

ORDINANCE NO. 3623

AN ORDINANCE AMENDING THE CITY OF GRAND JUNCTION'S
"SUBMITTAL STANDARDS FOR IMPROVEMENTS AND DEVELOPMENT",
SSID MANUAL, AND AUTHORIZING PUBLICATION OF THE AMENDMENTS
BY PAMPHLET

Recitals:

Ordinance No. 3390 adopted the City of Grand Junction Zoning and Development Code, including Submittal Standards for Improvements and Development (SSID).

Since the adoption of the Zoning and Development Code certain corrections, deletions and amendments to the SSID Manual have been proposed. Many of the amendments proposed for adoption are corrections and additions necessitated by working with and through the "new" Zoning and Development Code.

The revised SSID manual is available for review in the Community Development Department and the City Clerk's office. Because of the number of pages constituting the amendments the Council has determined that publication in book or pamphlet, as authorized by the Charter, is appropriate.

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND JUNCTION THAT:

1. The SSID *Submittal Standards for Improvements and Developments* is hereby amended to read as shown in the attached book or pamphlet. Specific references to each section number of each amendment, as well as the specific changes to the text are shown therein.
2. On January 13, 2004, the Planning Commission considered the amendments to the SSID manual and recommended approval to the City Council of the text amendments to the SSID Manual
2. All amendments are necessary or required by law and the amendments are in accordance with law.
3. Because of the number of pages, (approximately 150) publication by book or pamphlet is authorized in accordance with the Charter Article VI, Paragraph 51.
4. The hearing prior to final passage shall be held on April 21, 2004 at 7:30 p.m. in the Council chambers located at 250 N. 5th Street Grand Junction

Colorado. The purpose of such hearing being the consideration of the amendments to the SSID Manual, as stated in this ordinance.

5. The book or pamphlet containing the amendments shall be available for inspection in the City Community Development Department and the City Clerk's Office, 250 N.5th Street, Grand Junction CO. Hours for inspections shall be 8:00 a.m. to 5:00 p.m., Monday through Friday except legal holidays.

6. All ordinances or parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed.

INTRODUCED ON FIRST READING this 17th day of March, 2004.

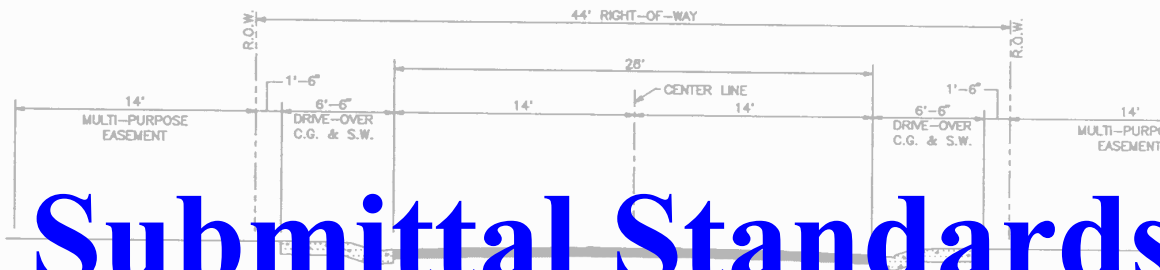
PASSED, ADOPTED AND APPROVED this 21st day of April, 2004.

Attest:

/s/: Harry Butler
President of the Council Pro Tem

/s/: Stephanie Tuin
City Clerk

GENERAL NOTES



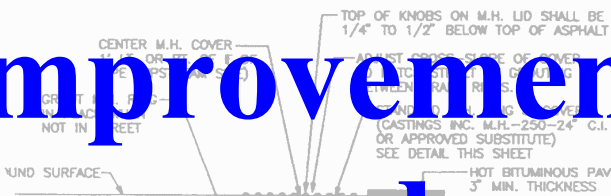
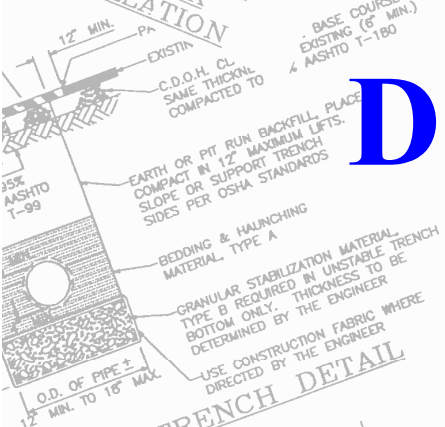
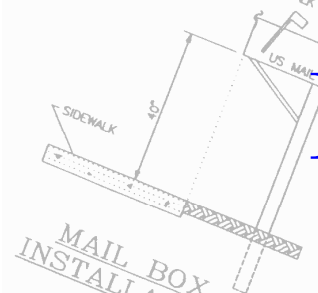
Submittal Standards

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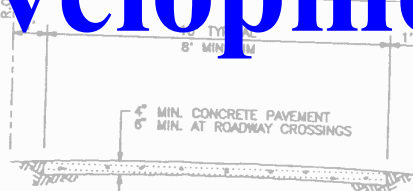
CONCRETE ENCASUREMENT DETAILS

Improvements and Development (SSID)

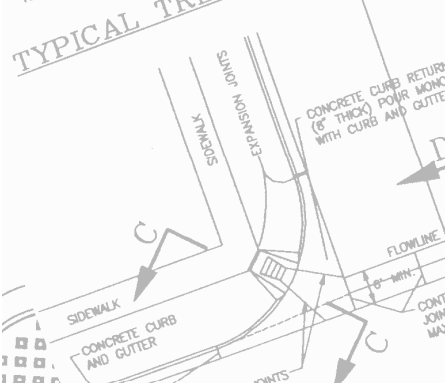
FRONT OF MAIL BOX = BACK OF WALK OR 1' BACK OF CURB WHERE SIDEWALK IS DETACHED



DETAIL A

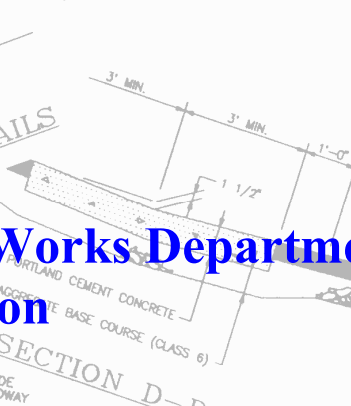
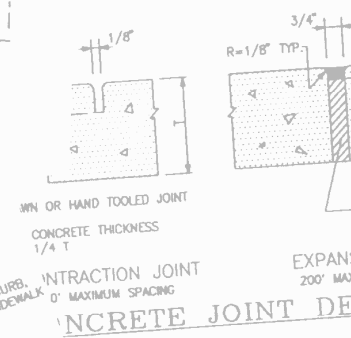


TWO-WAY OFF STREET BICYCLE PATH



April 2004

Community Development and Public Works Department
City of Grand Junction



SECTION D-D

PREFACE

This manual of regulations, entitled "Submittal Standards for Improvements and Development" or "SSID" has been prepared through a concerted effort by the Community Development and Public Works departments for the purpose of establishing City standards for development submittals. The City acknowledges the benefit of keeping communication lines open regarding the review process. The City has therefore established a Development Review Team which is devoted to the review and improvement of the City's development review process. We encourage feedback from the development community on how the development process may improve. While comments may be received by any staff member within our departments, the Development Services Supervisor in the Community Development Department and City Engineer in the Public Works Department have special responsibility regarding these matters.

Applicants should be aware that City staff does not represent the applicant or the applicant's interests. While City staff will provide assistance regarding Zoning and Development Code requirements and interpretations, it is incumbent on applicants and their representatives to understand the submittal requirements and Code requirements and design projects accordingly.

PREFACE TO THIRD EDITION

The Third Edition represents changes due to or required by the new Zoning and Development Code (adopted January 20, 2002) and the new Transportation Engineering Design Standards (TEDS) manual (adopted September 17, 2003).

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I. PURPOSE AND SCOPE

A. PURPOSE

1. Development codes and related design and improvement standards encourage consistency of quality planning, design and construction. By thorough application of development regulations, owners and the public at large will experience less adverse affects from development practices, and when high quality development is achieved, they will enjoy a better quality of life.
2. The SSID regulations present in clear, concise terms what is required for various development to occur; the content of the applications, the requirements for various plans, reports and other details are stated.
3. The SSID regulations have the force and effect of law but the Director has the authority to vary the standards when appropriate and the general intent of the requirement is still met.

B. AUTHORITY AND SCOPE

1. **Ordinance.** Ordinance Number 3623, adopted by the Grand Junction City Council at a regular public hearing meeting held April 21, 2004 authorizes these regulations.
2. **Jurisdiction.** These regulations apply to all development which occurs within the City of Grand Junction, to all proposed infrastructure and improvements which will become the property of the City and also to systems which the City manages and/or maintains.
3. **Enforcement Responsibility.** The Community Development and Public Works Departments are responsible for enforcing these regulations. The assigned project planner from the Community Development Department is the liaison with the developer through the design/application phase. Either the assigned project planner or the assigned City Development Engineer is the liaison during the construction phase.
4. **Conflicting Provision.** If these regulations conflict with other City ordinances, policies, regulations and/or implementing manuals or documents, then the ordinance, regulation, policy and/or implementing manual(s) that is established or adopted later in time and/results in a better result for the City shall control.

II. USE AND DEFINITIONS

A. SSID MANUAL USE AND FORMAT

1. **Manual Format.** This manual is comprised of three categories or parts. Understanding the parts will help when using the manual. The categories are briefly described below.

PART ONE: GENERAL PROVISIONS

Part One consists of Sections I and II, detailing the purpose, scope and use of the manual. It also provides definitions of acronyms and terms used in the manual except those which identify or describe submittal items.

PART TWO: APPLICATION SUBMITTAL REQUIREMENTS

Part Two consists of Sections III through VI, which outline typical application processes and provides checklists that identify basic submittal requirements for each type of development, for both the design/application and construction phases. Also provided are requirements for the form of submittals.

PART THREE: SUBMITTAL ITEM STANDARDS

Part Three consists of Sections VII through XI, which define the standards required for each submittal item on the Submittal Checklists. These standards are necessary to maintain consistency and reference to them will assist in understanding what is expected by review agencies.

2. **Typical Use.** The developer should use this manual to determine the process that is involved in the design/application and also construction of a project. Based on the type, location and surrounding circumstances a project-specific submittal checklist is completed by the Planner, Development Engineer, Traffic Engineer and Fire Department and given to the applicant prior to application submittal. The Submittal Checklist uses truncated names such as “Landscape Plan” or “Roadway Plan and Profile.” Adjacent to each is a citation to the SSID manual wherein the developer can find a complete description, checklist or outline of what the item, drawing or report should entail. Submittal items shall be prepared and submitted in the format identified in the SSID manual. Failure to prepare and/or submit as required may result in the application submittal and/or project being rejected.

B.

CITY DEVELOPMENT STANDARDS

List of Adopted Plans and Policies to be Considered/Followed When Submitting a Development Project

ADOPTED PLANS AND POLICIES

- | | |
|----------------------------------|---|
| - Parks & Recreation Master Plan | - Orchard Mesa Neighborhood Plan |
| - Growth Plan | - Corridor Guidelines |
| - Urban Trails Master Plan | - Grand Valley Circulation Plan |
| - 24 Road Corridor Plan | - Other adopted Manuals, Guidelines & Plans |

ZONING AND DEVELOPMENT CODE

(The Code is frequently revised and updated - call 970/244-1430 for the latest information)

- | | |
|---------------------------|---------------------------|
| - Development Regulations | - Subdivision Regulations |
| - Zoning | - General Regulations |

SUBMITTAL STANDARDS FOR IMPROVEMENTS AND DEVELOPMENT (SSID)

- | | |
|-----------------------------------|----------------------------|
| - Application Submittal Standards | - Submittal Item Standards |
|-----------------------------------|----------------------------|

STORMWATER MANAGEMENT MANUAL (SWMM)

- | | |
|--------------------------------------|-------------------------|
| - Drainage Requirements and Criteria | - Erosion Control |
| - Stormwater Management | - Surface Water Quality |

STANDARD CONTRACT DOCUMENTS FOR CAPITAL IMPROVEMENTS CONSTRUCTION

- | | |
|--|--------------------|
| - Road, Bridge, and other Surface Work | - Standard Details |
| - Utility, Drainage, and Pipeline | |

TRANSPORTATION ENGINEERING DESIGN STANDARDS (TEDS)

- | | |
|-------------------------|--------------------|
| - Street Classification | - Geometric Design |
| - Traffic Studies | - Parking |
| - Traffic Controls | - Access Design |

WATER, WASTEWATER, AND PIPELINE DESIGN STANDARDS

(No scheduled release date)

- | | |
|------------------------------|-----------------------------|
| - Water Distribution Systems | - Pumping and Lift Stations |
| - Sewage Collection Systems | - Pipeline Design |

C. DEFINITIONS

1. Acronyms.

BMP.....	Best Management Practice
CCR.....	Covenants, Conditions and Restrictions (Also see page VII-2)
CDHPE.....	Colorado Department of Health and Public Environment
CDOT.....	Colorado Department of Transportation
CDPS.....	Colorado Discharge Permit System (Colorado Department of Health's version of EPA's NPDES)
CGS.....	Colorado Geological Survey
COE.....	Corps of Engineers
DIA.....	Development Improvements Agreement
DOW.....	Department of Wildlife
EPA.....	Environmental Protection Agency
GIS.....	Geographical Information System
NPDES.....	National Pollutant Discharge Elimination System
ODP.....	Outline Development Plan
PA/SI.....	Preliminary Assessment/Site Investigation (Level 1 Environmental Site Assessment)
PE.....	Registered Professional Engineer
QA.....	Quality Assurance (See page VI-1)
QC.....	Quality Control (See page VI-1)
REPA.....	Registered Environmental Property Assessor
RI/FS.....	Remedial Investigation/Feasibility Study (Level 2 Environmental Site Assessment)
ROW.....	Right-of-Way
SSID.....	Submittal Standards for Improvements and Development
SWMM.....	Stormwater Management Manual
SWMP.....	Stormwater Management Plan
TEDS.....	Transportation Engineering Design Standards
USGS.....	United States Geological Survey

Additional abbreviations which are specific to drafting, surveying, and roadway design are provided on pages VIII-4 through VIII-10 "Drafting

Abbreviations” and “Drafting Symbols.”

2. <u>General Terms.</u>	
City	City of Grand Junction, Colorado
Code	Zoning and Development Code
Community Development Department	Refers to the City of Grand Junction Community Development Department
Construction Drawings	Drawings which contain adequate detail and specifications of proposed facilities to allow construction.
Developer	The terms “Developer,” “Applicant” and “Petitioner” are used synonymously herein and refer to the person, persons or firm requesting approval of a proposed development.
Development	Processes which involve subdividing, rezoning, variances, permits or planning clearances as defined in the Zoning and Development Code.
General Meeting	The general meeting allows the applicant to meet informally with the staff to discuss a project and provide feedback and ideas. Based on the detail and information provided, the staff will give direction on the merits, procedures and issues on a proposed project. A development application may not be submitted until after the general meeting is completed (see Section 2.2.B.1.a in the Zoning and Development Code). A General Meeting is required for the following processes: Major Site Plan Review, Conditional Use Permits, some Variances, Major Subdivisions and Planned Developments

		or any combination of development applications as determined by City Staff.
	May	A <u>permissive</u> condition, where no requirement for design or application is intended.
	Monumented Land Survey	A land survey prepared by a professional land surveyor in which monuments are either located or set marking the boundaries of a specified parcel of land, lots and Subdivisions. See §38-50-101, et seq., C.R.S. and §38-51-101, et seq., C.R.S. for the rules and requirements for plats and land surveys.
	Non-Construction Drawings	Drawings which provide useful information regarding adjacent sites, land use and zoning, lotting, and existing and proposed facilities, but are not prepared for the purpose of being used as a construction document.
	Planned Zone	An area of land zoned in accordance with Chapter 2, Section 2.12 and Chapter 5 of the Code.
	Plat	A drawing delineating property boundaries, lots and subdivisions. See §38-51-101 et seq. C.R.S.
	Pre-Application Conference	A pre-application conference with City staff is highly recommended, but not required, for most subdivisions, multi-family, commercial and industrial developments. See Section 2.2.B.1.b in the Zoning and Development Code.

	Qualified Person	A “Qualified Person” is a person responsible for construction of development projects (see Section VI.1). The Engineer of Record for the project must approve of the “Qualified Person.”
	Review Agencies	Refers to those agencies that review development applications, including City staff.

Shall	Where certain requirements are described with “SHALL,” it is <u>mandatory</u> that these requirements be met.
Should	Where the word “should” is used, it is considered to be advisory usage, <u>recommended but not mandatory</u> .
Staff	Refers to City Staff. City Staff does not represent the applicant or the applicant’s interest(s).

III. APPLICATION PROCESS

- A. **CLASSIFICATION OF DEVELOPMENTS.** Developments are classified by the Code based on zoning, use and project review type. Staff determines the classification at the General Meeting or Preapplication Conference. For each development classification an application process is established by these regulations.
- B. **OVERVIEW OF CLASSIFICATIONS.** The SSID manual, which is Section 6.8 of the Zoning and Development Code, establishes submittal requirements. The Zoning and Development Code specifies types of permits and review.
- C. **APPLICATION SEQUENCE.** Approval of a Development may require one or more application process. As an example, for a major subdivision both a preliminary and final application process is required. A Conditional Use application may be required to precede a Site Plan Review. Separately or in conjunction with another application a rezone, vacation, variance or revocable permit may be required or desired. An overview of the sequential order of these various applications, their inter-relationship and who is involved in the review process of each, is outlined on the Application Sequence Chart on page III-02
- D. **APPLICATION PROCESS.** The application and review process for all development applications is in Chapter 2 of the Zoning and Development Code. Summary application sequence charts are on pages III-03 and III-04 of the SSID manual.

IV. APPLICATION PHASE SUBMITTALS

- A. SUBMITTAL REQUIREMENTS.** Whether a development becomes a valuable asset or a liability to the community is largely dependent upon how well the project is planned, designed and constructed. Once a Development is committed to paper it will be reviewed by many agencies having a broad diversity of expertise and interests. In this manner, each Development is benefited by a “team” review.
- B. MINIMUM SUBMITTAL REQUIREMENTS.** The Developer will be advised of the application requirements during the Pre-application or General Meeting Conference. A Pre-application conference is highly recommended, but not required, for most subdivisions, multi-family, commercial and industrial developments; a General Meeting is mandatory for the following applications: Major Site Plan Review, Conditional Use Permits, some Variances, Subdivisions and Planned Developments or any combination on development applications as determined by staff. A Submittal Checklist(s) for the type of development proposed will be completed by Staff. The Staff may add to or delete from the requirements of the Submittal Checklist as appropriate for the development proposed. Review agencies may require the Developer to submit maps, drawing, documents and/or information that was not required in the Submittal Checklist. The Developer is always encouraged to discuss the proposed project with the/any review agency(ies) prior to submittal of a development application to the City.
- C. CHECKLISTS.** Submittal Checklists, subject to B above, have been prepared for the developments listed below:

(Note: Not all applications listed below require a General Meeting or Pre-Application Conference.)

Section-Page	Checklist	Section-Page	Checklist
IV-02	Change of Use Review	IV-16	Revocable Permit
IV-03	Concept Plan	IV-17	Rezone
IV-04	Conditional Use Permit	IV-18	Rezone - Preliminary Plan
IV-05	Conditional Use Permit - Gravel Pit	IV-19	Site Plan Review, Major
IV-06	Conditional Use Permit - Site Plan Review	IV-20	Site Plan Review, Minor
IV-07	Conditional Use Permit - Telecommunications Tower	IV-21	Site Plan - Simple Subdivision
IV-08	Condominium Plat	IV-22	Subdivision, Major - Preliminary
IV-09	Floodplain Permit	IV-23	Subdivision, Major- Final
IV-10	Growth Plan Amendment	IV-24	Subdivision, Simple
IV-11	Historic Designation	IV-25	Temporary Use Permit
IV-12	Institutional & Civic Facility Master Plan	IV-26	Vacation of: Easement, ROW, Plat
IV-13	Outline Development Plan (ODP)	IV-27	Variance
IV-14	Planned Development - Preliminary	IV-28	Variance – Sign

IV-15	Planned Development - Final		
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V. SUBMITTAL FORMAT

This section describes the format that shall be used when submitting an application.

A. GENERAL REQUIREMENTS

1. **Fees.** An application fee is due at the time of project submittal. Checks shall be made payable to the City of Grand Junction.
2. **Collated Packages.** Submittals shall be collated and prepared (labeled and contain the necessary documents) for each reviewing agency. If the reviewing agency requires more than one copy, the package shall contain the appropriate number of collated copies.
3. **Order of Submitted Items.** Documents in submittal packets shall be in the order shown on the Submittal Checklist.
4. **Securing Packages.** Submittals shall not be made in folders, envelopes or binders. Documents may be secured by binder clips or rubber bands.
5. **Submittal Checklist.** A copy of the Submittal Checklist prepared for the Developer in the Pre-application Conference or General Meeting shall precede the Review Agency Cover Sheet in submittal made to the Community Development Department.
6. **Review Agency Cover Sheets.** All submitted packages shall have a Review Agency Cover Sheet. The upper portion of the cover sheet shall be completed prior to submittal.
7. **Original Signatures.** When/if an original (document, drawing or signature) is required the original(s) shall be submitted in the Community Development submittal package. Copies of originals are acceptable for other recipients.

B. DRAWINGS. Depending upon the drawing type and recipient, drawings may be folded, rolled, bound or individually submitted as further described in this paragraph.

1. **Folded.** Folded drawings shall have the title block facing up in the lower right hand corner. Folds shall be such that the final size measures no more than 9" by no more than 12".
2. **Rolled.** Rolled drawings shall be stapled along the left edge, rolled such that the drawing side is facing out and the title block is exposed. The roll shall be rubber banded.

3. **Application and Design Drawings.** Informational and construction drawings shall be presented as follows:
- a. **Informational Drawings.** Vicinity Sketches, Location Maps, Preliminary, Composite, Utility and Concept Plans, ODPs and Elevation Drawings are informational drawings. Informational Drawings shall be submitted and folded separately.
 - b. **Construction Drawings.** Drawing Cover Sheets, Grading and Stormwater Management Plans, Plan and Profile drawings, Roadway cross-section sheets, Detail drawings, Landscape Plans, and Site Plans are construction drawings. Construction Drawings shall be submitted as follows:
 - 1) Submittals to Engineering shall be as a set in a roll;
 - 2) Submittals to Community Development shall be folded and stapled together as a set and an Inside Cover Sheet (see IX-15) shall be provided for all plan sets which exceed five pages; and
 - 3) For review agencies other than City Engineering and Community Development, plans shall be folded individually.
4. **As-Built Sketches.** Red-lined prints of the approved plans shall be submitted to Engineering individually folded.
5. **As-Built Drawings** As-built drawings and Final Plats shall consist of sealed prints and mylars. All final plat and as-built information must be submitted to the City on an electronic disk suitable for use with a personal computer in a format compatible with DFX and DWG files.
- C. **FORMAT CHECKLIST.** The following Format Checklist is provided as an aid in preparing applications for submittal.

FORMAT CHECKLIST

GENERAL REQUIREMENTS

Complete (X)

- ___ 1. **Fees** Application fee, with check made payable to the City of Grand Junction.
- ___ 2. **Collated Packages** Collated sets are provided for each recipient of a submittal package.
- ___ 3. **Order of Submitted Items** Items should be submitted in the order presented on the Submittal Checklist.
- ___ 4. **Securing Packages** Bound with rubber bands or binder clips, NOT folders, envelopes, or 3-ring binders.
- ___ 5. **Submittal Checklist** Placed atop the Review Agency Cover Sheet in the Community Development package.
- ___ 6. **Review Agency Cover Sheets** The top section is filled out, and is provided in all packages where required by the Submittal Checklist.
- ___ 7. **Original Signatures** Items having original signatures shall be placed in the Community Development package.

DRAWINGS

- ___ 1. **Folded Drawings** Final size is between 8 1/2" to 9" and 11" to 12". The title block faces up in the lower right hand corner.
- ___ 2. **Rolled Drawings** Banded, with drawing facing out.
- ___ 3. **Format**
 - Information drawings individually folded
 - Construction drawings to Engineering rolled (may include plat)
 - Construction drawings to Community Development folded or rolled as a set
 - Site Plans to other review agency(ies) folded individually
- ___ 4. **As-built Sketches** Red-lined prints individually folded
- ___ 5. **Record As-built Drawings and Plats** Mylars rolled, AutoCad disks labeled, electronic version emailed to GIS department.

Note: For definition of the above requirements, please reference pages V-1 and V-2.

VI. CONSTRUCTION PHASE SUBMITTALS

- A. **QUALITY IS REQUIRED.** Adequate quantity and quality of observation and testing during the construction process is essential to achieving a quality product. Consequently, the City requires Quality Control and Quality Assurance observation and testing during the construction of:
- 1) Facilities that will become public, such as streets, sidewalks, water, sewer and storm drains; and
 - 2) Facilities that may ultimately impact the public at large, such as Best Management Practices, overlot grading, private detention/retention basins and storm water collection and conveyance.
- B. **THE DEVELOPER IS LEGALLY RESPONSIBLE FOR QUALITY CONSTRUCTION OF THE DEVELOPMENT PROJECT.** The Developer, the engineer and/or contractor as the developer's agent(s) shall implement the procedures, methods, testing, surveying and observation that are required by the City to insure that the work conforms to all City specifications.
- C. **THE DEVELOPER IS LEGALLY RESPONSIBLE FOR QUALITY ASSURANCE (QA) OF THE DEVELOPMENT PROJECT.** Quality Assurance, for the purposes of these regulations means that a Qualified Person is responsible for developing and supervising systematic observation of the work, testing of the materials and the compaction of the materials that are required to be compacted, all of which shall be performed to, with and be verified by the Qualified Person upon completion to be in conformance with City-approved plans and specifications.
- (12-25-102(10), C.R.S. defines "practice of engineering" to include the "...observation of construction to evaluate compliance with plans and specifications...")*
- D. **CITY INSPECTION.** In addition to Quality Control and Quality Assurance provided by the Developer and his agent(s), the City may perform spot inspections of the construction of any Facilities. The Developer shall provide the City a copy of its construction activity schedule prior to commencement of work. As time permits, a City inspector may make periodic inspections of the work. Such inspection, or not, of the work by the City does not relieve the Developer of its obligation(s) to observe, monitor and conduct necessary tests. The City Inspector and/or City Development Engineer may require work to be uncovered or removed if Quality Control/Quality Assurance to City standards is not demonstrated to the satisfaction of the City Inspector and/or City Development Engineer.

- E. CONSTRUCTION SEGMENTATION.** As construction proceeds, the quality or acceptability of work often depends upon the quality of work which precedes(ed) it. Any or all work on a development may be stopped unless and until QC/QA observations and testing City approval(s) of the same are given.
- F. CONSTRUCTION PHASE SUBMITTAL CHART.** A form has been prepared which identifies various steps of construction activity and corresponding required submittals. The submittals may be varied depending on the type and size of the project involved. The form will be completed by Staff and submitted to the Developer. Only those items with shaded-in circles will be required.

CONSTRUCTION PHASE SUBMITTAL CHECKLIST

Location: _____ Project Name: _____

STEP	ACTIVITY	SUBMITTAL ITEMS	REFERENCE
1	Pre-construction	<ul style="list-style-type: none"> ● City Approval of Construction Drawings ● Pre-construction Notice ○ Work within Public ROW Permit ○ Improvements Agreement/Guarantee ○ _____ ○ _____ 	VII-4 VII-5 VII-6 VII-2
2	Grading Street Rough Cut Sanitary Sewer Water Irrigation Other Utilities Sub-grade Base Course Concrete Placement OKAY FOR CONCRETE PTC = Prior to Concrete _____ *Sign and date OKAY FOR PAVEMENT PTP = Prior to Pavement _____ *Sign and date	<ul style="list-style-type: none"> ○ Construction Report: Grading and Pipeline Phase. PTC ○ Construction Report: Concrete and Pavement Preparation. PTC & PTP ○ Revised Pavement Design (if necessary). PTP ○ Request City Lamping of Sewerline. PTC ○ Complete Compaction Tests for all utilities, subgrade, and base course under concrete. All at once just prior to concrete construction. PTC ○ Letter from water purveyor stating passage of pressure and disinfection tests. PTP ○ Sanitary sewer pressure test after wet utility installation. PTP ○ Redlined Sanitation Sewer As-Built Drawings. PTC ○ Redlined Storm Sewer As-Built Drawings. PTC ○ Complete Compaction Tests for base course under asphalt. All at once just prior to pavement. PTP ○ Letter from sewer purveyor stating passage of their tests. ○ _____ 	X-4 X-3 VII-6 VII-5 VII-6 VII-6 VII-6
3	Asphalt Pavement Dry Utilities Traffic Control Facilities Monumentation Permanent On-Site Benchmark (Subdivisions Only)	<ul style="list-style-type: none"> ○ Complete QA Reports for asphalt and concrete. ○ Construction Report: Concrete and Pavement Placement ○ Complete Set of As-Built Drawings ○ Request for City Initial Inspection ○ Letter from PE stating passage of sanitary sewer pressure test after dry utility installation. ○ _____ 	X-2 IX-3 to IX-7 VII-6 VII-6
4	Warranty Period Maintenance Agreement	<ul style="list-style-type: none"> ○ Request for City Final Inspection ○ Agreement and Financial Guarantee 	VII-6 **ZDC

NOTES:

1. Only those submittal items, which are preceded by a shaded-in circle, are required for the project. At the time of construction drawing approval, City Engineering will submit to the developer one signed approved set of reproducible drawings. A copy of this form, which has been completed for the specific project and one completed copy of Form VI-4 and VI-5 will be transmitted to the developer at the preconstruction meeting.
2. City Engineering approval of submittal items is required prior to commencement of subsequent steps. The City will make every effort to provide timely approvals in order to accommodate construction schedules. If information is submitted for Step 2 in a timely manner as construction proceeds, then City Engineering review of remaining items may be done within two working days.
3. The "OKAY FOR CONCRETE" and "OKAY FOR PAVEMENT" lines must be signed or other written notification given by the Construction Inspector or the Development Engineer prior to placing concrete or asphalt. No concrete or asphalt shall be placed without these signatures. **IT IS THE DEVELOPER'S RESPONSIBILITY TO OBTAIN THESE SIGNATURES.**

*Distribution for Signatures: Construction Inspector and Development Engineer

**ZDC = Zoning and Development Code

City of Grand Junction Construction Approval & Progress

Project Name: _____

Location: _____

Developer: _____

Engineer: _____

Planner: _____

A Qualified Person is required to verify that construction of public improvements has been accomplished in accordance with City standards, specifications and testing methodology.

Date Construction Plans Approved: _____ **Engineer Initials:**

Submit reproducible drawings for approval and signature. Return 4 sets of full-sized prints.
Distribution: Development Engineer (2 copies), City Inspector (1 copy), Community Development (1 copy).

Improvement Agreement in Place: _____

Pre-Construction Meeting: _____

1. Attendance by developer's engineer, Qualified Person, surveyor, contractor(s), testing lab, City engineering representative and a City inspector is required.
2. Submit list of contractors and starting dates/construction schedule.
3. Submit quality assurance plan for testing and inspection. A test location map will be required.
4. Notification of City inspector 24 hours prior to commencement of any work is required.

Permit for Construction and Installation of Facilities in Public Right-of-Way required: _____

City inspection of work does not relieve Developer and/or the developer's engineer of their responsibility to observe, monitor, test and verify the facilities meet City standards.

City of Grand Junction Submittal Requirements for Initial Acceptance of Improvements

The following items must be submitted prior to initial acceptance of streets, drainage, and utilities by the City of Grand Junction.

As-Built Drawings (Reference SSID IX-3, 4, 5, 6, 7)

- Sealed by a Professional Engineer, having supervised the work, registered in the State of Colorado
- Four paper copies
- One Mylar copy
- One disk with drawing files or emailed to the Planner

Report (Reference SSID X-2, 3, 4)

- Daily diary
- Applicable correspondence
- Letter verifying work was performed according to approved plans and specifications

Bound Testing Results

- Testing location maps (if not submitted earlier)
- Compaction tests for all aspects of the project (if not submitted earlier)
- Applicable proctors and other lab tests performed (if not submitted earlier)
- Asphalt tests and lab results
- Concrete tests and break results

Verification of Detention/Retention Basin/Storm Sewer System (Reference SSID IX-04)

- Sealed by a Professional Engineer

Note: A one-year warranty period begins once public facilities are initially accepted by the City of Grand Junction. Any defects or deficiencies that occur during this period must be corrected by the developer.

SUBSTANTIAL INSPECTION CHECKLIST

COMPLETION

City of Grand Junction, Colorado
250 North Fifth Street
Grand Junction, Colorado 81501-2669
FAX (970) 256-4031

Project: _____

Date: _____

TREETS	<input type="checkbox"/> Pavement <hr/> <hr/> <input type="checkbox"/> Concrete <hr/> <hr/> <input type="checkbox"/> Manholes <hr/> <hr/> <input type="checkbox"/> Signs <hr/> <input type="checkbox"/> Lighting <hr/> <input type="checkbox"/> Site Grading <hr/> <input type="checkbox"/> Other <hr/>
UTILITIES &	<input type="checkbox"/> Water Lines <hr/> <input type="checkbox"/> Sewer Lines <hr/> <input type="checkbox"/> Inlet Structures <hr/> <input type="checkbox"/> Detention Facilities with letter certifying capacity <hr/> <input type="checkbox"/> Outlet Structures <hr/>

Inspected by:

City Development Engineer

Developer or Representative

Final Acceptance of the Streets and Drainage Facilities will be made when the above items have been corrected and inspected. Please call 970/244-1430 when ready for final acceptance.

Distribution - White: Developer
Community Development

Yellow: Development Engineering

Pink: Engineering Lab/Inspector

Goldenrod:

VII. GENERAL ITEMS

A. ADMINISTRATIVE ITEMS

1. Annexation Documentation

The following documents are necessary to prepare/submit an annexation petition.

- a. Assessors Map showing the subject property and all other property adjacent to the subject property which are owned by the same owner;
- b. Tax ID number for the subject property to be annexed;
- c. Legal description of the subject property to be annexed;
- d. A copy of the owner's deed;
- e. Complete list of owners' names and addresses if the owners do not reside on the property to be annexed.

These documents are submitted to the Community Development Department.

The annexation petition is drafted and returned to the property owner(s) for signature(s) in the presence of a Notary Public. The petition is then filed with the Community Development Department. Applicants will be advised within 10 working days of the dates and times of the meetings concerning the annexation application.

2. Application Fee. The fee will be determined at the General Meeting/Pre-Application Conference. Fees are based upon the classification and specific conditions of the proposed project. The fee covers the costs of processing, staff review and legal notice for the proposal and is nonrefundable. Checks should be made payable to the City of Grand Junction.
3. Application Form. The applicant shall complete the "Property Owner," "Developer" and "Representative" information and sign where indicated. The form with original signatures must be in Community Development's submittal packet. Copies are acceptable for other review agencies.
4. Appraisal of Vacant Land. For all development requiring payment into the parks/open space acquisition and/or development fund, an appraisal of fair market value of the unimproved land is required. The appraisal shall be at the Developer's expense and performed by an accredited certified MAI appraiser licensed by the State of Colorado.
5. Avigation Easement. A dedication and/or conveyance of navigable airspace to an infinite height above the surface of the grantor's property. An avigation easement shall include a release by the grantor binding on his successors and assigns, which shall run with the land, of all claims or causes of action, now or in the future, which arise from noise, vibrations, smoke, fumes, glare, fuel particles or any other cause by the operation of aircraft.

6. **Common Elements Agreement(s)**. An agreement providing for the long-term use and maintenance of common space within a development. This may be included in the Covenants, Conditions and Restrictions.

7. **County Treasurer's Tax Certificate.** A current original (or verified current copy) of the Treasurer's Certificate of taxes due. (A tax certificate is obtained from the Mesa County Treasurer's Office. There is a charge for the document.) The City may require an applicant to pay unpaid and due taxes prior to City approval of an application.
8. **Covenants, Conditions, and Restrictions** A draft copy of Covenants, Conditions and Restrictions must be provided if there are common elements. Proof of incorporation of an Home Owner's Association (HOA) filed with the Secretary of State must also be provided.
9. **Conveyances.** See Deed.
10. **Condominium Plat.** The final plat, which is recorded and any other instruments referred to in the condominium declaration, that depicts the size, location, area, horizontal and vertical boundaries and volume of each condominium unit, as well as the nature, location and size of the common elements.
11. **Deed.** A document conveying and evidencing conveyance of land or conveyance of an interest in land. The City may specify the form (such as Warranty Deed, Special Warranty Deed, Quit Claim Deed, etc.) of any and all deed(s) submitted or required to be submitted. Proposed deed form(s) (for conveyance of land or an interest in land to the City) shall be submitted before a conveyance is proposed (with a development application if as part of that application the developer is proposing a conveyance to the City). Recording of deed(s) and payment of associated fees are the Developer's sole responsibility. Final approval of any project is contingent upon the execution and recordation of any and all required deed(s).
12. **Development Improvements Agreement (DIA) and Guarantee**
 - a. **Agreement** The DIA consists of a detailed, itemized contract with the Developer for the construction of public improvements, as well as the landscaping required for a development; quantities and costs shall be established. The agreement shall be approved by Community Development Director and the Public Works & Utilities Director or their designees. The agreement shall include a date for completion of all improvements. A memorandum shall be recorded prior to recording a plat, issuance of a Planning Clearance or commencement of a use, whichever comes first. The developer shall pay all recording fees.
 - b. **Guarantee** The guarantee shall secure the construction of the public improvements and/or landscaping as shown in the agreement. Acceptable guarantees consist of cash, a letter of credit or a

disbursement agreement.

- c. **Release of Guarantee and Agreement** The Developer shall submit a written request for release of the DIA or for the portion which has been accepted and for which the required maintenance guarantee has been provided. A request to release a DIA shall be accompanied by written verification, in a form as required by the City Attorney, that there are no outstanding judgments or materialmen's or suppliers liens against the property. The Director and the City Attorney shall review and if appropriate approve the request. Release of the DIA, in whole or in part, does not constitute a Certificate of Completion and Release of Responsibility. The Developer shall pay all recording fees associated with the Recording Memoranda to release the DIA.

- 13. **Easement.** A dedication to the City and/or conveyance by deed of an interest in land, (to the City of Grand Junction or other appropriate agency,) for the use of said interest in land, for specific purposes, under such terms, conditions and requirements as established.

- 14. **Evidence of Title/Title Commitment**
 - a. **ODP's and Major Subdivisions: Preliminary.** A current (no less than 90 days old at the time of any submittal) commitment for title insurance which shall: set forth the names of all owners of the property included in the plan and a list of all persons who have/may have an interest in the land via liens and encumbrances, including mortgages, judgments, easements, contracts and/or agreements of record which effect the property covered by the plan(s). The City may require an updated commitment for title insurance at any time.
 - b. **Simple Subdivisions and Major Subdivisions: Final** A current (no less than 90 days old at the time of any submittal) commitment for title insurance which shall: set forth the names of all owners of the property included on the plat and a list of all persons who have/may have an interest in the land via liens and encumbrances, including mortgages, judgments, easements, contracts and/or agreements of record which effect the property covered by the plat. If the title commitment discloses mortgages, judgments, liens, easements, contracts or agreements all holders, owners and others that claim a right, title or interest in the property by or through the same shall be required to approve the plat, in writing by signing and notarizing a ratification of the plat and otherwise releasing and/or subordinating their interest(s) before the plat will be recorded. The City may require an updated commitment for title insurance at any time.

- 15. **Legal Description** A typed legal description of all properties involved in the proposed development. This must be a separate document from that which may be provided on drawings and sent via electronic mail to the Community Development Department.

16. **Location Map/Vicinity Map** An 11" x 17" location/vicinity map with the subject property outlined in red.

17. **Name and Address List** A list of all names and addresses of all property owners within 500 feet of all boundaries of the property. The width of public rights-of-way, easements, canals or other waterways shall not be included when determining the 500-foot radius. The Mesa County Assessor's records shall be used to determine all ownership(s) within the radius. The City will provide a name and address list.
18. **Planning Clearance** A form provided by the City. The applicant shall complete the top portion and sign and date the bottom.
19. **Power of Attorney** A form provided by the City. The property owner's signature is required.
20. **Review Agency Cover Sheet** A form provided by the City. The Developer must provide the required information.
21. **Right-of-Way** Right-of-Way dedications are defined as a dedication and/or conveyance of land to the City of Grand Junction or other government agency, for the use and/or ownership of the land for the construction, improvement and maintenance of public roads, highways, accesses and other public installations and/or improvements. Right-of-Way may also mean and refer to any platted or designated public street, alley, lane, parkway, avenue, road or other public way, whether or not it is constructed or has been used as right-of-way or for any other public purpose. The Developer may be required to verify that there is adequate right-of-way existing to serve the project and if not to provide the same.
22. **Sign Plan/Sign Package**
Chapter Four of the Code addresses among other things, sign regulations. A comprehensive sign design, describing all proposed signage, including, but not limited to size, letter height and method of illumination must be provided. Sign permits are required and signs must be erected by licensed sign contractors within the City.
23. **Site Data Table** The Site Data Table provides information regarding the proposed land use(s) of the developing property. The table depicts the proposed square footage(s) for each use(s). A site data table establishes the size of the structure(s) with their prospective use(s), existing structure(s) on the site, retention area(s), hard surface area(s) (such as sidewalk and parking), landscaping area(s) and undeveloped ground.
24. **Submittal Checklist** This form is provided to the Developer after the Pre-application Conference or General Meeting. The Submittal Checklist shows the specific submittal requirements for a particular project. The original (completed) form is to be returned in the Community Development Department submittal packet.

B. MISCELLANEOUS ENGINEERING REQUIREMENTS. Engineering requirements (that are not presented to/prepared for the City in the form of a drawing or a report) are noted here.

1. **404 Permit** Development applications that will or might impact waters of the United States including “jurisdictional wetlands” are reviewed by the Army Corps of Engineers (ACE). An original or verified copy of the ACE approved or issued permit, shall be submitted to Community Development as a part of the Development Review process.
2. **CDOT Access Permit** Development that will require additional or modified access to a State Highway requires approval and a written permit from the Colorado Department of Transportation (CDOT). Highways 6, 6 Bypass (North Avenue), 24, 50, I-70, I-70 B, 141 and 340 are under CDOT jurisdiction. The Access Permit is negotiated by and between the developer and CDOT and a Notice To Proceed (NTP) issued by CDOT prior to plan approval.

As of January 2004 an Application for Access Permit may be obtained from CDOT at 222 South 6th Street or at 606 South 9th Street, Grand Junction, CO.

3. **City Approval of Construction Drawings** Development plans that have received all requisite approvals will be approved by Staff signature on the plans, by letter or both.
4. **City Initial Inspection** An inspection must be performed by the City after all developer-installed improvements are complete. If found to be acceptable, the warranty period on the improvements will begin.
5. **City Final Inspection** An inspection must be performed by the City after the warranty period expires.
6. **Construction - Prior Notice** Prior to the commencement of Construction, the Developer shall submit the following information to the City Development Engineer:
 - a. The correct number of copies of signed and sealed plans/specifications [which the City Development Engineer has stated in writing are acceptable for approval and/or as required are in final form on Mylar];
 - b. Development Construction Schedule;
 - c. List of Contractor(s) to be used on the development and telephone number(s);
 - d. The name and telephone number of the testing laboratory that will

- provide testing;
- e. The name and telephone number of the developer's designated project manager and/or construction inspector; and
 - f. The name and telephone number of the Developer's designated Quality Assurance Person (see Page VI-1, Paragraph C).
7. **Construction Schedules and Updates** The construction schedule shall be sufficiently detailed to show commencement, duration and completion for each aspect of construction. If changes or delays occur, a corrected schedule shall be submitted to the City Development Engineer within 5 days of the change or delay.
 8. **Floodplain Permit** A Floodplain Elevation Certificate (FEC) is provided by the Federal Emergency Management Agency (FEMA) on their website. The form must be completed by the Developer's engineer and/or land surveyor. An original or verified copy of the FEC shall be submitted to Community Development as a part of the Development Review process. After construction, the FEC shall be submitted showing the final constructed elevation.
 9. **Flowline Grade Sheets** These surveying grade sheets shall identify the street name, with stationing consistent with design drawings, showing design and "as-built" grades for gutter flowlines. Grades shall be obtained at all points that design grades are required on the approved drawings.
 10. **Industrial Pretreatment** Any facility that will be contributing wastewater/process water (anything other than domestic waste) to the sanitary sewer system shall submit an application to the Persigo Wastewater Treatment Facility, Pretreatment Coordinator. A permit may or may not be required. An original or verified copy of the approved or issued permit, if any, shall be submitted to Community Development as a part of the Development Review process.
 11. **NPDES Construction Activity Permit** In accordance with State and Federal regulations a NPDES (and/or CDHPE) permit is required where construction activity for all phases of a project will disturb more than one (1) acre of surface area of land. The Colorado Department of Health Water Quality Control Division processes applications. An original or verified copy of the CDHPE approved or issued permit, if any, shall be submitted to Community Development as a part of the Development Review process.
 12. **Red-Lined Sanitary Sewer As-Builts Sanitary** - Sewer as-builts are required prior to paving. These must include invert elevations and slopes of each reach and stub-outs. Red-lined as-builts shall be

followed up with the required final as-builts.

13. **Red-Lined Storm Sewer As-Builts** Storm sewer as-builts are required prior to paving. These must include invert elevations and slopes of each reach and stub-outs. These red-lined as-builts shall be followed up with the required final as-builts.
14. **Sewerline Lamping and Pressure Testing** Once the manholes and sewer line installations are complete and sub-grade and base course in roadways has been compacted preparatory to paving, the City will lamp the sewer line. Requests for lamping should be made by calling (970) 244-1555. The contractor shall pressure test to specifications provided by the City the sanitary sewer after lamping. After all concrete and paving is complete and after all telephone, gas, power, cable TV, etc., have been installed, the sanitary sewer shall be pressure tested again to the specifications provided by the City. The Developer's engineer shall observe all pressure tests and when the line(s) passes write, sign and seal a letter stating that passing test results have been obtained.
15. **Water Line Pressure and Disinfection Tests** - Written Documentation from the water provider stating that passing test results have been obtained is required prior to paving.
16. **Work Within Public ROW Permit** A City right-of-way permit must be obtained from the City Engineer prior to commencement of cut, fill, utility work and/or traffic flagging/routing within a City ROW. If the Developer temporarily or permanently occupies City right-of-way, as if the Developer owns or exclusively controls the right-of-way, a revocable permit is required.

VIII. GRAPHIC STANDARDS

All drawings, maps, exhibits and plans shall conform to these standards.

- A. **SCALE** Minimum and maximum scale permitted for each type of drawing is indicated in the description of the specific drawing. A bar scale shall be provided on each sheet having a plan view.
- B. **SIZE** All drawings, exhibits, maps and plans shall be at least 11"x17" and not larger than 30"x42". All construction and as-built drawings and plats shall be 24"x36".

For 24"x36" drawings, bordering is required as follows: a minimum of 2 inches on the left side; and a minimum of 1/2 inch on all other sides, the maximum drawing area inside the border shall be 20" by 33½" to allow for one-half size reduction.

- C. **PRIMARY AND SECONDARY PROPOSED FEATURES** Drawing checklists identify which proposed features are primary. All other proposed features are secondary and shall be drawn according to these regulations.
- D. **NOTATION** Street names, lot numbers, utility types and sizes (such as 8" SAN for an 8 inch sanitary sewer line), contour elevations and other descriptive notations shall appear on all plans for all Facilities shown. Construction notation, such as notes that identify length, width, thickness, quantity, to construct or install, specifications or standards, removals, replacements, *etc.*, shall be provided as applicable only for the primary features on a drawing.
- E. **LINE WEIGHT AND TYPE** Acceptable pen sizes and line types for various features and text are presented on pages VIII-5 through VIII-10. Line weight and type for drawing existing features must contrast with that used for proposed features, such as using dashed/solid or light solid/dark solid combinations.
- F. **LOCATION** Existing and proposed Facilities shall be shown graphically as close to the known or proposed location as possible, however, unless indicated otherwise, dimensions or other data locating a feature(s) is not required. Primary features on final construction drawings and existing Facilities to which proposed Facilities tie-in shall be fully described, horizontally and vertically, by station and offset, bearings and distances, dimensions and curve data, coordinates and elevations.

- G. **HORIZONTAL CONTROL** Survey control for subdivision improvement drawings and plats must be tied to Section (aliquot) corners.
- H. **VERTICAL CONTROL** One bench mark shall be given for all drawings with grades. If Facilities are proposed, then a permanent bench mark must be referenced with the elevation based on United States Geological Survey (USGS) datum or other approved datum obtained from local governmental agencies or sources. If the existing benchmark is far enough removed from the site that it reasonably cannot be shown on the plan, then the description of the benchmark location shall not only include aliquot corner description, but street reference. All proposed bench marks must be shown.
- I. **ORIENTATION** All plan view drawings shall have a properly oriented North arrow. North shall be at the top or side of the drawing, however, in the case of sewer lines, pipes may be drawn to slope down to the left side of the drawing.
- J. **SEALED DRAWINGS** All construction drawings and plats that are submitted for approval must be signed, sealed and dated by a Colorado registered professional engineer or professional land surveyor.
- K. **TITLE BLOCK** Each drawing shall have a title block which provides the project name, drawing title and the name, address and telephone number of the author of the plan. A preparation date shall be provided and each re-submittal(s) shall have a revision date(s).
- L. **STANDARD DRAWINGS AND SPECIFICATIONS** A note shall be provided on each construction drawing that requires Facilities to be constructed in accordance with all applicable specifications and standard details.
- M. **LEGEND OF SYMBOLS** All symbols must be identified in a legend provided on the drawing or in the drawing set, both for proposed and existing Facilities. City drafting symbols shall be used (see pages VIII-5 through 10). A disk with City symbols is available from Community Development.
- N. **ABBREVIATIONS** All abbreviations must be identified in a legend provided on the drawing or in the drawing set. City drafting abbreviations shall be used (see page VIII-4).

- O. AS-BUILT DRAWINGS** The words “As-built” or “Record Drawing” or “As Constructed” shall appear in 10 point bold lettering on each drawing that is represented by the Developer as an as-built. Design information which does not match as-built conditions shall not be erased, but shall be crossed out with a fine line which does not obscure readability. The correct information shall be provided immediately beside the design information and initialed by the person making the change. “As-built” drawings must consist of construction drawing prints with as-built information. All final as-built information and conditions must be submitted to the City on a disk suitable for use with a personal computer in a format compatible with DFX and DWG files. (See page V-2 for submittal format.)

As-built information must be neat and legible. Information which cannot be easily read will be rejected and the Applicant assessed a review fee and/or required to redraw and resubmit the as-built drawings.

- P. MULTIPLE SHEETS** Two or more sheets may be required for certain drawings in order to allow the profile to be on the same sheet as the plan. Each sheet shall have a reduced scale drawing of the entire site as a key, with match lines and sheet identification provided thereon.

Q. CONTOURS

1. **Interval** Contour interval shall be consistent throughout a drawing and conform to the following:
 - a. 1 foot for grades generally between 0 and 2%;
 - b. 2 foot for grades generally between 2% and 5%; and
 - c. 5 foot for grades generally in excess of 5%.
2. **Extent** Contours shall be shown beyond property or watershed limits in order to define gradients at the property boundaries. Proposed and finished contours shall be shown for road, detention/retention basin, drainage channel and swales, embankment and lot grading.

- R. NEATNESS AND LEGIBILITY** All drawings must be neat, legible and of such size that detail is not obscured or readability of text is not impaired. The City may reject any/all nonconforming drawings. When a drawing is rejected the Applicant may be assessed a review fee and/or required to redraw and resubmit the drawings.

City Standard Drafting Abbreviations

City Standard Drafting Symbols

City Standard Drafting Symbols

City Standard Drafting Symbols

City Standard Drafting Symbols

City Standard Drafting Symbols

DRAWING STANDARDS CHECKLIST

AS-BUILT DRAINAGE

ITEM	GRAPHIC STANDARDS	OK	M	
SECTION VIII	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	O	As-built drawings		
	R	Neatness and legibility		
ITEM	FEATURES	OK	I	
ADDITIONAL INFO	1	Use the Storm Drainage Plan and Profile as a base drawing		
	2	All vertical, horizontal, and other design information required for primary features in the Storm Drainage Plan and Profile must have corresponding as-built information provided, including elevations, station and offset, pipe and culvert slopes and distances, basin structures, <i>etc.</i>		
	3	As-built information for all significant changes from the approved design plans		
	4	Pipe and culvert type		
	5	Space for approval signature by City Engineering with date and title.		

COMMENTS

1. As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII.

April 2004

IX-3

DRAWING STANDARDS CHECKLIST

AS-BUILT GRADING

ITEM	GRAPHIC STANDARDS	OK	
SECTION VIII	J	Stamped and sealed drawings by a professional engineer registered in Colorado	
	O	As-built drawings	
	R	Neatness and legibility	
ITEM	FEATURES	OK	
ADDITIONAL INFO	1	Use the Grading and Drainage Plan or Grading and Stormwater Management Plan as a base drawing	
	2	Provide as-built pad elevations for all lots that are in or are adjacent to the 100-year floodplain	
	3	Detention/retention basin as-built contours (except for where on pavement, then use as-built grading).	
	4	Volume verification of detention/retention basin and outlet works	
	5	Drainage channel and swale as-built information	
	6	Space for approval signature by City Engineering with date and title	

COMMENTS

1. As-built sketches and drawings must contain the same information. See Section VIII for submittal format.
2. Detention/retention basin shall be surveyed to the extent necessary that a PE can verify the volume. The volume must be at least as large as the volume required in the drainage report. Volumes shall be calculated allowing for landscaping. The outlet works shall be surveyed and elevations and orifice/weir measurements shown on as-builts to the 0.01' accuracy.

April 2004

IX-4

DRAWING STANDARDS CHECKLIST

AS-BUILT IRRIGATION

ITEM	GRAPHIC STANDARDS	OK	M	
SECTION VIII	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	O	As-built drawings		
	R	Neatness and legibility		
ITEM	FEATURES	OK	M	
ADDITIONAL INFO	1	Use the Irrigation Plan and Profile as a base drawing		
	2	All vertical, horizontal, and other design information required for primary features on the Irrigation Plan and Profile must have corresponding as-built information provided		
	3	As-built information for all significant changes from the approved design plans		
	4	Pipe and culvert type		
	5	Space for approval signature by City Engineering with date and title		

COMMENTS				
1. As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII.				

April 2004

IX-5

DRAWING STANDARDS CHECKLIST

AS-BUILT ROADWAY

ITEM	GRAPHIC STANDARDS	OK	N	
SECTION VIII	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	O	As-built drawings		
	R	Neatness and legibility		
ITEM	FEATURES	OK	N	
ADDITIONAL INFO	1	Use the Roadway Plan and Profile as a base drawing		
	2	All vertical, horizontal, and other design information required for primary features on the Roadway Plan and Profile must have corresponding as-built information provided, including pavement width, curb/gutter/sidewalk width and type, base course, and pavement thickness, geosynthetics, sub-grade stabilization, elevations horizontal control, signalization, etc.		
	3	As-built information for all significant changes from the approved design plans		
	4	Space for approval signature by City Engineering with date and title		
	5	Provide tabulation of street length of new construction		
	6	Provide elevations for all PC's, PT's, ECR's, angle points, grade breaks, and all locations where elevations were shown on the design drawing.		

COMMENTS				
1. As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII-2.				

April 2004

IX-6

DRAWING STANDARDS CHECKLIST

AS-BUILT WATER & SEWER

ITEM	GRAPHIC STANDARDS	OK	N	
SECTION VIII	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	O	As-built drawings		
	R	Neatness and legibility		
ITEM	FEATURES	OK	N	
ADDITIONAL INFO	1	Use the Water and Sewer Plan and Profile as a base drawing		
	2	All vertical, horizontal, and other design information required for primary features on the water and Sewer Plan and Profile must have corresponding as-built information provided, including elevations, station and offset etc. for manholes, cleanouts, valves, vaults, bends, tees, crosses, fire hydrants, and other appurtenances		
	3	Ends of services (subdivisions only) must be tied to lot corners or be located by station and offset. The top of the pipe or invert elevation shall be shown for sanitary services.		
	4	As-built information for all significant changes from the approved design plans		
	5	Pipe type and type of pipe connections (MJ, SJ, FL, etc)		
	6	Space for approval signature by City Engineering with date and title		
	7	Tabulation of each utility – size and length (of new construction)		

COMMENTS

1. As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII

April 2004

IX-7

DRAWING STANDARDS CHECKLIST

COMPOSITE PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V		
	B	Sheet size: 24" x 36"		
	C	There are no primary features on this drawing		
	D	Notation: All non-construction text		
	E	Line weights of existing and proposed (secondary and primary) features per City		
	G	Horizontal control: Subdivisions tied to Section aliquot corners		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
R	Neatness and legibility			
ITEM	FEATURES	OK	NA	
REVISIONS	1	Use the Preliminary Plan as a base drawing, or provide the same information, except the approximate dimensions (item 18)		
	2	Remove approximately dimensions (item 18 on the Preliminary Plan checklist)		
	3	Make revisions per Preliminary Plan review agency comments which were to be addressed in the final submittal process		
	4	Make desired developer initiated minor changes		
	5	Make refinements associated with a more detailed design		
	6	Show only proposed and not existing 100-year floodplains		
	7	Show proposed power, telephone, gas, cable TV, water, sewer, storm sewer and other utilities (unless shown on a separate plan)		

COMMENTS

April 2004

IX-8

IX. DRAWING STANDARDS

- A. **DRAWING CHECKLISTS** Different people may have a variety of opinions regarding the content and information that should be provided on a drawing with a given title. In order to avoid confusion and to establish consistency, Drawing Checklists have been prepared by the City. These checklists establish the minimum requirements for each drawing. The Staff may require additional drawings and/or detail as it deems necessary in their sole discretion.

All drawings required for submittal shall conform to the drawing standards presented in this Section. Checklists are provided in alphabetical order as shown on the next page.

DRAWING STANDARDS CHECKLIST

ELEVATION AND PERSPECTIVE DRAWING

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1/8" or 1/4" = 1.0 foot		
	B	Sheet size: 11"x17" 18"x24" or 24"x36"		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA
1	Elevations of all sides for all proposed structures		
2	Identify all exterior materials, finishes, textures and colors		
3	Show location of all signs, exterior furnishings and other elements that effect the elevation of structures		

COMMENTS

DRAWING STANDARDS CHECKLIST

DETAIL SHEET

ITEM	GRAPHIC STANDARDS	OK	NA
SECTION VIII	A Scale: as required		
	B Sheet size: 24" x 36"		
	F Location: All primary facilities are fully located horizontally and vertically		
	I Orientation and north arrow		
	J Stamped and sealed drawings by a professional engineer registered in Colorado		
	K Title block with names, titles, preparation and revision dates		
	L Reference to City Standard Drawings and Specifications		
	M Legend of symbols used		
	N List of abbreviations used		
	Q Contouring interval and extent		
	R Neatness and legibility		
ITEM	FEATURES	OK	NA
DETAILS	1 All necessary features shown and dimensioned		
	2 All proposed materials specified		
	3 Existing features shown as required for understanding		
	4 Elevations shown as appropriate		
	5 References to where features detailed may be found on other drawings		
	6 All non-standard details not contained on individual sheets		
	7 Any other pertinent information		
	8 Space for approval by City Engineering with date and title		

COMMENTS

Do not show City standard details except street cross-section. They may merely be referenced.

DRAWING STANDARDS CHECKLIST

GRADING & STORMWATER MANAGEMENT PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: Match the Composite Plan scale		
	B	Sheet size: 24" x 36"		
	C	Primary features consist only of proposed grading and Stormwater Management Features (1)		
	D	Notation: All non-construction text, and also construction annotation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	G	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by registered professional competent in the work		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
GRADING	1	Use the Composite Plan as a base drawing or otherwise provide the same information		
	2	Add proposed contouring for the entire site		
	3	Show retention walls, cut and fill slopes and other significant grading factors		
	4	Provide a detail of typical lot grading, if any		
	5	Minimum finish floor elevations are provided for each lot, which are at least 1.0 foot above 100-year flood plain level, and at least 0.5 foot above the lot outfall		
	6	Indicate 2-year and 100-year runoff storage volumes and ponded water surface elevation		
STRMWR MGMT	7	Show or identify limits of surface disturbance due to construction		
	8	Location, type, and extent of BMP and erosion control practices and details		
	9	Identify areas to be used for storage of building materials, fuels, or wastes		
	10	Location of any dedicated asphalt or concrete batch plants		
	11	Space for approval signature by City Engineering with date and title		
DRAINAGE (1)	12	If a Storm Drainage Plan and Profile is not necessary (see Note 1 below), then all proposed drainage facilities also will be primary features (see C, D, E, & F above)		
	13	Floodplain/Floodway		
	14	Wetlands		
	15	A. Copy of the plan itself (24" x 36" format) B. Tabulation of the lots, top of floor elevations referenced to a subdivision benchmark and the designer's determination of the range of variation allowable for each lot (8 1/2" x 11" format). Upon receipt of this information, the Mesa County Building Department will deliver a letter acknowledging this information to the City of Grand Junction Community Development Department		
	16	If a separate written plan is not being provided, the text requirements from the SWMM shall be included on this plan		

COMMENTS

April 2004 VI-64
 1 If storm sewers and manholes are not proposed, then City staff may allow an option to omit the Storm Drainage Plan and Profile, in which case Item 12 must be completed.

DRAWING STANDARDS CHECKLIST

GRADING PLAN

ITEM	GRAPHIC STANDARDS	OK	NA
SECTION VIII	A Scale: Match the Site Plan scale		
	B Sheet size: 24" x 36"		
	C Primary features consist only of proposed grading and drainage facilities		
	D Notation: All non-construction text, and also construction notation for all primary features		
	E Line weights of existing and proposed (secondary and primary) features per City standards		
	F Location: All primary facilities are fully located horizontally and vertically		
	G Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot		
	H Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I Orientation and north arrow		
	J Stamped and sealed drawings by registered professional competent in the work		
	K Title block with names, titles, preparation and revision dates		
	L Reference to City Standard Drawings and Specifications		
	M Legend of symbols used		
	N List of abbreviations used		
	P Multiple sheets provided with overall graphical key and match lines		
	Q Contouring interval and extent		
	R Neatness and legibility		
ITEM	FEATURES	OK	NA
ADDITIONAL INFORMATION	1 Use the Site Plan as a base map or otherwise provide the same information		
	2 Add existing contours		
	3 Add proposed contours for the entire site		
	4 Lowest floor elevations are provided and are at least 1.0 foot above 100-year flood level, and 0.5 foot above the site outfall		
	5 Show grades at all points of curvature, angle, tangency, grade breaks and changes, swales, channels, pipes, inlets, and other primary features, and also existing grades at tie-in locations		
	6 Provide grade slopes between elevations provided in (5) above		
	7 Show detention/retention basins with contours (off pavement) or delineation(on pavement)		
	8 Indicate 2- and 100-year runoff storage volumes and ponded water surface elevation		
	9 Show existing contours on adjacent property as necessary to demonstrate how the site grade matches at the property line		
	10 Show lot grading per the applicable administrative regulation		
	11 Space for approval signature by City Engineering with date and title		

COMMENTS

- 1 This plan may also have full horizontal control on it if not provided on the Site Plan
- 2 This plan does not substitute for the Pre and Post-Development Drainage Maps

DRAWING STANDARDS CHECKLIST

INSIDE COVER SHEET

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	B	Sheet size: 24" x 36"		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
PROJECT INFORMATION	1	Project notes (general, water, sanitary, storm, grading, roadway)		
	2	List of abbreviations		
	3	Legend		
	4	Signature approval block for City Engineer, Utilities Engineer, and applicable districts		

COMMENTS

DRAWING STANDARDS CHECKLIST

IRRIGATION PLAN & PROFILE

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V		
	B	Sheet size: 24" x 36"		
	C	Primary features consist only of proposed irrigation facilities		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	G	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		
		Overall conformance to City Drafting Standards, text, etc.		
	Overall conformance to City Plan and Profile standards			

ITEM	FEATURES	Plan	Profile	OK	NA
GENERAL INFO	1	Use the Composite or Site Plan as a base map or otherwise provide similar information	X		
	2	Add proposed contouring	X		
	3	Call out minimum cover over irrigation lines	X		
	4	Specify all irrigation system materials	X		
	5	Show all special details, or reference detail sheet	X		
	6	System shown conforms to Irrigation System Design Report, if any	X		
	7	Space for approval signature by City Engineering with date and title	X		
GRAVITY FLOW INFO	8	Add a profile drawing		X	
	9	Show existing and proposed ground, ditch , pipe and/or flowline profile		X	
	10	Add existing and proposed irrigation facilities		X	
	11	Add existing and proposed utilities, drainage and road crossings		X	
	12	Station and elevation of all manholes, standpipes, gates and other appurtenances		X	
	13	Elevation of all existing and proposed pipe and ditch flowlines		X	
	14	Lengths and slopes of ditches and pipes		X	
	15	Show hydraulic gradeline, flows, velocities and "n" values		X	

COMMENTS

April 2004 Only items 1-7 are required for pressure flow systems.
 2. This drawing only pertains to facilities within public ROW or easements.

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DRAWING STANDARDS CHECKLIST

LOCATION MAP

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Provide scale used		
	B	Sheet size: 11"x17"		
	I	Orientation and north arrow		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA	
ADDITIONAL INFO	1	Use an assessor's map as a base		
	2	Show a minimum of 1/8 mile (660 feet) beyond the project site		
	3	Identify as a "Location Map"		
	4	Identify the site on the map		
	5	Show local roads between the site and collector/arterial roads		

COMMENTS

1. Additional information may be added with markers or red or heavy black ink

April 2004

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DRAWING STANDARDS CHECKLIST

LIGHTING PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION	A	Scale: Same use on site plan		
	B	Sheet Size: 24" x 36"		
	I	Orientation and north arrow		
	R	Neatness and legibility		
		An outdoor lighting plan shall be submitted separately from the site plan or landscape plan for all commercial projects and shall contain the following features (listed below):		
ITEM	FEATURES	OK	NA	
ADDITIONAL INFO	1	Use Site Plan as a base map		
	2	Location off all light fixtures and a numerical grid, or an ISO foot-candle diagram of lighting levels (in foot-candles) that the fixtures will produce on the ground		
	3	Area of illumination (including any off-site areas)		
	4	Lamp type and wattage		
	5	Mounting height of all fixtures		
	6	Cut sheet showing the design of all fixtures and designation as IESNA "cut-off" fixtures		
	7	Drawings of all relevant building elevations showing the location and aiming points of the fixtures		

COMMENTS

1. April 2004 As-built sketches and drawings must contain the same information. Submittal format is different. See Section VIII. VI-71
 2. Illuminating Engineering Society of North America

DRAWING STANDARDS CHECKLIST

LANDSCAPE PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"= 10' or 20'		
	B	Sheet size: 24"x36"		
	C	Primary features consist only of landscape features		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
	1	Use the Site Plan as a base map		
	2	Identify areas to be covered with specific landscaping materials		
	3	Boulders, mounds, swales, water courses, rock outcroppings		
	4	Planting Material Legend includes common and botanical names, quantities, minimum purchase sizes, mature height, groundcover/perennial spacing, types of soil and other remarks		
	5	Specification of soil type and preparation		
	6	Landscape irrigation layout, design, materials and details (if requested by City staff)		
	7	Planting/staking and other details as required		
	8	Required note on Plan: "An underground, pressurized irrigation system will be provided"		
	9	Space for approval signature by Community Development with date and title		
	10	R.O.W. fence plan		
	11	Subdivision entrance sign (if proposed)		
	12	Calculations used to derive required number of trees, shrubs and turf		
	13	Location of overhead utilities if crossing proposed landscaped areas		

COMMENTS

1. This drawing may be eliminated if information may be put on the Site Plan. See Note (2) on the Site Plan Checklist.

DRAWING STANDARDS CHECKLIST

PRE-DEVELOPMENT DRAINAGE MAP

	ITEM	GRAPHIC STANDARDS	OK	NA
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50'		
	B	Sheet size: 24" x 36"		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		
	ITEM	FEATURES	OK	NA
DRAINAGE INFO	1	Use the Composite or Site Plan as a base map, or otherwise provide the same information		
	2	Add existing sub-basin boundaries for all watersheds contributing to critical points		
	3	Identify each sub-basin by name		
	4	Show acreage and 2 and 100-year flow rates for all basins and sub-basins		
	5	Identify flow patterns and direction with arrows (within and between sub-basins)		
	6	Show all offsite basins and inflow from off-site; provide design flow rates		
	7	Show existing runoff rates from the site to surrounding private and public property		

COMMENTS

DRAWING STANDARDS CHECKLIST

POST-DEVELOPMENT DRAINAGE MAP

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', 50', or 100'		
	B	Sheet size: 11"x17" or 24"x36"		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
BASIN & RUNOFF INFORMATION ITEMS	1	Use the Grading and Stormwater Management Plan or Grading and Drainage Plan as a base map		
	2	Add proposed sub-basin boundaries for all watersheds contributing to critical points		
	3	Identify each sub-basin by name		
	4	Show acreage and 2-year and 100-year flow rates for all basins and sub-basins		
	5	Identify flow patterns and direction with arrows (within and between sub-basins)		
	6	Show all off-site basins and inflow from off-site; provide design flow rates		
	7	Provide accumulative design flow rates at all critical points, such as at catch basin inlets, valley pans, street capacities, intersections, channels, pipes, etc. Identify such points, which should be consistent with identification, in the report		
	8	Indicate 2-year and 100-year runoff storage volumes for detention/retention basin		
	9	Show 100-year flood plain for all channels on the site and adjacent channels that impact the site		
	10	Detention/retention basin inflow and outflow rates and maximum water surface elevation for the 2- and 100-year storm condition		
	11	Show limits of 100-year flow and backwater that is not on the street and is outside a pipeline or defined channel		
	12	Reference the Final Major Basin Drainage Map (where applicable)		

COMMENTS

DRAWING STANDARDS CHECKLIST

ODP DRAWING

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=50', 100', or 200'		
	B	Sheet size: 24"x36"		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA	
	1	Use accurate property boundaries as base drawing		
	2	Delineate land use areas including parks, school sites, open space and anticipated buffers or screening		
	3	Label each area with land use, acreage and proposed density (if residential)		
	4	Show roadway network on adjacent properties and tentative proposed circulation diagram on site		
	5	Delineate 100-year floodplain, wetlands and other major environmental features		
	6	Identify zoning, land use and subdivision names (if applicable) of adjacent properties		
	7	Summary chart with acreages and percentages of land uses and roadways and total number of units (residential) and/or square footage (non-residential) proposed		
	8	Show slopes steeper than 30%		

COMMENTS

1. Land use areas and densities shall be identified in "bubble diagram" format.
 April 2004

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DRAWING STANDARDS CHECKLIST

PRELIMINARY PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50'		
	B	Sheet size: 24" x 36"		
	C	There are no primary features on this drawing		
	D	Notation: All non-construction text		
	E	Line weights of existing and proposed features per City standards		
	G	Horizontal control: Subdivisions tied to Section aliquot corners		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
R	Neatness and legibility			
ITEM	FEATURES	OK	NA	
DRAINAGE INFO	1	Name of subdivision and total site acreage		
	2	Show subdivision perimeter boundaries		
	3	Identify utility vendors to the site		
	4	Show existing and proposed lots, parcels, tracts, ROW and easements on and adjacent to site. For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, ROW width and monument or section line		
	5	Show and identify proposed ownership and use of common and public tracts		
	6	Show existing and proposed drainage systems, including retention/detention basins and location of inflow to and outflow from the site, and directional flow arrows on streets and channels		
	7	Show existing contours and any major proposed changes to site grading		
	8	Show location of or reference to arterial and/or collector roads		
	9	Show 100-year floodplains and floodways per previous studies or reports		
	10	Show other existing natural or man-made drainageways, wetlands, ponds, etc.		
ADDITIONAL INFO	11	Indicate land use breakdown by percentage (lots, tracts, ROW), and number of lots		
	12	Show adjacent properties and identify zoning and use		
	13	Show and identify buildings and use which are on and/or immediately adjacent to the site		
	14	Number lots and blocks consecutively		
	15	Show and identify streets and identify proposed City standard street section		
	16	Show and size existing and proposed water and sewer (not services) and irrigation facilities; including profile		
	17	Label manholes		
	18	Show all existing and proposed sewer facilities in profile		
	19	Show any major existing utility crossings such as water, storm and irrigation lines larger than 18"		
	20	Add sewer main slopes and distances between manholes (centerline to centerline)		
	21	Show other existing utilities, including power, telephone, gas, and cable TV		
	22	Dimension (approximate only) lot and tract boundaries and street and ROW widths (square footage required)		
	23	Show access points and street improvements for 200 feet offsite adjacent to the site's access points		

April 2004

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Comments: 1. Items 1-10 may be used as a base for the Major Basin Drainage Map. 2. Items 1-17 may be used (as subsequently revised) for the Composite Plan.

DRAWING STANDARDS CHECKLIST

PRELIMINARY MAJOR BASIN DRAINAGE MAP

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=50', 60', 100', or 200'		
	B	Sheet size: 11" x 17" or 24" x 36"		
	H	Vertical control: Benchmarks on U.S.G.S. datum if public facilities other than SW are proposed		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
MAJOR BASIN INFO	1	Use "Drainage Information" items of the Preliminary Plan (or that same portion of Item 1 of the Composite plan reduced as required, as a portion of the map). The map must show the site and the entire upstream watershed, and the outflow to the first major drainage channel, which together is the "major basin". The upstream watershed can be stopped at I-70 or the Highline Canal if appropriate		
	2	Add a Vicinity Map if the major basin does not include collector or arterial roads		
	3	Show ROWs, canals, drains, ditches, culverts, ponds, detention basins, wetlands, and other major drainage features near the site in the off-site area of the major basin		
	4	Provide township, range, section, and quarter section information		
	5	If scale allows, identify existing subdivisions by name and show approximately boundary of the proposed subdivision		
	6	Identify land uses		
	7	Show general off-site topography using available contour mapping		
	8	Show 100-year floodplains and floodways at the site in the off-site area		
	9	Show major basin and off-site sub-basin runoff boundaries		
	10	Show existing off-site drainage patterns		
	11	Identify areas referenced in the report as having been previously studied		
ON-SITE INFO	12	Show existing characteristics of inflow to, through, and from the site		
	13	Show existing on-site drainage patterns or provide supplemental plan at proper scale		
	14	Show proposed on-site drainage patterns or provide supplemental plan at proper scale		

COMMENTS

April 2004
 "On-site Info" items above must be deleted prior to use as a base for the Final Major Basin Drainage Map

VI-77

DRAWING STANDARDS CHECKLIST

PRELIMINARY LANDSCAPE PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"= 10' or 20'		
	B	Sheet size: 24"x36"		
	C	Primary features consist only of landscape areas in relation to site		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA
	1 Use the Site Plan as a base map		
	2 Identify areas to be covered with landscaping materials		
	3 Boulders, mounds, swales, water courses, rock outcroppings		
	4 Calculation of required number of trees and shrubs		

COMMENTS

NOTE: The "Preliminary Landscape Plan" shall be general in nature. It will depict the areas where landscaping could be installed. The calculations for the numbers of trees, shrubs and turf areas shall be provided but the specifics as to acceptable plant material, plant sizes and irrigation is not required. Preservation of significant landscape features shall be shown on the preliminary landscape plan. Areas requiring buffering between zoning districts shall be shown and noted if a fence or wall will be required.

April 2004

VI-78

DRAWING STANDARDS CHECKLIST

SITE ANALYSIS

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=50', 100', or 200'		
	B	Sheet size: 24"x36"		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		

ITEM	FEATURES	OK	NA
	1 Use accurate property boundaries as base drawing		
	2 Delineate land use areas including parks, school sites, open space and anticipated buffers or screening		
	3 Show roadway network on adjacent properties and tentative proposed circulation diagram on site		
	4 Delineate 100-year floodplain, wetlands, and other major environmental features using FIRM (Flood Insurance Rate Maps) from FEMA (Federal Emergency Management Agency), and National Wetlands Survey maps		
	5 Show slopes steeper than 30%		
	6 Show any geology hazards or conditions based on maps from Colorado Geologic Survey and from United States Geological Survey (USGS)		
	7 Danger from wildfire		
	8 Using maps from NCRS (Natural Resources Conservation Service) show areas of poor, swelling or unsuitable soils areas		
	9 Show unusual, steep or dangerous topography and natural features		
	10 Vegetation and habitat or migration corridors identified by Colorado Division of Wildlife		
	11 Airport Hazards		
	12 Drainages		

COMMENTS

1. April 2004 Major subdivision, planned development district or site plan review involving fifty (50) or more acres shall complete a site analysis for the first step of the project. See Section 6.1 Zoning and Development Code. VI-79

DRAWING STANDARDS CHECKLIST

ROADWAY PLAN & PROFILE

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V		
	B	Sheet size: 24" x 36"		
	C	Primary features consist only of lighting and traffic features		
	D	Notation: All non-construction text, and also construction notation for all primary features		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally and vertically		
	G	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	H	Vertical control: Existing and proposed benchmarks on U.S.G.S. datum		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
R	Neatness and legibility			

ITEM	FEATURES	Plan	Profile	OK	NA
1	Use the Composite or Site Plan as a base map or otherwise provide similar information	X			
2	Segmentize plan view as required to provide profiles below plan views	X			
3	Show all existing and proposed profiles at C _L and right and left F _L s. Provide slopes with "+" or "-"		X		
4	Show existing and proposed profiles at edge of pavement if there is no gutter		X		
5	Note adjustment of all MH rims and valve covers for final grade	X			
6	Elevation of F _L at fillet/valley pan interface	X			
7	Station & elevation of F _L at BCRs, ECRs, and handicap ramps	X			
8	Station & elevation of pavement C _L and F _L at endpoints, BCRs, ECRs, PCs, PTs, PRCs, and PCCs		X		
9	Station & elevation at all grade changes and C _L and F _L VPIs, VPCs, VPTs and high & low points.		X		
10	Station & elevation at all grade changes and C _L pavement warp at intersections		X		
11	Provide pavement, base, and subgrade specifications				
12	Barricades, turn-arounds, tapers, delineators, driveways	X			
13	Street lights, signals, signing, and other traffic controls	X			
14	Show future road extension alignment to support current design, where applicable	X	X		
15	Provide all necessary details or reference detail and/or cross-section sheets				
16	Show proposed permanent benchmark (for new subdivisions) and all proposed horizontal control survey markers and street intersections, offset if required	X			
17	Space for approval signature by City Development Engineer with date and title. <u>Note:</u> Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction or placement of traffic control devices (striping, signals, medians, etc).				
18	Space for approved signature by City Traffic Engineer when new traffic controls are proposed (striping, signals, medians, etc.)				

COMMENTS

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For a definition of abbreviations used above, see page VIII-4.

DRAWING STANDARDS CHECKLIST

TRAFFIC PLAN

ITEM	GRAPHIC STANDARDS	OK	NA		
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V			
	B	Sheet size: 24" x 36"			
	C	Primary features consist only of lighting and traffic features			
	D	Notation: All non-construction test, and also construction notation for all primary features			
	E	Line weights of existing and proposed (secondary and primary) features per City standards			
	F	Location: All primary facilities are fully located horizontally and vertically			
	I	Orientation and north arrow			
	J	Stamped and sealed drawings by a professional engineer registered in Colorado			
	K	Title block with names, titles, preparation and revision dates			
	L	Reference to City Standard Drawings and Specifications			
	M	Legend of symbols used			
	N	List of abbreviations used			
	P	Multiple sheets provided with overall graphical key and match lines			
	R	Neatness and legibility			
ITEM	FEATURES	Plan	Profile	OK	NA
1	Use the Composite or Site Plan as a base map or otherwise provide similar information. Plan to detail "total roadway exiting signs, medians, striping, signals, walks, shoulders, above ground utilities along project frontage as well as extending 300' minimum beyond frontage boundaries	X			
2	Segmentize plan view as required to provide profiles below plan views	X			
3	Show sign locations and call out sign legend, MUTCD code and size if appropriate. This includes barricades and delineation	X			
4	Show luminaire locations indicating type of lighting	X			
5	Traffic signals - new or modifications to existing will require an intersection plan - show pole locations, conduit, pullboxes, mast arm lengths, loop detector locations and size and type, signal heads and pedestrian indications, phasing plan, controller, cabinet, and wiring. Show location of stop bars and crosswalks	X			
6	Pavement markings - show appropriate striping and marking indicating dimensions, materials, taper lengths, colors, obliteration of existing markings	X			
7	Traffic control for construction including types of devices, placement, spacing, phasing	X			
8	Provide all necessary details or reference detail and/or cross-section sheets	X			
9	Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction, placement or removal of traffic control devices/features (striping, signals, signs, medians, etc.)	X			
10	Space for approval by City Development Engineer with date and title.				
11	Space for approval signature by City Traffic Engineer when new traffic controls are proposed (striping, signals, medians, etc.)				

COMMENTS

DRAWING STANDARDS CHECKLIST

SITE PLAN

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50'		
	B	Sheet size: 24" x 36"		
	C	Primary features consist only of proposed facilities except those related to drainage		
	D	Dimension and label all features existing and proposed		
	E	Line weights of existing and proposed (secondary and primary) features per City standards		
	F	Location: All primary facilities are fully located horizontally (See Comment 1)		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	L	Reference to City Standard Drawings and Specifications		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
1	Site boundary, and adjacent property lines, land use and zoning			
2	Total site acreage and proposed land use breakdown			
3	All existing and proposed easements, streets and ROWs			
4	Identify utility vendors to the site			
5	Identify existing and proposed utilities, including fire hydrants, meters and service taps			
6	Contractor must contact City of Grand Junction Traffic Operations Supervisor prior to construction or placement of traffic control devices/features (striping, signals, medians, etc.)			
7	Show existing and proposed drainage inlets, pipes, channels and manholes			
8	Top and toe of slopes for retention/detention basins or other embankments			
9	Traffic ingress, egress, traffic flow patterns and traffic control features			
10	All paving and concrete walks, pads, ramps, wheel chocks			
11	Building footprint, roof line, exterior doorways and roof drain location			
12	Parking areas, striping, stalls, lighting			
13	Areas to receive gravel			
14	Signage, trash collection areas, bike racks and paths, crosswalks, fire lanes			
15	Miscellaneous structures, fences, walls			
16	Other non-landscaping surface facilities			
17	Do not show existing or proposed contours			
18	For perimeter streets, show roadway width from curb to curb or edge of pavement to edge of pavement, ROW width and the monument or section line			
19	When applicable, identify the maximum delivery or service truck size and turning radius, hours of anticipated deliveries, and show truck turning radii on the plan to show adequacy of entry/exit and on-site design			
20	Identify trash dumpster type, anticipated pick-up time, and accessibility			

DRAWING STANDARDS CHECKLIST

WATER & SEWER SYSTEM DESIGN MAP

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V		
	B	Sheet size: 11"x17" or 24"x36"		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	P	Multiple sheets provided with overall graphical key and match lines		
	Q	Contouring interval and extent		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
WATER	1	Use the Water and Sewer Plan and Profile as a base drawing		
	2	Identify analysis points or nodes and pipes numbers		
	3	Identify fire flow rates and locations		
	4	Identify peak hour and average daily flow rates		
SEWER	5	Show accumulative flow rates and velocities in each reach of sewer for average daily and peak hour flow conditions		

COMMENTS

DRAWING STANDARDS CHECKLIST

WATER & SEWER PLAN & PROFILE

ITEM	GRAPHIC STANDARDS	OK	NA			
SECTION VII	A	Scale: 1"=20', 30', 40', or 50' H: 1"=2', 3', 4', or 5' V				
	B	Sheet size: 24" x 36"				
	C	Primary features consist only of proposed water and sewer facilities				
	D	Notation: All non-construction text, and also construction notation for all primary features				
	E	Line weights of existing and proposed (secondary and primary) features per City standards				
	F	Location: All primary facilities are fully located horizontally and vertically				
	G	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners				
	H	Vertical control: Existing and proposed benchmarks on U.S.G.S. datum				
	I	Orientation and north arrow				
	J	Stamped and sealed drawings by a professional engineer registered in Colorado				
	K	Title block with names, titles, preparation and revision dates				
	L	Reference to City Standard Drawings and Specifications				
	M	Legend of symbols used				
	N	List of abbreviations used				
	P	Multiple sheets provided with overall graphical key and match lines				
	Q	Contouring interval and extent				
R	Neatness and legibility					
ITEM	FEATURES	Plan	Profile	OK	NA	
WAER & SEWER DESIGN INFO	1	Use the Composite or Site Plan as a base map, or otherwise provide similar information	X			
	2	Segmentize plan view as required to provide profiles below plan views	X			
	3	Show all existing and proposed sewer facilities in profile		X		
	4	Show all existing and proposed buried facilities that cross the sewer		X		
	5	Show water mains at dips or crossings with other buried facilities		X		
	6	Dimension separation between water and sanitary or storm sewers	X	X		
	7	Show and identify encasement or structural pipe where applicable	X	X		
	8	Add water and sewer services	X			
	9	Station and label all manholes, add rim and invert elevations		X		
	10	Add sewer main slopes and distances between manholes (centerline to centerline)		X		
	11	Add existing and proposed surface profile		X		
	12	Call out water and sewer pipe type in notes				
	13	Call out minimum cover over water and sewer in notes				
	14	Provide all necessary details or reference detail sheet(s)				
	15	Systems shown conform to water and sewer report, if any	X	X		
	16	Provide note regarding separation of water and sewer mains				
	17	Provide note regarding service line markers and endpoint locations	X	X		
	18	Space for approval signature by City Engineering with date and title and Ute Water				
	19	Provide note requiring all Ute water lines be tested in accordance with City standards prior to street construction	X			

COMMENTS

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DRAWING STANDARDS CHECKLIST

VICINITY SKETCH

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: As required		
	B	Sheet size: 11"x17"		
	D	Notation: All non-construction text		
	I	Orientation and north arrow		
	K	Title block with names, titles, preparation and revision dates		
	M	Legend of symbols used		
	N	List of abbreviations used		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
ADDITIONAL INFO	1	Location and boundaries of the site (See Comment 1)		
	2	Existing and proposed on-site and adjacent streets, alleys, ROW's and easements		
	3	Site geographic relationship to collector or arterial roads		
	4	Legal description of the property		
	5	Total site acreage		
	6	Zoning and existing land use of the site and adjacent property		
	7	Location and size of water and sewer facilities in the vicinity (subdivision only)		
	8	Major drainage courses and floodplains on or adjacent to the property		
	9	Other pertinent information		

COMMENTS

1. For a vacation or revocable permit application, boundaries must be monumented.

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DRAWING STANDARDS CHECKLIST

FINAL PLAT

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=20', 30', 40', 50', 60' or 100'		
	B	Sheet size: 24" x 36" (3 mil mylar or other product of equal quality)		
	G	Horizontal control: Subdivisions and all public utilities (final drawings) tied to Section aliquot corners		
	I	Orientation and north arrow (required on every sheet)		
	J	Stamped and original sealed drawings by professional engineer and licensed surveyor registered in Colorado		
	K	Title block with names, titles, preparation and revision dates on each sheet		
	M	Legend of symbols used (City standard symbols must be used)		
	N	List of abbreviations used (City standard abbreviations must be used)		
	P	Multiple sheets provided with overall graphical key and match lines (Each sheet shall show the particular number of that sheet and the total number of sheets included.)		
	R	Neatness and legibility		
		Non-fading permanent print shall be used		
		Plat must have 2" margin on left side; ½" margins on top, bottom and right side, minimum		
		1/8" minimum letter size – in all cases, the letter size and scale used shall be of sufficient size to show all detail. (Drawings which do not adequately show detail shall be rejected.)		
		Limits of platted parcel(s) shall be identified with a bold, heavy line as required by these regulations		
		Scale shall be shown and a graphic bar scale is required on every sheet showing any portion of the land(s) being platted		
		A location (site/vicinity) map, indicating the plats location in relation to existing roadways, is required on the first sheet of all plats.		
	All section, quarter sections sixteenth-section lines occurring within the subdivision shall be indicated by lines (lightly dashed) drawn on the plat, with appropriate words and figures describing the same.			
	The title (name) of the plat shall be located at the top of each sheets with any descriptive references place below the title			
	Plat names beginning with "A," "The," or "Replat" are not allowed. In addition, no name shall commence with a numeral such as "2 nd " or "Fifty Two."			
ITEM	FEATURES	OK	NA	
PLATTING ITEMS	1	Plat conforms to City Code and State Statute		
	2	Complete monumentation shown		
	3	Identify all parcels, tracts, ROWs and easements		
	4	Dedicate all common tracts; identify purpose, use and owners		
	5	Dedicate and identify use of all ROWs, easements and public tracts		
	6	All blocks and lots numbered consecutively		
	7	Public streets named		
	8	Complete horizontal control for all boundaries		
	9	Lengths shown to 0.01 foot, angles and bearings to seconds of an arc		
	10	Legal description		
	11	Lot building setbacks only if Planned Zones—not straight zone		

DRAWING STANDARDS CHECKLIST

FINAL MAJOR BASIN DRAINAGE MAP

ITEM	GRAPHIC STANDARDS	OK	NA	
SECTION VIII	A	Scale: 1"=50', 60', 100', or 200'		
	B	Sheet size: 11"x17" or 24"x36"		
	I	Orientation and north arrow		
	J	Stamped and sealed drawings by a professional engineer registered in Colorado		
	K	Title block with names, titles, preparation and revision dates		
	R	Neatness and legibility		
ITEM	FEATURES	OK	NA	
ADDITIONAL INFO	1	Use the "Preliminary Major Basin Drainage Map", without "on-site items" and revised as required, as a base map or otherwise provide the equivalent information		
	2	Add reference to the "Pre-Development Drainage Map" and "Post-Development Stormwater Management Map" for on-site information		
	3	Identify each off-site sub-basin that contributes to the site or show on the "Pre-development Drainage Map" and "Post-development Drainage Map"		

COMMENTS

- 1 If the Preliminary Plan for which the Preliminary Major Basin Drainage Map was prepared was for a larger area than is now part of the Final Plan, then this map shall show the balance of the Preliminary Plan areas proposed in the Preliminary Plan and identified as "proposed only". Drainage calculations for the Final Plan on-site area should consider both the undeveloped and future developed condition of the off-site in the Preliminary Plan area.

REPORT CHECKLIST AND OUTLINE

CONSTRUCTION REPORT: CONCRETE AND PAVEMENT PREPARATION

CHECKLIST	OK	NA
Size: 8½"x11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook		
Title Page: Name of report		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required for 8½"x11" size		
Maps: Attach or place into bound pocket the maps listed below. Testing Location Maps		

OUTLINE

The SSID manual does not require full time inspection but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed and that no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person. The items below marked with an **(O)** are optional but are recommended.

I OBSERVATION FOR VERIFICATION

- (R)** Subgrade and base course compaction effort
- (R)** Base course thickness
- (R)** Materials
- (R)** Crown
- (O)** Weather
- (O)** General progress
- (O)** Other observations
- (R)** All items required by the specifications and shown on the plans are complete

II TESTING (Testing frequency and methods shall be per City Specifications)

- (R)** Subgrade compaction
- (R)** Base course compaction
- (R)** Proof rolling

COMMENTS

1. Submit test results to the City Development Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered professional engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits as required shall be submitted bound together with inspection reports as shown

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REPORT CHECKLIST AND OUTLINE

CONSTRUCTION REPORT: CONCRETE AND PAVEMENT PLACEMENT

CHECKLIST	OK	NA
Size: 8½"x11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook		
Title Page: Name of report		
Exhibits: Maximum 11: high and 32" wide, bound in report and folded as required for 8½"x11" size		
Maps: Attach or place into bound pocket the maps listed below. Testing Location Maps		

OUTLINE

The SSID manual does not require full time inspection but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed and that no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person. The items below marked with an **(O)** are optional but are recommended.

I. OBSERVATION FOR VERIFICATION

A. Concrete

- (R)** Expansion joints
- (R)** Finishing
- (R)** Curing and sealing
- (R)** Freeze protection
- (O)** Weather conditions
- (O)** General progress
- (O)** Other observations

B. Paving

- (R)** Lift thickness
- (R)** Joints (location and type)
- (R)** Compaction effort
- (R)** Surface texture and uniformity
- (O)** Weather conditions

C. **(R)** All items required by the specifications and shown on the plans are complete

II. TESTING (Testing frequency and methods shall be per City Specifications)

A. Concrete

- (R)** Air content
- (R)** Slump
- (R)** Compressive strength

B. Asphalt

- (R)** See standard contract documents

COMMENTS: Submit test results to the City Development Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered professional engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits as required shall be submitted bound together with inspection reports as shown above.

X. ENGINEERING REPORTS AND STANDARDS

A. REPORTS AND STANDARDS

Complete engineering design reports, stamped and sealed by a Colorado registered professional engineer, are required. The reports shall certify in writing that the Engineer has done or through his/her supervision has determined that on a given project all work is in conformance with City standards. To avoid confusion and also to establish consistency, Report Checklists and Outlines have been prepared.

All required reports shall conform in content to the applicable portion(s) of the standards presented in this Section. Outline/checklists are provided in alphabetical order as shown below.

<u>Page</u>	<u>Report and Standards</u>
X-02	Construction Report: Concrete and Pavement Placement
X-03	Construction Report: Concrete and Pavement Preparation
X-04	Construction Report: Grading and Pipeline Phase
X-05	Final Drainage Report
X-07	Final Geotechnical Report
X-08	General Project Report
X-09	Irrigation System Design Report
X-10	Phase II Environmental Report
X-11	Preliminary Drainage Report
X-12	Preliminary Geotechnical Report
X-13	Sewer System Design Report
X-14	Stormwater Management Plan
X-15	*Traffic Impact Study (see * Note below)
X-16	Transaction Screen Process
X-17	Water System Design Report
X-18	Proposed-Platting Submittal Standards
X-19	Historic Designation Project Report

***Note:** See, Traffic Engineering Design Standards Manual (TEDS) for Traffic Impact Study information.

REPORT CHECKLIST AND OUTLINE

FINAL DRAINAGE REPORT

CHECKLIST	OK	NA
Typed Text (appendices may be handwritten)		
Bound with staple, bar binder, spiral binder or other method (not a notebook)		
Title Page: <ul style="list-style-type: none"> a. Name of report and preparer, date of preparation and revision (if any) b. Professional's seal and signature 		
Table of Contents: For text and appendices, if any (appendices shall be paged)		
Exhibits: Folded to 8½"x11" size		
Maps attached to or contained in the report: <ul style="list-style-type: none"> Preliminary Major Basin Drainage Map Final Major Basin Drainage Map Pre-development Drainage Map Post-development Drainage Map 		

OUTLINE

- I to IV. Same as for the Preliminary Drainage Report (see X-12)
- V RESULTS AND CONCLUSIONS
- A. Runoff Rates for 2 and 100 Year Storm (use tabular format)
 - 1. Existing total site runoff rates
 - 2. Existing runoff rates to individual private properties
 - 3. Proposed total site runoff rates (after detention/retention)
 - 4. Proposed runoff rates to individual private properties (after detention/retention)
 - B. Overall Compliance
 - 1. Policy
 - 2. Criteria
 - 3. Constraints
- VI REFERENCES
- VII APPENDICES
- A. Existing Runoff (2 and 100 year)
 - 1. Precipitation (if different than shown in SWMM)
 - 2. Runoff coefficients
 - 3. Times of concentration or lag times
 - 4. Intensities or other parameters
 - 5. Runoff calculations (individual sub-basins and combined at all design points)
 - 6. Tabular summary of runoff rates
 - B. Proposed Runoff (2 and 100 year)
 - 1. Precipitation (if different than shown in SWMM)
 - 2. Runoff coefficients
 - 3. Times of concentration or lag times
 - 4. Intensities or other parameters
 - 5. Runoff calculations (individual sub-basins and combined at all design points)
 - 6. Tabular summary of runoff rates
 - C. Detention Basin Calculations (2 and 100 year)
 - 1. If Rational & Modified Rational methods are used
 - a. Average release rate
 - b. Critical durations and intensities
 - c. Volume required
 - d. Volume available
 - e. Storage - depth - discharge
 - f. Lower stage outlet
 - g. Upper stage outlet
 - h. Erosion protection
 - 2. If Computer or other method of analysis is used
 - a. Provide discharge parameters
 - b. Provide basin parameters
 - c. Provide inflow/outflow information
 - d. Erosion protection

REPORT CHECKLIST AND OUTLINE

FINAL DRAINAGE REPORT (continued)

OUTLINE

- D. Retention Basin Calculations (100 year)
 - 1. Basin Feasibility
 - a. Groundwater depths
 - b. Soil percolation results
 - c. Letter from Geotechnical Engineer
 - 2. If Rational Method is used
 - a. Volume to be retained
 - b. Volume available
 - 3. If computer or other analysis is used
 - a. Provide basin parameters
 - Provide inflow information
- E. Street Flow
 - 1. Rate
 - 2. Depth and velocity
- F. Inlets
 - 1. Rate
 - 2. Interception
 - 3. Bypass and to where
- G. Storm Drains
 - 1. Rate
 - 2. Size and "n" value
 - 3. Capacity
 - 4. Hydraulic gradient (if pipe is surcharged or if frictional slope is greater than the pipe slope)
- H. Open Channel Flow
 - 1. Channel geometrics
 - 2. "n" values and velocities
 - 3. Erosion protection
 - 4. Freeboard
- I. Culverts
 - 1. Completed HDS-5 nomographs
- J. Miscellaneous Hydraulic calculations

COMMENTS

REPORT CHECKLIST AND OUTLINE

CONSTRUCTION REPORT: GRADING & PIPELINE PHASE

CHECKLIST	OK	NA
Size: 8½"x11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook (See Note 1)		
Title Page: Name of report and preparer		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required for 8½"x11" size		
Maps: Attach or place into bound pocket the maps listed below. Testing Location Maps		

OUTLINE

The SSID manual does not require full time inspection but does require periodic observation to verify that the correct materials are used, construction methods meet requirements, all items required by plans and specifications have been completed and that no errors or omissions remain unresolved.

The items below marked with an **(R)** are required and must be verified to the City by a qualified person. The items below marked with an **(O)** are optional but are recommended.

- I OBSERVATION FOR VERIFICATION
 - A. Grading phase
 - (O)** Best management practices
 - (R)** Compaction effort
 - (O)** Weather conditions
 - (O)** General progress
 - (O)** Other observations
 - B. Pipeline phase (water line, sanitary sewer, storm sewer, conduit, other pipelines)
 - (R)** Bedding type, placement and depth
 - (R)** Pipeline material
 - (R)** Backfill material
 - (R)** Manholes
 - (R)** Compaction effort
 - (O)** Weather conditions
 - (O)** General progress
 - (O)** Other observations
 - C. **(R)** All items required by the specifications and shown on the plans are complete
- II TESTING (Testing frequency and methods shall be per City specifications)
 - A. Grading phase
 - (R)** Compaction in structural fill areas
 - B. Pipeline Phase
 - (R)** Bedding compaction
 - (R)** Backfill compaction
 - (R)** Waterline pressure tests
 - (R)** Waterline chlorination & bacteria
 - (R)** Sewer line pressure tests
 - (R)** Sewer line lamping results
 - (O)** Sewer line deflection (if required)

COMMENTS

1. Submit test results to the City Development Engineer as directed on the "Construction Phase Submittal Checklist." The geotechnical testing must include a signed statement by a Colorado registered professional engineer verifying testing meets City frequency requirements and other specifications. Test reports shall state the quantity of the items being tested and the total number of tests so the testing frequency can be easily verified. Whether submitted previously or not, a complete set of test results and Test Location Map or exhibits as required shall be submitted bound together with inspection reports as shown above.

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REPORT CHECKLIST AND OUTLINE

FINAL GEOTECHNICAL REPORT

CHECKLIST	OK	NA
Typed text (appendices may be handwritten)		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any)		
b. Professional's seal and signature		
Table of Contents: For text and appendices if any (appendices shall be paged)		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps attached to or contained in the report: (Provide drawings as required to clarify report)		

OUTLINE

- A. General Soil Classifications
 - ✓ Soil classification
 - ✓ Geologic hazards
 - ✓ Potentially unstable slopes
 - ✓ Swell potential
 - ✓ Consolidation potential
 - ✓ Water table
 - ✓ Corrosivity to concrete
 - ✓ Rock outcrops
 - ✓ Gamma radiation
- B. Grading and Excavation Considerations
 - ✓ Potential construction difficulties and general recommendations
 - ✓ Suitability of native material for trench backfill and structural fill
 - ✓ Compaction of fills and subgrades
- C. Retained Earth Information
 - ✓ Lateral earth pressure s(active and passive)
 - ✓ Coefficient of friction to lateral movement
 - ✓ Angle of internal friction
 - ✓ Backfill compaction
- D. Foundations
 - ✓ Allowable bearing capacity
 - ✓ Soil weights
 - ✓ Types of foundations
 - ✓ Perimeter drains and groundwater
- E. Drainage and Irrigation
 - ✓ Permeability of soil
 - ✓ Hydrologic soil group (SCS classification)
 - ✓ Irrigation practices
 - ✓ Grades around buildings
 - ✓ Depth of groundwater surface
 - ✓ Groundwater monitoring results and discussion (where required)
 - ✓ Solutions to groundwater problems
- F. Pavement Structures
 - ✓ Subgrade compaction
 - ✓ Fabrics and/or geogrids
 - ✓ R values
 - ✓ Base and pavement thickness design (new and over exist. material, as appropriate)
 - ✓ Asphalt compaction

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G. Borng Logs

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COMMENTS

1. It may not be necessary to cover all of the above topics, but the report should address all concerns applicable to the proposed project, even issues not identified above take up to 30 days for the state to process—this could delay the schedule for hearing.

REPORT CHECKLIST AND OUTLINE

FINAL DRAINAGE REPORT (continued)

OUTLINE

- D. Retention Basin Calculations (100 year)
 - 1. Basin Feasibility
 - a. Groundwater depths
 - b. Soil percolation results
 - c. Letter from Geotechnical Engineer
 - 2. If Rational Method is used
 - a. Volume to be retained
 - b. Volume available
 - 3. If computer or other analysis is used
 - a. Provide basin parameters
 - Provide inflow information
- E. Street Flow
 - 1. Rate
 - 2. Depth and velocity
- F. Inlets
 - 1. Rate
 - 2. Interception
 - 3. Bypass and to where
- G. Storm Drains
 - 1. Rate
 - 2. Size and "n" value
 - 3. Capacity
 - 4. Hydraulic gradient (if pipe is surcharged or if frictional slope is greater than the pipe slope)
- H. Open Channel Flow
 - 1. Channel geometrics
 - 2. "n" values and velocities
 - 3. Erosion protection
 - 4. Freeboard
- I. Culverts
 - 1. Completed HDS-5 nomographs
- J. Miscellaneous Hydraulic calculations

COMMENTS

REPORT CHECKLIST AND OUTLINE

REPORT

CHECKLIST	OK	N

OUTLINE

This report intentionally left blank.

REPORT CHECKLIST AND OUTLINE

PHASE II ENVIRONMENTAL REPORT

CHECKLIST	OK	N
Typed text		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any) b. Signature of P.E., R.E.P.A., or other qualified professional		
Table of Contents: For text and appendices, if any		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps attached to or contained in the report: (Provide drawings as required to clarify report)		

OUTLINE

- A. Remedial Investigation (RI portion)
This section reports on quantitative investigation to verify whether or not a problem exists, and, if so to what extent. Typical tasks may include:
- ✓ Geophysical studies to identify subsurface features (pipelines, tanks, and potential contamination sources)
 - ✓ Field screening to approximate extent and magnitude of contamination
 - ✓ Develop a site specific sampling and analysis plan
 - ✓ Perform a quantitative soil and water sampling and analysis plan
 - ✓ Conclusions and recommendations. If there is a problem, is it significant enough to justify remedial action? If not, the F portion of the report is not required.
- B. Feasibility Study (FS portion)
If deemed necessary per the Remedial Investigation, a Feasibility Study must be performed. However, do not submit this part to the City for review. Submit Phase I and Phase II Environmental Reports to the Colorado Department of Health (CDH) for review and acceptance. The City will then require submittal of correspondence from CDH that indicates that an acceptable remediation program has been approved.
- C. Refer to ASTM E 1903-97.

COMMENTS

1. This report is only necessary if a Phase I report has been prepared and indicates a potential for environmental threat and recommends further study.

REPORT CHECKLIST AND OUTLINE

IRRIGATION SYSTEM DESIGN REPORT

CHECKLIST	OK	NA
Typed Text		
Size: 8 ½ x 11" format		
Bound: If more than 1 page, use a staple		
Name of report on a title page or on the first page of text		

OUTLINE

- A. Water Supply
 - ✓ Shares and quantity
 - ✓ Supply source (canal, extension, headgate)
 - ✓ Conveyance to the site
 - ✓ Storage
- B. Water Usage
 - ✓ Flow rate per lot
 - ✓ Simultaneous use restrictions (system-wide and per branch)
 - ✓ Peak use factors
 - ✓ Individual and accumulative discharge quantities
- C. Distribution System
 - ✓ Conveyance facility sizes and layout
 - ✓ Flow velocities
 - ✓ System head losses
 - ✓ Minimum pressures
 - ✓ Bleed-off and maintenance facilities
- D. Irrigation Pumping and Sump Station
 - ✓ Determine full design flow range
 - ✓ Discuss mode of system operation
 - ✓ Discuss appropriate pump type for the anticipated flow range and operation procedures
 - ✓ Discuss operational volume considering cycle and run time
 - ✓ Size of sump volume
 - ✓ Determine net positive suction head required
 - ✓ Provide system head-capacity curve, compare with pump head-capacity and efficiency curves - show operational range
 - ✓ Substantiate final pump selection (proper operational range, impeller size, horsepower)
 - ✓ Discuss controls and power
- E. System Operation Guidelines (This section could also be provided in Covenants, Conditions, and Restrictions)
 - ✓ Simultaneous use restrictions
 - ✓ Recommendations or requirements for watering schedules, sequencing, timers
 - ✓ Pump station operation
 - ⇒ Controls
 - ⇒ Start-up
 - ⇒ Operation mode
 - ⇒ Shut-down
 - ⇒ Maintenance

COMMENTS

REPORT CHECKLIST AND OUTLINE

GENERAL PROJECT REPORT

CHECKLIST	OK	N
Typed text		
Size: 8½ x 11" format		
Bound: If more than 1 page, use a staple		
Name of report on a title page or on the first page of text		

OUTLINE

- A. Project Description
 - 1. Location
 - 2. Acreage
 - 3. Proposed use
- B. Public Benefit
- C. If a "Neighborhood Meeting" has been held (required for all rezones and Growth Plan Amendments to a greater density/intensity, and all subdivisions of 35 lots or more) proof of those who attended, along with the date, time and place shall be provided. See Section 2.3.4 of the Zoning and Development Code for details on Neighborhood Meetings.
- D. Project Compliance, Compatibility, and Impact
 - 1. Adopted plans and/or policies (for rezones, variances, conditional and special use, revocable permits, and vacations, discuss the circumstances that justify the request, as required by the Zoning and Development Code)
 - 2. Land use in the surrounding area
 - 3. Site access and traffic patterns
 - 4. Availability of utilities, including proximity of fire hydrants
 - 5. Special or unusual demands on utilities (high water or sewage quantities, grease, or sediment contribution, pre-treatment needs, etc.)
 - 6. Effects on public facilities (fire, police, sanitation, roads, parks, schools, irrigation, etc.)
 - 7. Site soils and geology (such as per SCS soils mapping)
 - 8. Impact of project on site geology and geological hazards, if any
 - 9. Hours of operation
 - 10. Number of employees
 - 11. Signage plans (required with CUPs and Planned Development)
- E. Development Schedule and Phasing

COMMENTS

REPORT CHECKLIST AND OUTLINE

SEWER SYSTEM DESIGN REPORT

CHECKLIST	OK	NA
Typed text (appendices may be handwritten)		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any) b. Professional's seal and signature		
Table of Contents: For text and appendices, if any		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps: Attach or place into bound pocket the Water and Sewer System Design Map (applicable portions only)		

OUTLINE

- A. SEWAGE SERVICE AND GENERATION
- ✓ Estimate average daily flows (using 105 gpcd or other supported criteria)
 - ✓ Estimate peak hour flows for interceptors/outfalls and collector/laterals (use 200 and 300 gpcd, respectively, or other supported criteria)
 - ✓ Determine average daily and peak hour flow velocities
- B. SEWAGE PUMPING AND LIFT STATIONS
1. Design Flow Range
 - ✓ Estimate minimum daily flows (using 1/3 average daily flows or other supported criteria)
 - ✓ Discuss anticipated range of inflows, from initial to future conditions.
 2. Well Design
 - ✓ Evaluate appropriate pump type for the anticipated flow range, and impact on well type
 - ✓ Discuss well depth and physical restraints
 - ✓ Consider desired number of pumps (see Comment 1).
 - ✓ Discuss emergency volume (or back-up power source) and lag volume
 - ✓ Discuss operational volume considering cycle and run time, and also stagnation period. Show that the holding period is not more than 30 minutes unless aeration or other means to prevent stagnation are provided
 - ✓ Size well
 - ✓ Design against buoyancy flotation of well
 3. Discharge Line
 - ✓ Determine flow velocities and head loss rates for various pipe sizes and flow rates within design flow range
 - ✓ Substantiate preliminary pipe size selection, maintaining 2 fps minimum and providing adequate "seating volume" on valving
 4. Pump Selection (Note: A minimum of two pumps are required -- see Comment 1)
 - ✓ Determine net positive suction head required
 - ✓ Provide system head-capacity curve; compare with pump head-capacity and efficiency curves - show operational range
 - ✓ Substantiate final pump selection (proper operational range, impeller size, horsepower)
 - ✓ Discuss controls and power

COMMENTS

April 2004
 For stations having 2 pumps, each pump shall have a capacity of at least 100% of peak hour inflow.
 For stations having 3 or more pumps, one pump may be considered standby, and the remaining pumps must have a combined capacity of at least 100% of peak hour inflow.

VI-105

REPORT CHECKLIST AND OUTLINE

PRELIMINARY GEOTECHNICAL REPORT

CHECKLIST	OK	N
Typed text (appendices may be handwritten)		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any) b. Professional's seal and signature		
Table of Contents: For text and appendices if any (appendices shall be paged)		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps attached to or contained in the report: (Provide drawings as required to clarify report)		

OUTLINE

- A. General Soil Classifications
 - ✓ Soil classification
 - ✓ Geologic hazards
 - ✓ Potentially unstable slopes
 - ✓ Swell potential
 - ✓ Consolidation potential
 - ✓ Water table
 - ✓ Corrosivity to concrete
 - ✓ Rock outcrops
 - ✓ Gamma radiation
- B. Grading and Excavation Considerations
 - ✓ Potential construction difficulties and general recommendations
 - ✓ Suitability of native material for trench backfill and structural fill
 - ✓ Compaction of fills and subgrades
- C. Foundations
 - ✓ Types of foundations
 - ✓ Perimeter drains and groundwater
- D. Drainage and Irrigation
 - ✓ Permeability of soil
 - ✓ Hydrologic soil group (SCS classification)
 - ✓ Irrigation practices
 - ✓ Depth of groundwater surface
 - ✓ Special needs related to groundwater
- E. Pavement Structures
 - ✓ Ability of soils to support streets and traffic
- F. Boring Logs

NOTE: 1. The intent of this report is to identify the suitability of the site for development and to determine any special design considerations. It is not intended to quantify design parameters.

2. All projects next to canals or significant water features, or with groundwater table depth shallower than 10 feet shall install piezometers and monitor them to identify development problems.

COMMENTS

1. It could take up to 30 days for the state to process—this could delay the schedule
Additional fee and form required.

VI-106

REPORT CHECKLIST AND OUTLINE

PRELIMINARY DRAINAGE REPORT

CHECKLIST	OK	NA
Typed text		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: Name of report and preparer, date of preparation and revision (if any)		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps attached to or contained in the report: Vicinity Map and Preliminary Major Basin Drainage Map		

OUTLINE

- I. GENERAL LOCATION AND DESCRIPTION
 - A. Site and Major Basin Location
 1. Streets in the vicinity
 2. Development in the vicinity
 - B. Site and Major Basin Description
 1. Acreage
 2. Ground cover types
 3. Hydrologic soil types
- II. EXISTING DRAINAGE CONDITIONS
 - A. Major Basin
 1. General topography, drainage patterns and features, canals, ditches, wetlands
 2. Previously determined 100-year floodplains
 - B. Site
 1. Historic drainage patterns
 2. Inflow characteristics from upstream
 3. Discharge characteristics to downstream sub-basins
- III. PROPOSED DRAINAGE CONDITIONS
 - A. Changes in Drainage Patterns
 1. Major basin
 2. Site
 - B. Maintenance Issues
 1. Access
 2. Ownership and responsibility
- IV. DESIGN CRITERIA & APPROACH
 - A. General Considerations
 1. Previous drainage studies performed for the area
 2. Master planning issues (large scale considerations)
 3. Constraints imposed by site and other proposed development
 - B. Hydrology
 1. Design storms and precipitation
 2. Runoff calculation method
 3. Detention/retention basin design method
 4. Parameter selection procedures
 5. Analysis and design procedures
 6. Justification of proposed methods not presented or referenced in SWMM
 - C. Hydraulics
 1. Hydraulic calculation methods
 2. Parameter selection procedures
 3. Analysis and design procedures
 4. Justification of proposed methods not presented or referenced in SWMM

COMMENTS

- April 2004
1. No calculations are required for the Preliminary Drainage Report.
 2. It may not be necessary to cover all of the above topics, but the report should address all concerns applicable to the proposed project, even issues not identified above.
- VI-107

REPORT CHECKLIST AND OUTLINE

TRANSACTION SCREEN PROCESS

CHECKLIST	OK	NA
Typed text		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any) b. Signature of P.E., R.E.P.A., or other qualified professional		
Table of Contents: For text and appendices, if any		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps attached to or contained in the report: (Provide drawings as required to clarify report)		

OUTLINE

Refer to ASTM 1528-00

COMMENTS

REPORT CHECKLIST AND OUTLINE

TRAFFIC IMPACT STUDY

CHECKLIST	OK	

OUTLINE

REFER TO Traffic Engineering Design Standards Manual (TEDS) for Traffic Impact Study information.

April 2004

COMMENTS

VI-109

1. A more detailed discussion of the requirements for this report is provided in the City Transportation Engineering Design Standards Manual (TEDS).

REPORT CHECKLIST AND OUTLINE

STORMWATER MANAGEMENT PLAN

CHECKLIST	OK	NA
Typed text		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: Name of report and preparer, date of preparation and revision (if any)		
Table of Contents: For text		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		

OUTLINE

- A. Site and Project Description
 - ✓ Description of proposed construction activity
 - ✓ Proposed sequence of major construction activities
 - ✓ Estimates of the total site area, and also the area expected to undergo clearing, excavation, or grading
 - ✓ Estimated composite runoff coefficients before and after construction activity on the site
 - ✓ Discussion of soil erosion potential
 - ✓ Discussion of soil contaminants
 - ✓ Description of existing vegetation at the site, and an estimate of % ground cover
 - ✓ Description of fueling, storage, chemicals, fertilizers, or other potential pollution sources
 - ✓ Description of anticipated non-stormwater components of discharge, such as springs, and landscape irrigation return flow
 - ✓ Name of the receiving water(s) and the size, type, and location of any outfall (natural or man-made)
- B. Management During Construction
 - ✓ Description of anticipated erosion, dust, soil tracking, waste disposal, and contaminant pollution problems associated with construction
 - ✓ Description of appropriate BMPs to use in each phase of construction to mitigate the effects of construction activity
 - ✓ Identify structural and non-structural BMPs to be used to mitigate erosion, dust, and sediment problems. Discussion should correspond to construction drawings.
 - ✓ Identify procedures or practices to prevent contamination due to materials handling, fueling, and spills
- C. Final Stabilization and Long Term Management
 - ✓ Describe measures to be used to achieve final stabilization and to control pollutants in stormwater discharges that will occur after construction operations
 - ✓ Discuss removal or long-term maintenance of BMPs
- D. Inspection and Maintenance
 - ✓ Description of procedures to be used in inspecting to encourage conformance with the Stormwater Management Plan (SWMP)
 - ✓ Description of procedures to be implemented to maintain in good and effective operating condition the vegetation, erosion, dust, sediment, and other controls identified in the SWMP

COMMENTS

1. A copy of the construction activity permit from the State is required prior to plan approval and construction commencement.
2. Features described in this report shall be referenced to and shown on the Grading and Drainage Plan (non-subdivisions) or Grading and Stormwater Management Plan (subdivisions).
3. Concepts discussed in this report shall be consistent with drainage and soils reports. It is advisable that this report be prepared by the same person who prepared the drainage report for the site.

April 2004

VI-110

REPORT CHECKLIST AND OUTLINE

HISTORIC DESIGNATION PROJECT REPORT

CHECKLIST	OK	NA
Typed Text		
Size: 8 ½ x 11" Format		
Title Page: Name of Report and Preparer, date of preparation and revision (if any)		
Bound: If more than 1 page, use a staple		
Table of Contents: for text and appendices, if any		
Submittal Deadline: First Monday of the Month for the Historic Board Meeting on the first Tuesday of the following month.		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8 ½ x 11" size		

OUTLINE

PROJECT REPORT SUBMITTAL MATERIALS:

1. Description of the general characteristics of the site, structure, or district.
2. Description of the particular features of the structure, site or district which should be preserved.
3. Address, Tax Parcel Number and Legal Description of the property or the outer boundaries of the proposed district.

Note: 1, 2 and 3 above are satisfied with a complete Colorado Historical Society Inventory Record Form for the property. Call the Community Development Department to determine if a HSIR form has been completed.

COMMENTS

Upon determining that an application is complete, Community Development Department staff will schedule the application before the Historic Preservation Board for its review and recommendation to City Council. Staff will publish a legal advertisement in the newspaper one-week in advance of the Board meeting, advertising both the Board and Council meetings regarding the proposed historic designation. The Historic Preservation Board meets the first Tuesday of the month. The applicant/property owner need not be present at the meeting unless requested by the Board or Staff.

The Historic Preservation Board recommendation will be scheduled at the next available City Council meeting – typically the 3rd Wednesday of the month. Again, the applicant/property owner need not be present at that hearing. If the City Council approves a historic designation, the applicant/property owner will be sent a copy of the resolution designating the property in the City Register of Historic Sites, Structures and Districts.

Please contact the Community Development Department at 970/244-1437 for questions regarding designation in the Grand Junction Register of Historic Sites, Structures and Districts.

REPORT CHECKLIST AND OUTLINE

PLATTING SUBMITTAL STANDARDS

CHECKLIST	OK	NA
Final Plat Size: 24" x 36" mil Mylar or other product of equal quality		
The plat preparer, date of preparation and revision shall be located on the bottom right hand corner of each sheet.		
The plat must bear a professional's original seal and signature		
Non-fading permanent print shall be used		
The plat must have a 2" margin on left side; ½ " margins on top, bottom and right side		
0.10" minimum letter size - in all cases, the letter size and scale used shall be of sufficient size to show all detail. (Drawings which do not adequately show detail shall be rejected).		
Limits of platted parcel(s) shall be identified with a bold, heavy line as required by these regulations		
Scale shall be shown and a graphic bar scale is required on every sheet showing any portion of the land(s) being platted.		
Must be to scale (1"=20', 30', 40', or 50')		
North arrow required on every sheet showing any portion of the lands being platted.		
City standard abbreviations and symbols shall be used		
Multiple sheet plats are required to have match lines and a graphical key index map that must show the particular number of that sheet and the total number of sheets included.		
A location (site/vicinity) map, indicating the plats location in relation to existing roadways, is required on the first sheet of all plats.		
All section, quarter section and sixteenth-section lines occurring within the subdivision shall be indicated by lines (lightly dashed) drawn on the plat, with appropriate words and figures describing the same.		
The title (name) of the plat shall be located at the top of each sheet with any descriptive references placed below the title.		
Plat names beginning with "A Replat" or "The Replat" are not allowed. In addition, no numerical names, i.e. "2 nd " shall be used.		

OUTLINE

1. Easements and Rights-of-Way
 - a. All recorded and apparent rights-of-way, easements and reservations shall be shown and described
 - b. Book and Page information for all recorded easements and rights-of-way shall be given on the drawing(s) to which the information pertains
 - c. Easements must be fully and completely dimensioned and located dimensionally with respect to the boundary and/or lot lines
 - d. Identify record use/proposed use of all easements, rights-of-way or reservations (apparent and recorded)
2. Source of recorded rights-of-way and easements
 - a. Indicate source of easement and right-of-way information or
 - b. If no source of information was furnished to the surveyor, such as a current Title Commitment, a statement is required that the surveyor performed the search and that all recorded easements, rights-of-way or reservations are correctly shown
3. All dimensions must be provided to verify boundaries
4. The Surveyor shall state in writing on the plat that the survey was performed by such Surveyor or under his/her responsible charge
5. All interior "excepted" parcels as described in the description of the lands being platted shall be clearly indicated and labeled "NOT PLATTED HEREON"
6. All park and recreation parcels including all tracts shall be labeled

REPORT CHECKLIST AND OUTLINE

WATER SYSTEM DESIGN REPORT

CHECKLIST	OK	NA
Typed text		
Size: 8½ x 11" format		
Bound: Use bar or spiral binder or staple. Do not use a notebook.		
Title Page: a. Name of report and preparer, date of preparation and revision (if any) b. Professional's seal and signature		
Table of Contents: For text and appendices, if any		
Exhibits: Maximum 11" high and 32" wide, bound in report and folded as required to 8½"x11" size		
Maps: Attach or place into bound pocket the Water and Sewer System Design Map (applicable portions only)		

OUTLINE

- A. WATER SUPPLY
 - ✓ Discuss supply line sizes, lengths, and owner
 - ✓ Static supply line pressures
 - ✓ Domestic usage residual supply line pressures
- B. WATER USAGE
 - ✓ Estimate population to be served
 - ✓ Estimate average daily and peak hour flows
 - ✓ Determine required fire flow
- C. WATER DISTRIBUTION SYSTEM
 - ✓ Show that proposed systems will not experience static pressures in excess of 100 psi unless specifically designed for such
 - ✓ Show that at peak hour flows, main line domestic usage residual pressure will be 40 psi or greater
 - ✓ Show that at peak hour flow plus required fire flow, main line residual pressure will be 20 psi or greater

COMMENTS

1 April 2004 A KYPIPE computer model of the City waterline network exists, along with substantial pressure and flow data. This information could be utilized with analysis of new facility hydraulics to show that proposed systems are adequate. V1113

**City of Grand Junction
Fire Department
New Development Fire Flow**

Instructions: To process the application, the developer/applicant's engineer should first fill out all items in Section A, and then deliver/mail this form to the appropriate water purveyor.¹ Once the water supplier has signed and given the required information, deliver/mail the completed and fully signed form to the City or County Planning Department.²

SECTION A

Date: _____
Project Name: _____
Project street address: _____
Assessor's Tax Parcel Number: _____
Property Owner name: _____
City or County project file #: _____
Name of Water Purveyor: _____

1. If the project includes one or more one or two-family dwelling(s):
 - a. The maximum fire area¹ for each one or two family dwelling will be _____ square feet.
 - b. All dwelling units will , will not include an approved automatic sprinkler system.Comments: _____
 2. If the project includes a building other than one and two-family dwelling(s):
 - a. List the fire area and type of construction for all buildings used to determine the minimum fire flow requirements: _____
 - b. List each building that will be provided with an approved fire sprinkler system: _____
 3. List the minimum fire flow required for this project (based on Appendix B and C): _____
- Comments: _____

Note: Fire Flow Rule: The City's Fire Code³ sets minimum fire flows for all structures and new developments. In general, for single family dwellings, at least 1000 g.p.m at 20 p.s.i. residual pressure must be continuously available at each structure. Duplex, other residential and all non-residential uses must have more fire flows in order to fight fires. Inadequate fire flows are normally due to water supply pipes that are too small or too little water pressure, or a combination of both.

Note for the Applicant/Project engineer: Refer to Appendix B and C, IFC 2000, to determine the minimum fire flow required for this project, based on the Water Purveyor's information (*i.e.*, location, looping and size of water lines; water pressure at the site, *etc.*) and the type, density and location of all structures. Base your professional judgment on the City approved utility plans and Water Provider information shown on this Form. Each time the utility plans/other information relating to treated water changes, resubmit this form just as you would the first time.

¹Fire area is defined on page 357 of the IFC.

DRAINAGE AND IRRIGATION CHECK SHEET

Applicant: _____

Location of site: _____

Size (Acres): _____

DRAINAGE INFORMATION

→ APPLICANT'S PORTION-

Where is the irrigation water drain? _____

How will drainage or runoff water be conveyed?

<input type="checkbox"/> Existing underground pipeline	<input type="checkbox"/> Existing concrete ditch
<input type="checkbox"/> Pipeline to be installed	<input type="checkbox"/> Concrete ditch to be installed
<input type="checkbox"/> Other (Please explain): _____ _____	

→ REVIEW AGENCY PORTION-

1. Drainage water crosses through other property? Yes ___ No ___

2. If YES, are easements or rights-of-way recorded? Yes ___ No ___

3. Wastewater/Tailwater is delivered to:

<input type="checkbox"/> Natural wash or drainage
<input type="checkbox"/> Name of organized or engineered drainage district/system: _____ _____

Person/Entity responsible for maintenance of tailwater system: _____

**THE FOLLOWING AGENCIES ARE AVAILABLE TO
ASSIST YOU IN COMPLETING THE DRAINAGE AND
IRRIGATION CHECKLIST**

- ◆ **DeBeque-Plateau Valley Soil Conservation District**..... 970/242-4511
2754 Compass Drive, Suite 170, Grand Junction CO 81506

- ◆ **Grand Junction Drainage District** 970/242-4343
722 – 23 Road, Grand Junction, CO 81505

- ◆ **Grand Valley Irrigation Company**..... 970/242-2762
688 – 26 Road, Grand Junction, CO 81506

- ◆ **Grand Valley Water Users Association** 970/242-5065
1147 – 24 Road, Grand Junction, CO 81505-9639

- ◆ **Mesa County Irrigation District**..... 970/464-5209
Ditch Rider

- ◆ **Mesa Soil Conservation District**..... 970/242-4511
2754 Compass Drive, Suite 170, Grand Junction, CO 81506

- ◆ **Orchard Mesa Irrigation District**..... 970/464-7885
668 – 38 Road, Palisade, CO 81526

- ◆ **Palisade Irrigation District** 970/250-2404
Ditch Rider – Spencer Bain

- ◆ **Redlands Water and Power Company** 970/243-2173
2518 Monument Road, Suite C, Grand Junction, CO 81503

FOR LAND OWNERSHIP INFORMATION:

- ◆ **Mesa County Assessor’s Office**..... 970/244-1610
Court House Annex – 241 North 6th Street, Grand Junction, CO 81501

*This is only a partial listing. Other organizations exist for the DeBeque, Gateway,
Plateau Valley and Whitewater/Kannah Creek areas of Mesa County.
Please contact the entity in your area.*

