Elev
a	643908.66	1193775.30	3332.50
b	643876.13	1193778.55	3332.50
c	643853.25	1193791.98	3332.50
d	643847.94	1193793.21	3332.50
e	643828.02	1193839.74	3332.50
f	643838.16	1193868.98	3332.50
g	643834.70	1193893.99	3332.50
h	643846.25	1193918.34	3332.50
i	643868.45	1193922.50	3332.50
j	643922.76	1193940.76	3332.50
k	643965.22	1193955.50	3332.50
l	643986.76	1193943.52	3332.50
m	643988.28	1193918.92	3332.50
n	643981.25	1193903.95	3332.50
o	643971.27	1193888.96	3332.50
p	643962.12	1193860.19	3332.50
q	643951.71	1193838.63	3332.50
r	643940.92	1193824.10	3332.50

LEGEND:

- ORANGE PLASTIC SAFETY FENCE. (SEE SHEET H11 FOR TOTAL) 1
H14
- TREE PROTECTION WITHIN WORK AREA. SEE BID ITEM "MISCELLANEOUS WORK". (8 THIS SHEET) 2
H5
- TYPE I BEDDING (48" DIA. GRAVEL SUMP) (5 TOTAL) 3
H14



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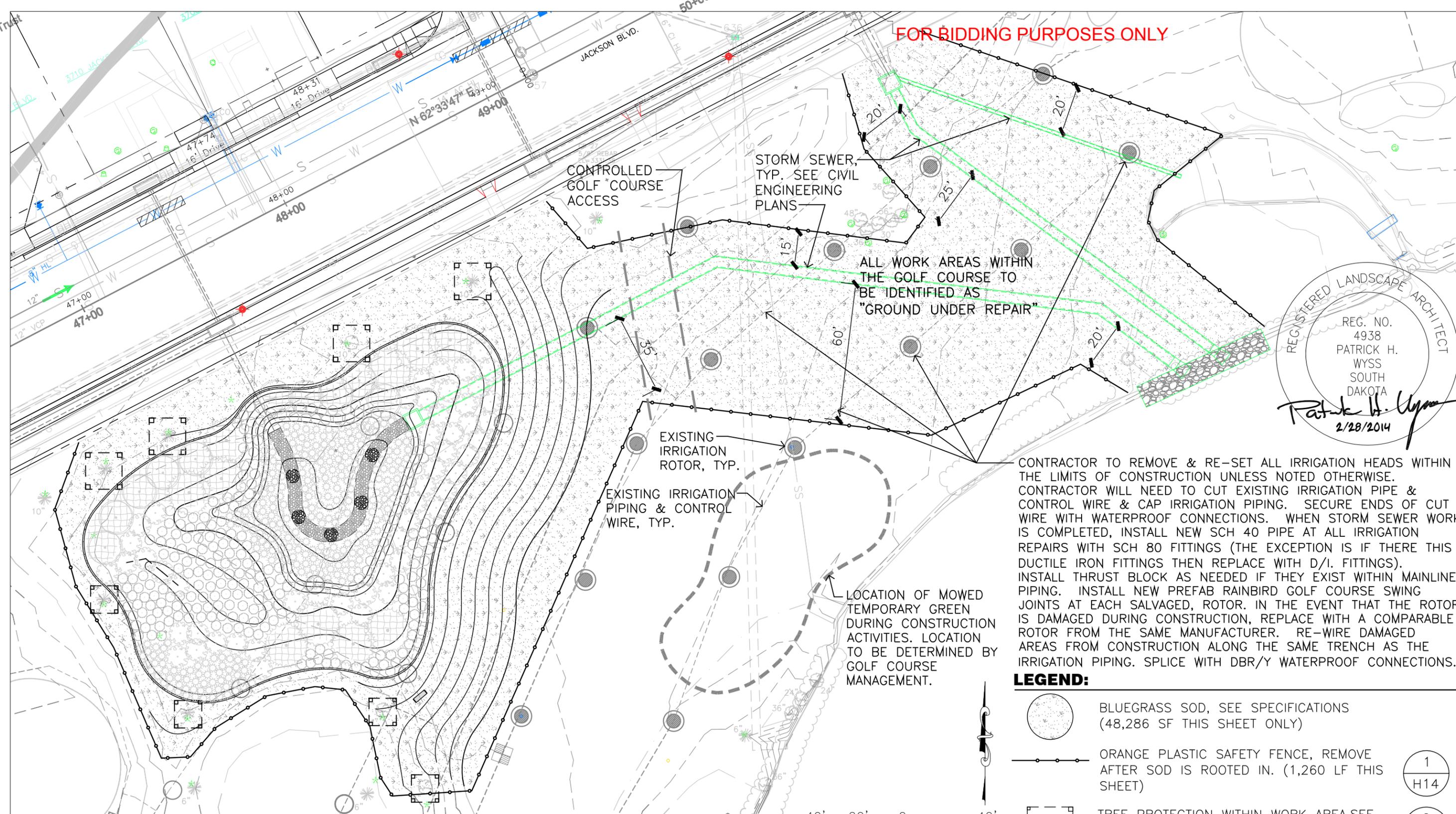
Prepared For: **Public Works Department**
 Scale: **AS SHOWN**
 Designed By: PHW
 Drawn By: CMW
 Design Date: December 2013
 Print Date: February 2014
 Internal Job No: WYSS 10101.2
 Surveyed By: SDDOT / FMG ENG.
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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: **DEMO & GRADING
 DETENTION CELL**
 STA. 47+50 RT
 Sheet: **H9**
 of **H15**

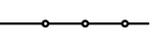
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 REG. NO. 4938
 PATRICK H. WYSS
 SOUTH DAKOTA
Patrick H. Wyss
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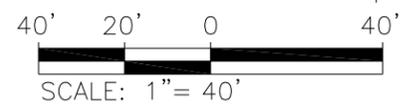
CONTRACTOR TO REMOVE & RE-SET ALL IRRIGATION HEADS WITHIN THE LIMITS OF CONSTRUCTION UNLESS NOTED OTHERWISE. CONTRACTOR WILL NEED TO CUT EXISTING IRRIGATION PIPE & CONTROL WIRE & CAP IRRIGATION PIPING. SECURE ENDS OF CUT WIRE WITH WATERPROOF CONNECTIONS. WHEN STORM SEWER WORK IS COMPLETED, INSTALL NEW SCH 40 PIPE AT ALL IRRIGATION REPAIRS WITH SCH 80 FITTINGS (THE EXCEPTION IS IF THERE THIS DUCTILE IRON FITTINGS THEN REPLACE WITH D/I. FITTINGS). INSTALL THRUST BLOCK AS NEEDED IF THEY EXIST WITHIN MAINLINE PIPING. INSTALL NEW PREFAB RAINBIRD GOLF COURSE SWING JOINTS AT EACH SALVAGED, ROTOR. IN THE EVENT THAT THE ROTOR IS DAMAGED DURING CONSTRUCTION, REPLACE WITH A COMPARABLE ROTOR FROM THE SAME MANUFACTURER. RE-WIRE DAMAGED AREAS FROM CONSTRUCTION ALONG THE SAME TRENCH AS THE IRRIGATION PIPING. SPLICE WITH DBR/Y WATERPROOF CONNECTIONS.

LEGEND:

-  BLUEGRASS SOD, SEE SPECIFICATIONS (48,286 SF THIS SHEET ONLY)
-  ORANGE PLASTIC SAFETY FENCE, REMOVE AFTER SOD IS ROOTED IN. (1,260 LF THIS SHEET)
-  TREE PROTECTION WITHIN WORK AREA. SEE BID ITEM "MISCELLANEOUS WORK". (SEE SHEET H9 FOR TOTAL)

CONSTRUCTION NOTES:

1. ALL TEMPORARY FENCING SHALL BE IN PLACE PRIOR TO ANY SITE DEMOLITION OR RELATED CONSTRUCTION ACTIVITY.
2. LANDSCAPE EQUIPMENT WITHIN THE GROUNDS OF THE GOLF COURSE IS RESTRICTED TO IMPLEMENTS WITH WIDE TURF TIRES DESIGNED TO MINIMIZE COMPACTION & DISRUPTION TO THE GOLF COURSE GROUNDS.
3. SEE 195 LANDSCAPE SPECIAL PROVISION FOR SOD REQUIREMENTS.
3. SEE SECTION D FOR EROSION & SEDIMENT CONTROL IN THIS AREA.



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Prepared For: **Public Works Department**
 Scale: **AS SHOWN**
 Designed By: PHW
 Drawn By: CMW
 Design Date: December 2013
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 SDDOT Project No. P 0044(149)40

**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: **LANDSCAPE & IRRIGATION PLAN**
 49+00 RT (GOLF COURSE HOLE 18)

Sheet: **H11**
 of **H15**

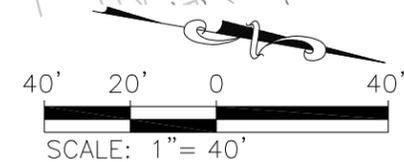
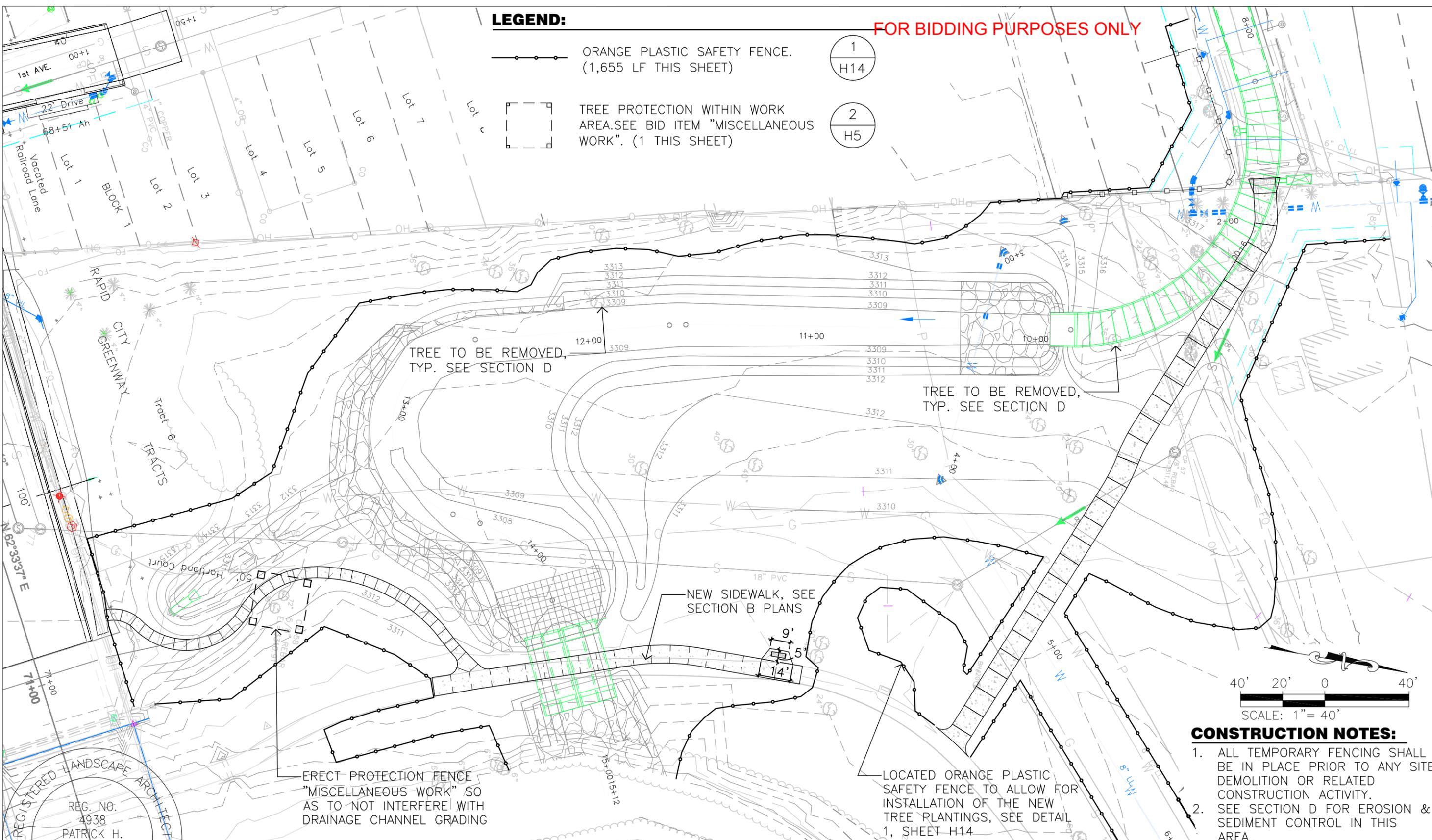
FOR BIDDING PURPOSES ONLY

LEGEND:

—○—○—○—
ORANGE PLASTIC SAFETY FENCE.
(1,655 LF THIS SHEET)



□ □ □ □
TREE PROTECTION WITHIN WORK
AREA. SEE BID ITEM "MISCELLANEOUS
WORK". (1 THIS SHEET)



CONSTRUCTION NOTES:

1. ALL TEMPORARY FENCING SHALL BE IN PLACE PRIOR TO ANY SITE DEMOLITION OR RELATED CONSTRUCTION ACTIVITY.
2. SEE SECTION D FOR EROSION & SEDIMENT CONTROL IN THIS AREA.

REGISTERED LANDSCAPE ARCHITECT
 REG. NO. 4938
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Patrick H. Wyss
 2/28/2014

RAPID CREEK
 Sec 0

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Prepared For:
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Scale: AS SHOWN

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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title:	SITE PREPARATION	Sheet:	H12
	STA. 70+00 LT		
		of	H15

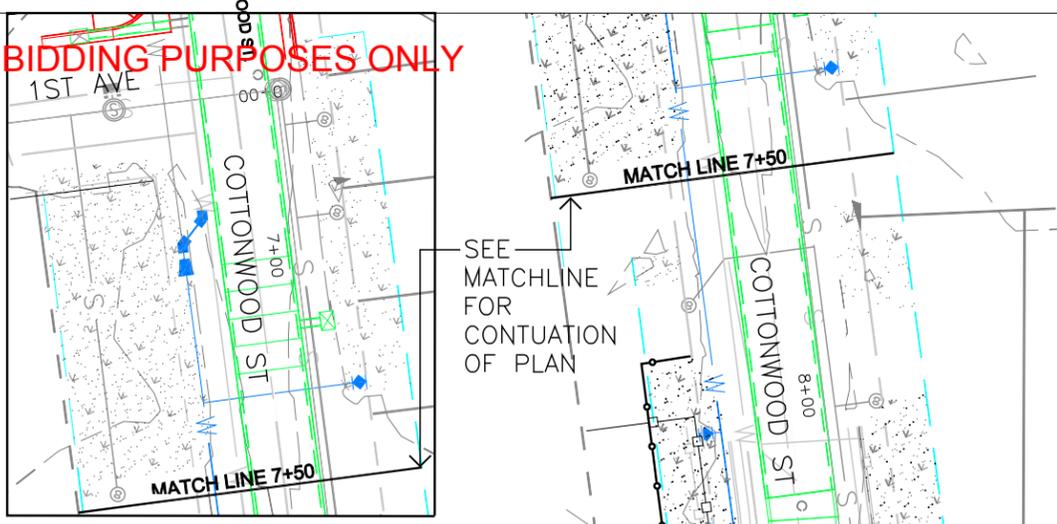
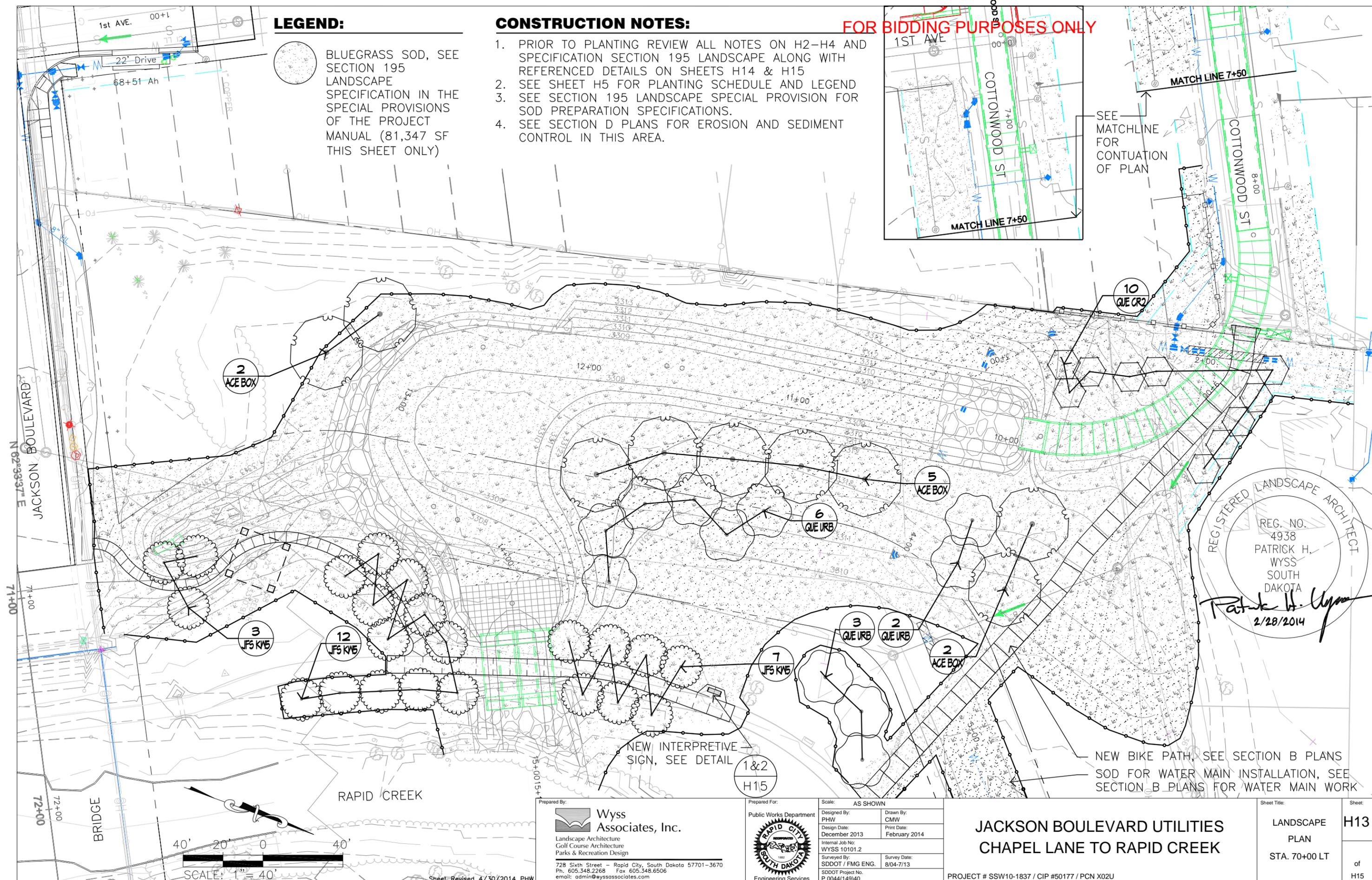
LEGEND:

 BLUEGRASS SOD, SEE SECTION 195 LANDSCAPE SPECIFICATION IN THE SPECIAL PROVISIONS OF THE PROJECT MANUAL (81,347 SF THIS SHEET ONLY)

CONSTRUCTION NOTES:

1. PRIOR TO PLANTING REVIEW ALL NOTES ON H2-H4 AND SPECIFICATION SECTION 195 LANDSCAPE ALONG WITH REFERENCED DETAILS ON SHEETS H14 & H15
2. SEE SHEET H5 FOR PLANTING SCHEDULE AND LEGEND
3. SEE SECTION 195 LANDSCAPE SPECIAL PROVISION FOR SOD PREPARATION SPECIFICATIONS.
4. SEE SECTION D PLANS FOR EROSION AND SEDIMENT CONTROL IN THIS AREA.

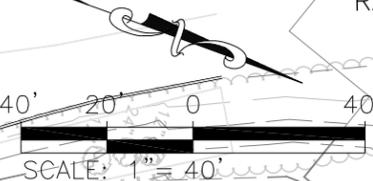
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NEW INTERPRETIVE SIGN, SEE DETAIL

NEW BIKE PATH, SEE SECTION B PLANS
 SOD FOR WATER MAIN INSTALLATION, SEE SECTION B PLANS FOR WATER MAIN WORK



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Prepared For: Public Works Department

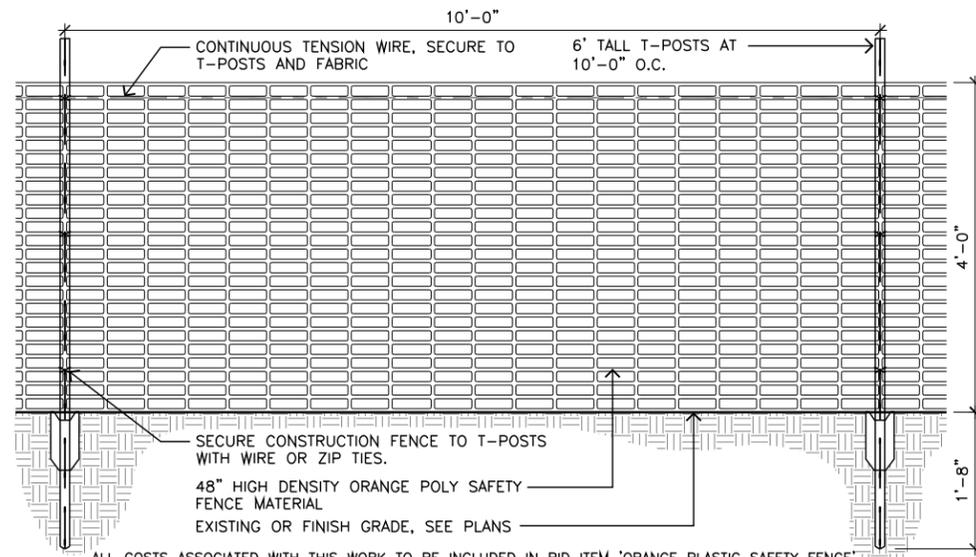
 Engineering Services
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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: LANDSCAPE PLAN
 STA. 70+00 LT
 of H13
 H15

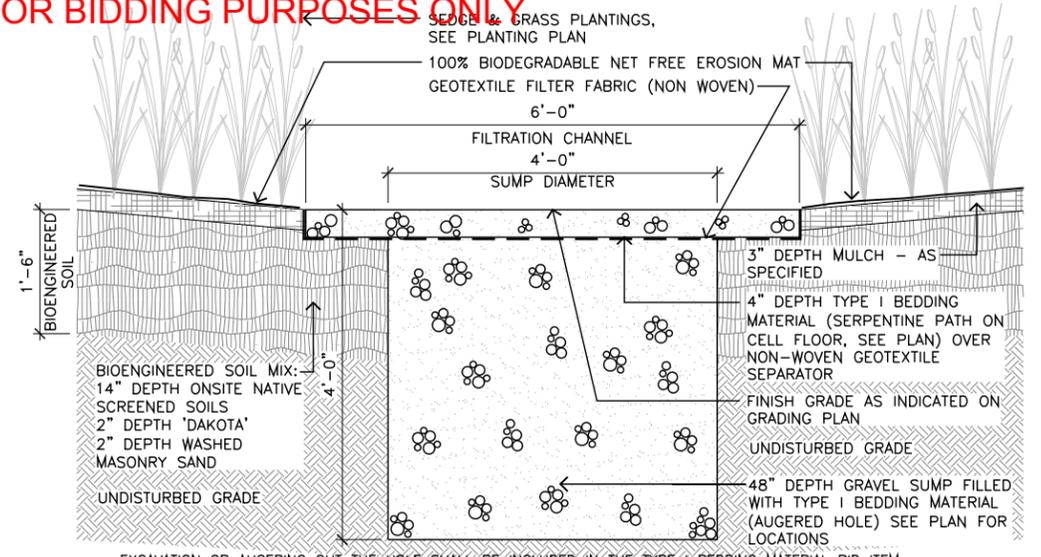
Sheet Revised 4/30/2014 PHW



1
H14
SCALE: 3/4" = 1'-0"

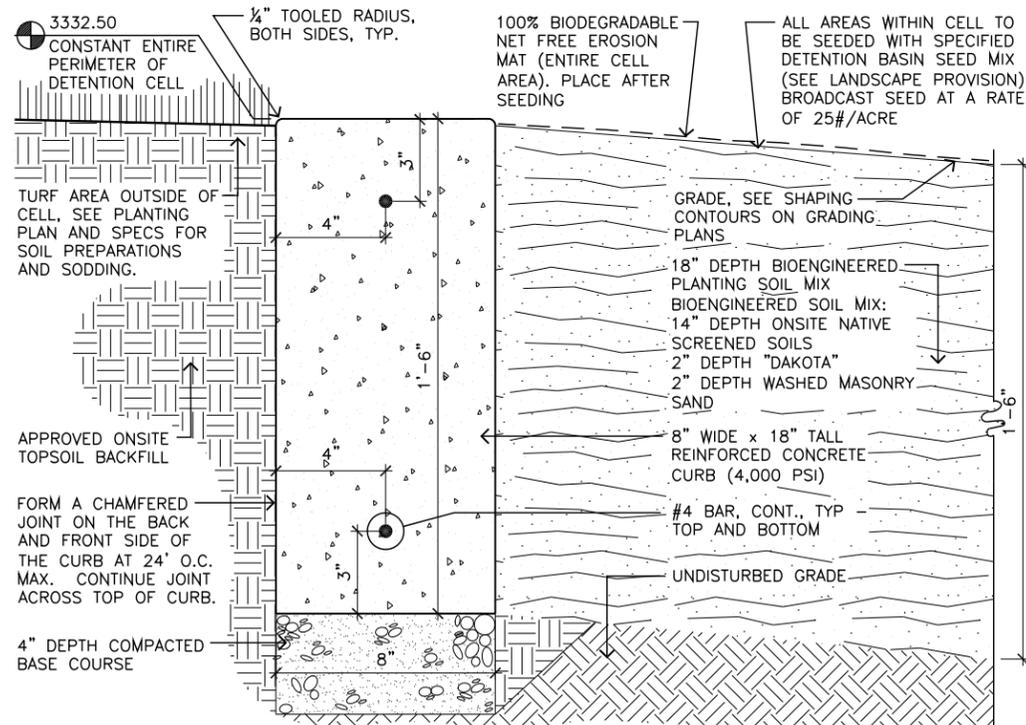
ALL COSTS ASSOCIATED WITH THIS WORK TO BE INCLUDED IN BID ITEM 'ORANGE PLASTIC SAFETY FENCE'
DETAIL: PROTECTION FENCE (TEMPORARY)

FOR BIDDING PURPOSES ONLY



2
H14
SCALE: 3/4" = 1'-0"

EXCAVATION OR AUGERING OUT THE HOLE SHALL BE INCLUDED IN THE TYPE I BEDDING MATERIAL BID ITEM
SECTION: GRAVEL SUMP AND FILTRATION CHANNEL



3
H14
SCALE: 3" = 1'-0"

ALL COSTS ASSOCIATED WITH BIOENGINEERED SOIL SHALL BE INCLUDED IN THE "AMENDING EXISTING TOPSOIL" BID ITEM
SECTION: LANDSCAPE EDGING (8" CONCRETE CURB)



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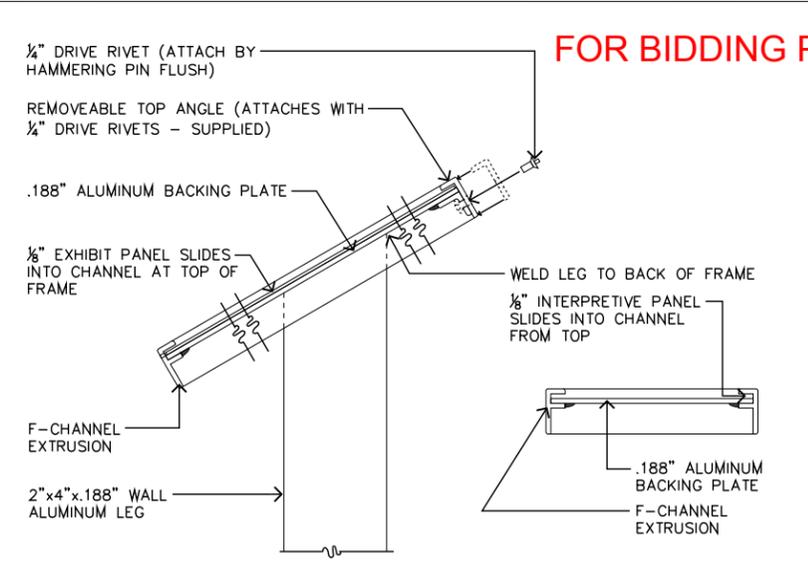
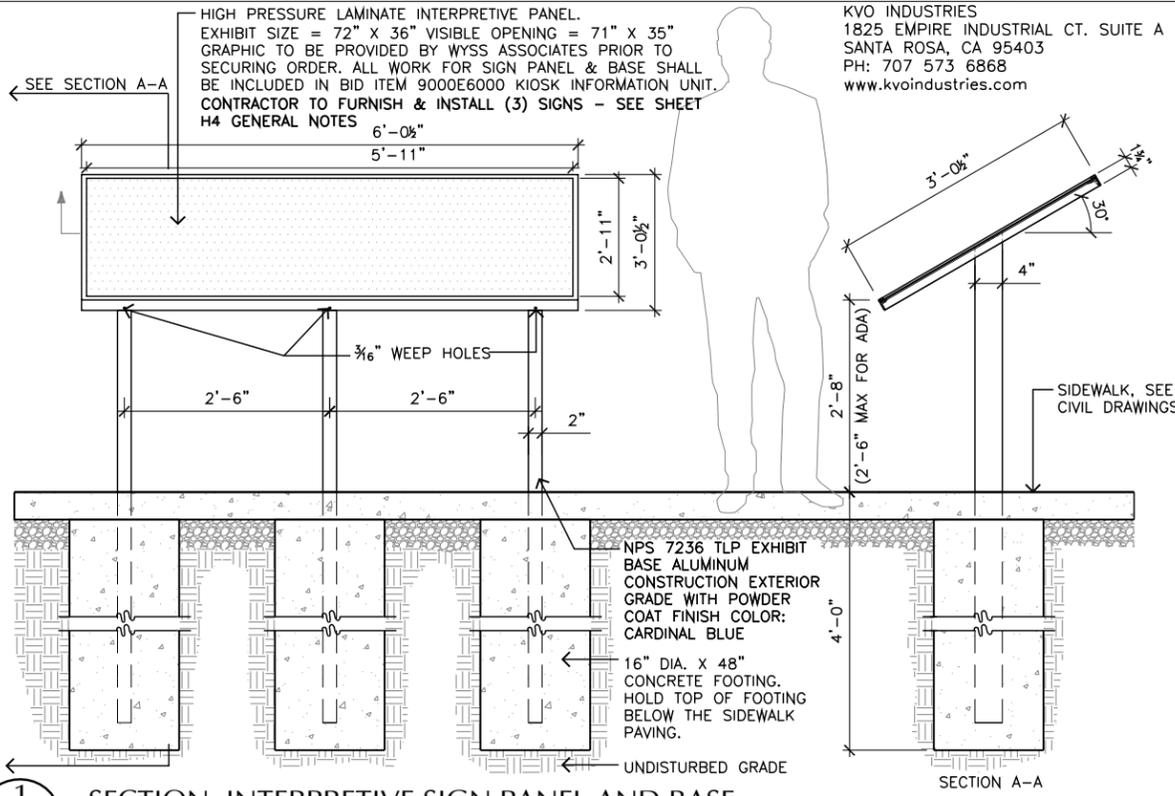
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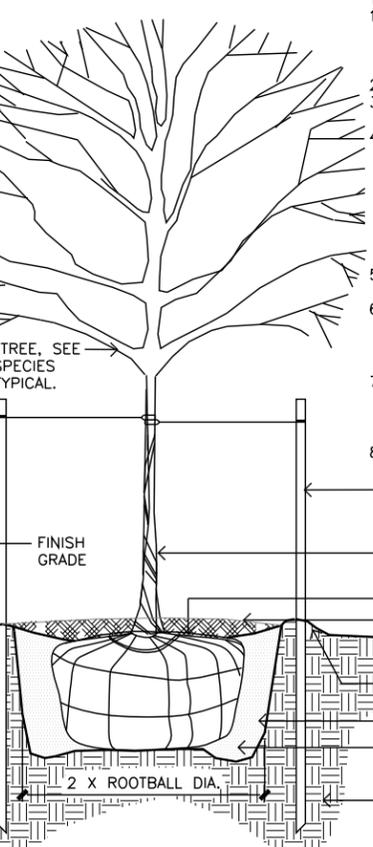
**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

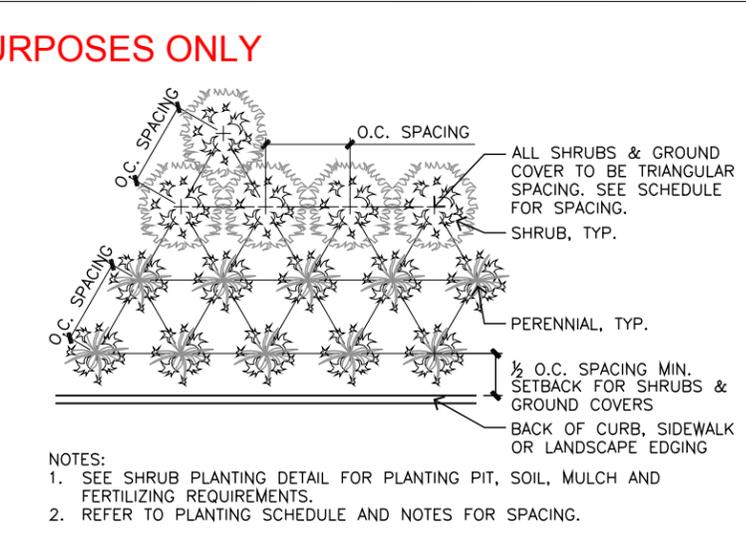
Sheet Title: **DETAILS**
 Sheet: **H14**
 of **H15**



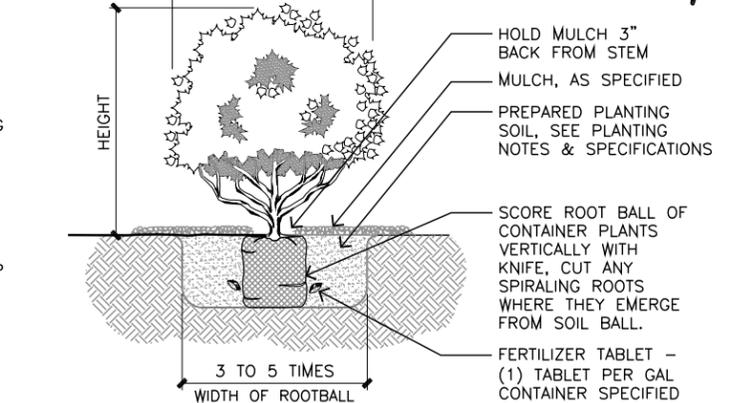
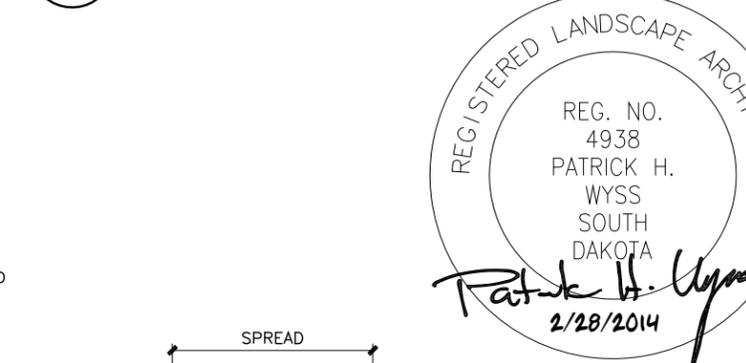
2
H15 SCALE: 3" = 1'-0"



5
H15 SCALE: 1/2" = 1'-0"

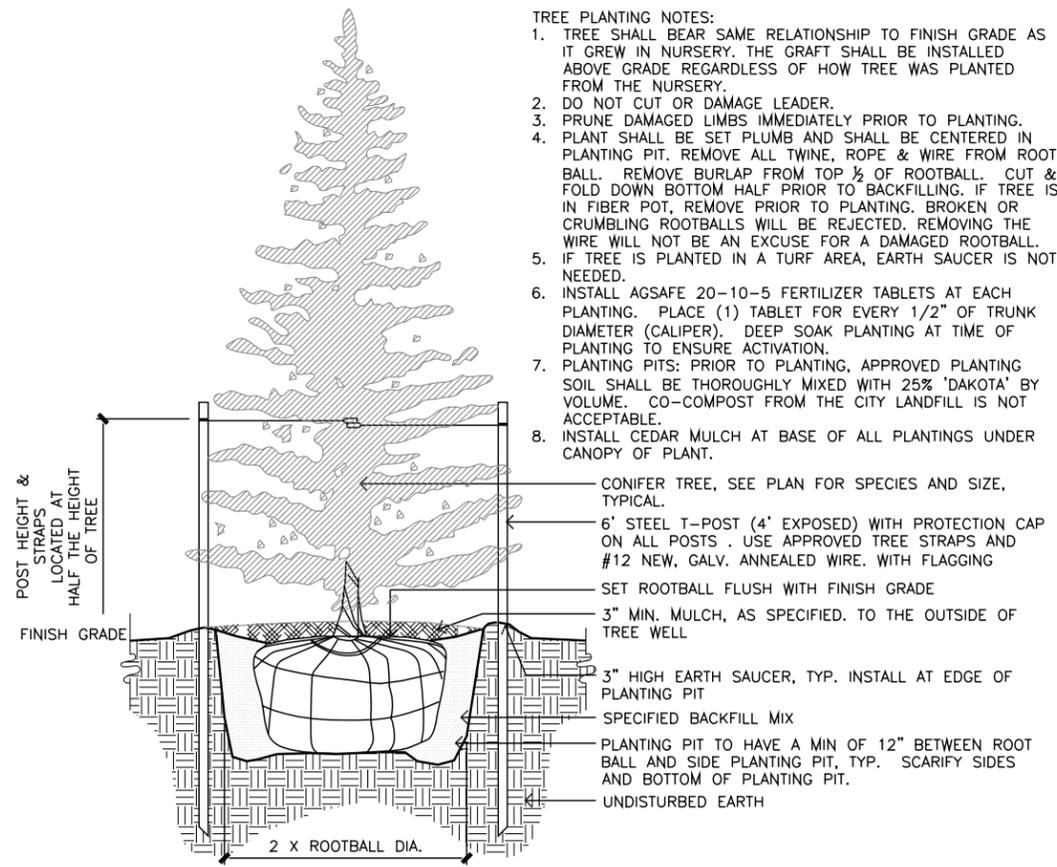


3
H15 SCALE: 1" = 1'-0"



6
H15 SCALE: 1" = 1'-0"

1
H15 SCALE: 3/4" = 1'-0"



4
H15 SCALE: 1/2" = 1'-0"

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Prepared For: **Public Works Department**
RAPID CITY SOUTH DAKOTA
 Engineering Services

Scale: **AS NOTED**
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 Design Date: December 2013
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 SDDOT Project No: P 0044(149)40

Drawn By: CMW
 Print Date: February 2014
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**JACKSON BOULEVARD UTILITIES
 CHAPEL LANE TO RAPID CREEK**

PROJECT # SSW10-1837 / CIP #50177 / PCN X02U

Sheet Title: **DETAILS** Sheet: **H15**
 of **H15**